

FACTORS OTHER THAN PRICE AND INCOME
THAT AFFECT FOOD CONSUMPTION

by

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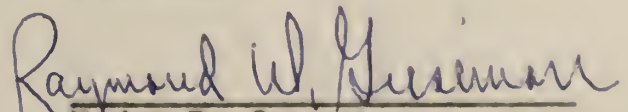

Major Professor

TABLE OF CONTENTS

INTRODUCTION	1
DEVELOPMENT OF CONSUMER BEHAVIOR THEORY	7
EFFECTS OF FAMILY CHARACTERISTICS ON FOOD PURCHASING PATTERNS	16
Family Composition and Size	16
Occupation	23
Ethnic Background	27
Characteristics of Homemakers	30
IMPACT OF LOCATIONAL FACTORS ON FOOD PURCHASING PATTERNS	35
Urbanization	35
Regionality	40
EFFECTS OF EDUCATION, PROMOTION AND ADVERTISING ON FOOD CONSUMPTION	44
Consumer Education	45
Promotion and Advertising	48
PSYCHOLOGICAL FACTORS AFFECTING FOOD PURCHASING PATTERNS	59
CONCLUSIONS	64
ACKNOWLEDGMENT	67
LITERATURE CITED	68

INTRODUCTION

The purpose of this report is to study the inquiry of social scientists, and particularly economists, into the factors affecting food consumption in the United States. Early economists were concerned with discussion of utility and factors giving rise to value in exchange. The "pleasure-pain" concepts of the Austrian School led to the evolution of utility theory and later work by Walras, Pareto, Slutsky, and Hicks enabled economists to quantify utility concepts and obtain empirical measures of consumer behavior. These measures, in the form of price and income elasticities, have received widespread application by economists and permeate throughout much of economic thought and policy considerations today.

In recent decades, standards of living in the United States have attained new heights and afforded a degree of affluence to consumers never before known to the world. High levels of income have lessened the degree to which income and indirectly price restrict the arena of consumer decisions. That these trends are receiving the attention of economists is reflected in the writings of Dr. Warren J. Bilkey. Writing in 1951, Bilkey classified the factors influencing consumer expenditure patterns into the following four types, namely:

- (a) Biologically based needs, drives, and instincts,
- (b) Socio-cultural environments,
- (c) Institutional-availability situations, and
- (d) The "immediate" influences such as price, income, and

expectations.¹

Biologically based needs, drives, and instincts may be further divided into many motives. Some writers have based the consumer behavior upon a "chain of causation" and divided it into primary motives caused by basic biological needs such as safety, love, esteem and self actualization, and secondary motives which are derived as by-products of the primary motives.²

Other writers have different sets of classifications based upon biological aspects, and the list seems to vary according to the degree of specificity of description and the conditions assumed in the classification.

Dr. D. A. Laird, in explaining why people buy, states that "The average person does not know what he wants. The impulses which force him, in restless fashion, to seek this, that, or the other, springs from his unconscious."³

Effects of biological factors on consumer behavior seem to be hidden motivations in the unconsciousness; but basic needs represent only one aspect of consumer behavior. There are others who recognize the interplay between the individual environment. Z. C. Dickinson agrees that wants develop from the interplay between the individual's hereditary (instinctive) equipment and his

¹Warren J. Bilkey, The Basic Relationships in Consumer Expenditure Behavior. (Cambridge: Harvard University Press, 1951), pp. 2-3.

²A. H. Maslow, "The Theory of Human Motivation," Psychological Review, (July, 1943).

³D. A. Laird, What Makes People Buy, (New York: The McGraw-Hill Book Co., Inc., 1953), p. 22.

external world.¹ There are the external (Socio-cultural) environments such as people's desires, which tend to vary according to age and stage of their family cycle. There are differences in the wants of various cultural groups, and the extent to which desires change over time, style changes, and variations in eating habits. The influences of price, income, item availability, and so forth, must also be considered as factors in the external world.²

There also are writers who center the logic of consumer expenditure behavior upon institutional-availability circumstances such as business procedures, the items and services available for sales promotion, labeling, and consumer information services.

They affect consumer expenditures in the following ways:

- (1) Establish the actual limits in availability.
- (2) Affect the consumer's knowledge about the choices available to him.
- (3) Influence the consumer's desires.³

Margaret Reid, in her book, *Consumers and The Market*, remarks:

That consumers in their market selections are insufficient can not be denied. Many are poorly informed, are uncertain in their market selection, credulous and easily influenced, and very susceptible to flatter. Some weekly bills, for example, are probably twice as high as need be to secure a much more adequate and appetizing diet than

¹Z. C. Dickinson, Economic Motives (Cambridge: Harvard University Press, 1924), pp. 210-215.

²Warren J. Bilkey, op. cit., pp. 8-10.

³Ibid., pp. 15-16.

is now being provided.¹

In other words, those delimitations on consumer behavior of the socio-cultural environment are substantial, and influence consumption in various ways at various stages of the consumer behavior.

The "immediate" influences, affecting consumer behavior include such matters as price, income, habit, and expectation. Various approaches such as (a) the utility approach, (b) the income approach (Engel's curves), (c) the indifference curve approach, and (d) the successive delimitation approach are used to analyze these economic influences.

Of the utility and preference analysis approach, Bilkey comments that "Both the utility and preference analysis are strictly short run; they cannot explain shifts in demand; they do not enable economists to predict consumer expenditures with accuracy;..."²

Inquiries into these fields are very diverse and varied. Bilkey writes that:

On the basis of these various hypotheses, it seems that the development of consumer expenditure theory might be likened to many persons simultaneously piecing together a huge jigsaw puzzle... Later, as a greater number of pieces are fitted together, more attention must be given to the interrelationship between the various segments of the puzzle... then view the picture as a whole... It appears that consumer expenditure still is a very early stage of development.³

¹Margaret Reid, Consumers and The Market, (New York: F.S. Crofts and Company, 1938), p. 87.

²Warren J. Bilkey, op. cit., p. 2.

³Ibid., p. 30.

Out of the four main sets of influences affecting consumer behavior as outlined by Bilkey, no one has integrated these different approaches into an all-inclusive theory. Apparently we do not yet possess sufficient information about consumer expenditure behavior to bring about a rigorous synthesis; however, Dr. Bilkey tries to integrate roughly by means of the delimitation concept.¹ This delimitation concept is outlined by Bilkey as follows:

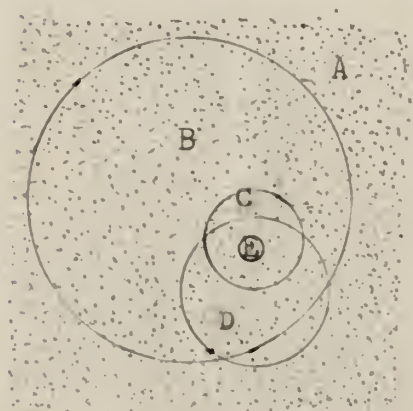


Fig. 1.

range of possible consumer expenditures would be infinity. This is expressed as a random scattering of dots (Realm A. illustrated in Fig. 1).

(b) But people have certain biologically based needs, drives, and instincts. (Demand side, Realm B. of Fig. 1).

(c) The consumers live in a particular socio-cultural environment, expressed in styles, tastes, and standard of living. (Demand

Side, Realm C of Fig. 1).

(d) Institutional-availability circumstances establish the limits within which the person is free to choose (Supply side, Realm D of Fig. 1).

(e) The range is further delimited by the "immediate" inferences of the economic variables (Probability range within which specific

¹Ibid., p. 30.

expenditures occur, Realm B of Fig. 1).

As shown above, while various factors influence consumer behavior in an integrated manner, these factors comprise both economic and non-economic influences. The part of the non-economic variables such as biological needs, socio-cultural environments, and institutional availability circumstances are thus important because of the fact that they not only influence consumer behavior directly, but also are usually interrelated with economic variables, influencing one another.¹

This report, therefore, is a review of recent studies which attempt to measure the impact of variables other than price and income that affect consumer expenditure patterns. The report is limited to factors affecting food consumption to keep the problem at hand within manageable proportion. To facilitate the presentation of the report, discussion has been centered around five major areas: These areas are: (1) development of consumer behavior theory; (2) effects of family characteristics on food purchasing patterns; (3) locational factors affecting food purchasing patterns; (4) effects of education, promotion and advertising on food purchasing patterns; and (5) psychological factors affecting food purchasing habits.

¹Warren J. Bilkey, op. cit., pp. 28-34.

DEVELOPMENT OF CONSUMER BEHAVIOR THEORY

In the earlier days when the primary problem was to provide people the basic necessities of human wants such as food, shelter, and clothing, the machinery of production could dictate to consumers the limitations that would be placed on want satisfaction. This idea is expressed in the famous law of J. B. Say: "Production creates its own demand." Ricardo also, in defense of Say's law, held that "There cannot, then, be accumulated in a country any amount of capital which cannot be employed productively, until wages rise so high in consequence of the rise of necessities, and so little consequently remains for the profits of stock, that the motive for accumulation ceases."¹ Furthermore Ricardo writes, "Mr. Say has, however, most satisfactorily shown that there is no amount of capital which may not be employed in a country, because demand is only limited by production."

In about 1830, England was making rapid industrial progress, and labor was becoming vocal. The problem of satisfying basic necessities had been met for a large segment of the population, and now under the critical observations of lesser economists, points neglected or submerged began to come to light. So-called radical writers were "making capital" of certain parts of the Ricardian theory.² Of Ricardo's theories, his labor theory was

¹David Ricardo, Principles of Political Economy and Taxation, (London: J. Murray, 1817), p. 274.

²John Fred Bell, A History of Economic Thought, (New York: The Ronald Press Company, 1953), p. 241.

attacked on all sides and new value theories with emphasis on demand and cost of production began to be advanced by Longfield, Senior, Whately and others.¹ R. L. Meek writes that the reaction against Ricardo was as follows: "The early reaction against Ricardo...was in large measure due to the widespread feeling that important elements of his system set limits to the prospects of human progress under capitalism, and therefore could not possibly be true."² One of the first to expound the consumption theory, that the direction of production becomes a function of consumer's desires, and to emphasize consumption was Lord Lauderdale.

Lord Lauderdale was convinced that the supply of capital should be adjusted to the demand of the country. As early as 1819, he wrote: "The great important steps toward ascertaining the causes of the direction which industry takes in a nation... seem to be the discovery of what dictates the proportion of demand for the various articles which are produced."³ He criticized Smith's theory which made labor an accurate measure of value, and he held that value rests on a supply and demand relationship. He made considerable progress in showing the influence of demand on price, even presenting ideas on elasticity of demand, but failed to give a clear explanation of the demand

¹John Fred Bell, op. cit., p. 243.

²R. L. Meek, "The Decline of Ricardian Economics," Economica, February, 1950, p. 57.

³James Lauderdale, An Inquiry Into Nation of Public Wealth, 2nd ed., 1819, p. 306.

function concept. Lauderdale came nearer to presenting a supply and demand equilibrium analysis than to giving an explanation of utility as the factor determining demand.¹

Nassau W. Senior recognized the guiding role of demand in economics and formalized this recognition into the law of variety of human requirements. Senior remarks that

Strong as is the desire for variety of basic necessities, it is weak compared with the desire for distinction; a feeling which we consider in its universality, and its consistency, that it affects all men and at all times, that it comes from the cradle and never leaves us till we go into the grave, may be pronounced to be the more powerful of human passions.²

This remark shows that the living standard is above the subsistence level, and the importance of demand is stressed. We could name Lauderdale, Lloyd, Senior, Whately, and Longfield as the economists who stood against the classical economists in recognizing demand in English economy; but they failed to formalize the theoretical concepts of demand.³

John Stuart Mill, even though he is considered as the best known disciple of the classical economists, broke away from Ricardo considerably. He was convinced (following Senior) that price must be adequate to cover production costs in the long run. Value (price) at any particular time is the result of supply and demand and is always that which is necessary to create a market

¹John Fred Bell, op. cit., p. 403.

²Alfred Marshall, Principle of Economics, 8th ed., (the MacMillan Co., 1949), p. 87.

³Ibid, p. 416.

for the existing supply. "But unless that value is sufficient to repay the cost of production, and to afford, besides, the ordinary expectation of profit, the commodity will not continue to be produced."¹ Thus, it can be concluded that the importance of demand was recognized and the basis of the theory was established.

From 1870 to 1890, Jevons, Gossen, Walras, and the Austrian school led by Menger developed the marginal utility concept. Jevons pointed out that utility is not an inherent quality, but rather is "... a circumstance of things arising out of their relation to man's requirements."² The central core of Jevons' theory of value lies in principles of diminishing utility. As successive units of commodity are used, the utility from each unit declines. If a commodity is scarce, the final degree of utility will be high, and hence, its value will be high; on the contrary, if the commodity is plentiful, the final degree of utility will be low and its value low. Value, therefore, is determined by the condition of demand in relation to a given society.³ Menger also held that the value of goods is determined by the diminishing intensity of wants of consumers. The value of goods of a higher order was imputed from that of consumption goods. So each individual will maximize his total satisfaction

¹John Stuart Mill, Principle of Political Economy, 2 vols. (Boston: Little Brown and Co., 1848), p. 451.

²William S. Jevons, The Theory of Political Economy. (New York: MacMillan and Co., 1892).

³John Fred Bell, op. cit., p. 416-417.

by carefully utilizing his money.¹ Demand is the sole determinant of value according to Menger.

Attempts to formalize the theoretical concepts of demand are the product of a group of economists referred to as the "mathematical" school. This group is best known for such members as Cournot, Edgeworth, Walras, and Pareto. This group, the Lausanne school, led by Walras and Pareto, was inclined to view all sections of the economy simultaneously, and were the proponents of a general equilibrium theory in economics. They view demand not only as a function of the product price, but prices of all other goods as well. This system was one of mutual determination. The concept of this group's theory is expressed as follows:

This general idea throughout... is one of equilibrium--an equilibrium between (1) demand (desires) and (2) obstacles to demand gratification, including the wants of others. Thus they attempt to build a mathematical theory of social equilibrium...²

For purpose of graphical illustration, instead of supply and demand curves, Pareto used the curves of indifference which had already been developed in Edgeworth's *Mathematical Psychics*.³ Pareto's application of the indifference curve is given in terms of two commodities at an instant of time; but it likewise can apply to many items and to different periods of time. Theoret-

¹Phillip Charles Newman, The Development of Economic Thought, (New York: Prentice Hall, Inc., 1952), p. 258.

²Lewis H. Haney, History of Economic Thought, 3rd. ed., p. 682.

³Phillip Charles Newman, op. cit., p. 25.

ically, at least, a rational consumer expenditure behavior during one's entire life can be explained by a very complex indifference relationship.¹

Cournot, Edgeworth, and later Marshall are also among the "mathematical" school. They used the method of partial equilibrium analysis, and analyzed each particular economic sector while holding the rest of the system constant. Cournot set up formulas indicating that while supply and demand determine price, it is also demonstrable that price in turn influences both supply and demand. Supply and demand are shown to be a function of price. He used two dimensional graphs to express the relationships.²

Marshall writes about wants and their satisfaction, or demand and consumption in Book III of Principles of Economics. Here Marshall points out that "until recently the subject of demand or consumption has been somewhat neglected."³ On the principle of marginal utility, Marshall constructed his partial price demand curve which relates quantities and amounts a person would be willing to pay for a good. This then produces his one general law of demand--"the greater the amount to be sold, the smaller must be the price at which it is offered in order that it may find purchases; or in other words, the amount demanded

¹Warren J. Bilkey, op. cit., p. 19.

²Frank Amandus Neff, Economic Doctrines, (New York: McGraw-Hill Book Co., Inc., 1950), p. 348.

³Alfred Marshall, Principles of Economics, 8th ed., 1920, p. 84.

increases with a fall in price and diminishes with a rise in price."¹ Norris makes the following comments:

With the view that all goods and factors of production are interdependent the possibility of depicting the demand or the supply schedule for any single good disappears, and there results rather a series of mathematical equations. Fortunately... there is one equation for each unknown, so that the whole system is susceptible to solutions as a series of simultaneous equations.²

Recent developments in demand theory reflect the earlier work of Pareto and the Lausanne school. Their attempt to analyze demand can be divided into three parts: (1) the variation of demand with price; (2) the variations of demand with income; and (3) the interrelationship of demand price and income. This approach has been taken up in the writings of Hicks, Hotelling, Schultz and others.

In 1934, J. R. Hicks and R. G. D. Allen stated a later formulation of the mathematical theory of equilibrium in which they attempted to marry Marshallian and Paretoan economics. According to Marshall, the ratio between marginal utility and price is constant if the marginal utility of money is constant. When prices go up, demand will decrease, and vice versa. Hicks realized that the implicit assumptions that result in an unrealistic ignoring of the effect of changes of incomes upon demand were weak. He attempted to analyze separately the effect first of income changes and later of price changes upon demand,

¹Ibid., p. 99.

²Henry Schultz, *The Theory of Measurement of Demand*, (University of Chicago Press, Reprint, 1957), p. 38.

in order to build a more realistic theory of price determination. Later he tried to fuse the two analyses.¹

Various economists, thus, attempted to establish hypotheses on consumption. Ernst Engel was one of the first to make extensive studies of income consumption relationships. The famous Engel's law, which describes the relationship between income and the proportion of that income spent for food, resulted from his studies. Engel's law is expressed as follows:

The poorer an individual, a family, or a people, the greater must be the percentage of the income necessary for the maintenance of physical sustenance, again of this a greater portion must be allowed for food.²

The validity of Engel's law is generally accepted by economists, though there are a few exceptions to his law. Zimmerman suggests that: "According to the law of diminishing utility, we would not expect food expenses to increase or decrease at every increase of income, but would allow for commodities in which food expenses increase more rapidly than income for a while."³

LePlay and Engel furthermore both find that food expenses and type of food consumed are closely related. They hold that increased income is associated with decreased proportion of low quality foods and an increased portion of high quality foods.⁴

¹Ibid., p. 268.

²C. C. Zimmerman, Consumption and Standard of Living, (New York: D. Von Nostrand Co., 1936), p. 51.

³Ibid., p. 98.

⁴Ibid., p. 98.

LePlay also suggests the significance of a family system in the consumption demand. His hypothesis is that the family system is a good index of the type of society. A statement such as the following is often attributed to LePlay: "Tell me how a family uses its resources and I will tell you what kind of a family it is." M. Halbwach suggests that differences in occupational patterns cause differences in food consumption. Zimmerman also suggests that the differences in food consumption may be due to differentiation variables such as physical condition, age, size, activity, ability to purchase, the kind and quantity of food available, as well as urbanization and regionality factors.¹ Thus gradually from the economic variables, the importance of non-economic variables came to be recognized, and as Bilkey indicated, the factors began to be subdivided into the four main sets of influences as stated in the introduction.²

¹C. C. Zimmerman, op. cit., pp. 133-134.

²Warren J. Bilkey, op. cit., p. 28.

EFFECTS OF FAMILY CHARACTERISTICS ON FOOD PURCHASING PATTERNS

Characteristics of the head of a family and of households, such as family size and composition, occupation, and ethnic background, and the characteristics of homemakers will be investigated in this section. There are other subgroups which could be included in the above title such as age, sex, educational status, eating away from home, and so forth; but the factors mentioned above have received the most attention by economists. The latter set of variables will be discussed only as they are related to the more general classifications of family size and composition and characteristics of homemakers.

Family Composition and Size

Among many influences, the family composition and size are very important variables which affect per capita consumption of food. Milton Friedman's theory of consumption function, $C_p = K(i, w, u) Y_p$ expresses the importance of the family composition. It shows planned or permanent consumption (C_p) is fraction of planned or permanent income (Y_p), and that it does depend on other variables, in particular, the interest rate (i), the ratio of other resources besides unused labor to income (w), and other factors such as the degree of uncertainty attached to the receipt of income, the consumer unit's age, and family's composition.¹

¹Milton Friedman, A Theory of the Consumption Function, (Princeton University Press, 1957), p. 222.

Family composition and size as a factor came to receive attention and its significance was noticed when the Bureau of Home Economics, U.S.D.A. conducted an extensive survey on food consumption expenditure during one 12 month period in 1935 and 1936 in five regions of the United States. In Pennsylvania-Ohio farm survey, for instance, the money value of the food supply of 2,277 families was studied. The survey showed that for any income class, the value of all food increased with size of family, but not sufficiently to maintain the larger families on as high a dietary plateau as that enjoyed by the two-person families.¹

To study problems of consumption as related to household size and composition, families were classified in type groups based on the number and age of family members other than husband and wife. Among the members of the family, the children over 16 years of age were classified as full members and under 16 were classified as half members.

The relationship between family size and money value of food consumed was fairly definite. With families of the different types ranked according to the total money value of their food supply, the smallest family groups stood at the bottom, and money value of food consumed increased as the family unit increased. Even though the rankings of the immediate family size groups were not entirely definite, they did show that as the family members increased, the food expenditure increased.

¹Hazel K. Steibeling, Dary Monroe, Callie M. Coons, Esther F. Phipard, and Faith Clark, "Family Food Consumption and Dietary Level, Five Regions," Ag. Misc. Pub. No. 405, U.S.D.A., 1941), p. 7.

The ranking, however, almost reversed when the average value of food was considered on a food expenditure per unit-meal basis rather than on a family basis. Average values per unit-meal were highest among the smallest families, and the larger the family, the lower the money value of food per unit-meal tended to be within each income class.¹

In all the farm sections of the five regions, as in the Pennsylvania-Ohio sectional survey reported above, family expenditure for food increased with size of family, and the average value of food expenditure per unit-meal decreased as the size of family increased.

In each of the regions, in the urban regions and in the villages, the survey showed that as the family size increased from one family type to another, the average value of food per family increased, and the average value of food per unit-meal decreased in remarkably similar ratio from region to region.²

Table 1 shows the tendency for food consumption on a per unit-meal to decrease in various regions. The table shows that family size and composition have a lot to do with what and how much is bought. Dr. George R. Rockwell, Jr., analyzed the data in the 1955 U.S. Food Consumption Survey using the multiple linear regression.³

¹Ibid., p. 9.

²Ibid., (Ag. Misc. Pub. No. 452, U.S.D.A., 1941), p. 23.

³George R. Rockwell, Jr., Income and Household Size: Their Effects on Food Consumption, (Marketing Res. Div., Ag Mkting Svc, U.S.D.A., 1955), pp. 41-42.

Table 1. Relative expenditure for food (unit-meal basis), income range \$750-1,499, of families. (U.S. all household average for each index = 100.)

	Couples only	Couples with 1-2 children under 16	Couples with 2-4 children, 1 or more over 16
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Villages

New England	100	76	64
Mid. Atlantic & N. Central	100	78	67
Plains & Mountains	100	78	67
Pacific	100	81	71
Southeast	100	77	68

Small cities

N. Central	100	76	63
Plains & Mountains	100	73	66
Pacific	100	78	68
Southeast	100	77	63

Source: George R. Rockwell, Jr., *Income and Household Size: Their Effects on Food Consumption*, pp. 41-42, according to 1955 U.S. Food Consumption Survey data.

Rockwell divided households into three family income classes with approximately the same number of households in each family income class. He used the elasticity of demand with respect to household size; that is, the rate of change in consumption per person relative to the rate of changes in each size of household, after allowance had been made for the effect of income on per person basis.¹ By means of the analysis he found that the value of most food expenditure per person decreased as household size

¹The formula for elasticity is as follows:

$\frac{\bar{X}_3}{\bar{X}_1}$ where \bar{X}_1 is value of consumption per person
 \bar{X}_3 is household size

increased. There were a few exceptions for those foods for which no economies can be realized by purchasing large quantities or for foods which are eaten primarily by children. Almost all of the household size elasticities computed from data for all households in the sample were either negative or did not differ significantly from zero. When elasticities were computed from data obtained by only using-households, a few more exceptions were found. Some of the food-groups showing positive elasticities were processed milk, strained or chopped canned fruits or vegetables, cocoa, potato chips, and breakfast cereals. He said that this situation is due to difference in the age and sex composition of the families. If allowances had been made for the age and sex composition also, it is probable that the elasticity in these cases would also have been negative.

In the same survey, it was found that in non-farm households, demand for total food and beverage per person was most elastic with respect to household size in medium income households (-0.26). The elasticity was -0.24 in high-income and -0.18 in low-income non-farm families. In farm households, demand for total foods and beverage per person was most elastic with respect to household size in low-income households (-0.37). The elasticity was -0.24 in medium and -0.25 in high income farm households.¹

This influence of decreasing per person expenditure for food

¹Ibid., p. 35-41.

as the size of household increases is accounted for by the following findings:

1. Saving in value of consumption per person by buying large quantity at lower unit prices.
2. Smaller portions of food are left over and discarded per person in large households.
3. Higher proportion of children exists in family in large households.

George R. Rockwell's regression analysis on the effect of household size is, however, clouded by relative variation in number to age of the children.¹

There were considerable differences in the value of food consumed per person in various sizes of households; but according to a survey of a thousand homemakers' diets for one day in 1938 in Buffalo, Minneapolis-St. Paul, and San Francisco, by the Agricultural Research Service, U.S.D.A., quantities other than ascorbic acid were much the same in households of different sizes. For ascorbic acid, the amounts in the diets of homemakers in households of 2 and 3 persons were 99 and 96 mg. compared with 76 and 74 mg. in households of 4 and 5 or more persons. Within the same family income bracket, there was no significant difference between the nutritive quality of the diets of women in large and small families and those for which income was disregarded. This finding was true even for ascorbic

¹Ibid., p. 40.

acids.¹

Goldstein writes that family size probably affects expenditure for food more than it does for the expenditure for most other categories of consumption.²

The Consumer Expenditure Survey at Wharton School of Finance and Commerce, University of Pennsylvania, 1950,³ found that there was no clear cut pattern of differential between the aged head-of-household family groups and younger head of household family groups. All the data on food expenditures indicate that the differentials between the aged head-of-household family groups and younger head-of-household family groups are largely attributable to the larger percentage of older units who are concentrated in low income positions. However, it has been shown that the composition of family does have an important influence in food expenditure.⁴

Full analysis of the effects of variations in family composition on food consumption is not yet achieved and is not likely to be achieved, because there are so many types of families. However, even partial analysis is expected to be quite

¹Clark and Fincher, "Nutritive Content of Homemaker's Meals: Four Cities, Winter, 1948", (Ag. Inf. Bul. No. 112), pp. 17-18.

²Sidney Goldstein, Consumption Patterns for the Aged, (Univ. of Penn. Press, 1961), pp. 69-70.

³Jean Crocket and Irwin Friend, A Complete Study of Consumer Expenditures, Incomes and Savings, (The Wharton School of Finance and Commerce, Univ. of Penn.), p. 69.

⁴Sidney Goldstein, op. cit., pp. 69-70.

useful in interpreting Engel's curves of available data.

Occupation

Differences in occupation have several directions of influences on food consumption. First, it may cause differences in the income of the family, and this, in turn, will cause differences in food consumption patterns. Second, different types of diets as well as quantities of food will be required according to the type of work performed. A manual laborer would prefer a different diet from that of an office employee. Another point is that the occupation is tied in with social status, and the difference in social status will affect his food consumption pattern through psychological factors. The direction of each of these influences is different, and one may offset or may affect another influence.¹

A Consumer Purchase Study of 1935-36 by the Bureau of Home Economics, U.S.D.A. shows the influence of occupational differences. The survey was conducted in villages of Middle Atlantic and North Central states and included 958 families in business and professional occupations, 432 families of clerical workers, and 1,654 wage earners' families. In money value of food purchased, the three groups averaged \$469, \$439, and \$406, respectively. These differences were estimated to reflect income effects more than those of family size, or occupational dif-

¹Marguerite C. Burk, Influence of Economic and Social Factors on U.S. Food Consumption, (Burgess: Minneapolis, 1961), p. 98.

ferences.

The average income of these three occupational groups was \$1,791, \$1,487, and \$1,114, respectively. The average size of family for the three groups was 3.42, 3.52, and 3.65 persons. So the effect of income difference and household size already indicates a considerable variation in the food consumption. Over-all, however, no very consistent variations were found between different occupational groups.

Consistent difference in the money value of the family food due to occupational difference in the same income class and household size could be found only in Family Type I (where husband and wife only, with possibly a child under a year old constituted the household). In both village and small cities, wage earner families of Type I seemed to spend more on food than other occupational families did. This situation indicates that the difference of occupation of the head of the household does not have much effect on the food expenditure pattern of family members other than Type I families, composed of the husband and wife.

The average money values of food consumed per family, by occupation for selected family types--Type I; Type III, a couple with two children and one of them at least over 16 years old; and Type V, a couple with four children with at least one of them under 16--and income classes in Middle Atlantic and North Central villages and North Central small cities are shown in the following table, which includes only white non-relief families that include a husband and wife, both native born:

Table 2. Average per family food expenditure of various occupational groups in three income classes.

	Village families			:	Small-city families		
Income class:	\$750 -999	\$1,250 -1,499	\$1,750 -1,999	:	\$750 -999	\$1,250 -1,499	\$1,750 -1,999
Family Types							
Type I							
Business and professional	293	328	397		289	346	427
Clerical	282	341	401		285	370	417
Wage-earners	306	380	422		318	399	414
Type III							
Business and professional	373	443	534		318	393	471
Clerical	410	465	491		399	482	561
Wage-earners	385	519	523		362	504	540
Type V							
Business and professional	485	504	639		438	552	687
Clerical	357	540	647		409	585	531
Wage-earners	443	534	684		423	518	698

(Source: Consumer Purchase Survey of 1935-36, Bureau of Home Econ. U.S.D.A.)¹

This survey indicates the following conclusions that may be made:

- (1) Wage earners tend to consume higher food energy requirements than other occupational groups.
- (2) Their food seems to stand somewhat higher in the scale of wants.
- (3) A wage earner's family may have more than one earner, so that the survey for the family types 2, 3, 4, 5, and 6 (bigger family types), do not show consistent results.
- (4) A higher proportion of younger age members may be in

¹Steibeling, Monroe, Phipard, Odelson, and Clark, "Family Food Consumption and Dietary Level, Five Regions," (U.S.D.A. Misc. Pub. No. 451), p. 20.

the wage earner groups.¹

Goldstein brings out the differences in diet possible between the employed and the unemployed. His hypothesis is that the employed are likely to incur additional food expenses through the necessity of purchasing prepared meals outside the home, and the prepared meals cost more.

He also argues that the information on occupation of the head of the household is very misleading, because the information will not include the type of work other members of the family perform; and the broad occupational categories provide no information on the specific type of work the individual does. The Consumer Expenditure Survey of 1950, by Wharton School of Finance and Commerce, of occupational differences in the size of the food expenditures, showed that the result of occupational difference was inconclusive.²

With higher income and smaller families, the business and professional, and clerical workers on the whole tend to spend more money for food per unit-meal; but in the same income level and for some family groups, there was little differences in the quantity of the total food consumption of occupational groups.³

¹Ibid., p. 20.

²Sidney Goldstein, Study of Consumer Expenditures, Incomes, and Savings, (University of Pennsylvania Press, 1960), p. 63.

³Steibeling, Monroe, Phipard, Odelson, and Clark, op. cit., p. 63.

Ethnic Background

In 1942, Natalie F. Joffe conducted a survey about the food pattern of several subcultures, such as Italians, Poles, Hungarians, Czechs, Norwegians, and American Negroes.

This survey showed the interesting sociological background and characteristics of food patterns. It indicated that most Italians live clustered together in the cities in the East. Poles, Slovaks, and Hungarians tended to live in large cities in the East and Middle West and in the smaller manufacturing and mining centers. The Czechs were also found in about the same location but extend further West and into the rural areas. Norwegians seemed to be relatively well integrated and not to have any conspicuous characteristic in their food pattern.

The Italians showed one of the strongest tenacities to stick to their own food pattern and have their own food stores in most of the Italian communities. Their diets were patterned about in a schedule and balance over a week's time: fish on Fridays, "pasta" on Thursdays and Sundays, and so forth. They used imported cheese and olive oil, and large quantities of staples. The Poles in the United States showed their food pattern to be similar to that of the Polish peasants. Rich vegetable soups, the bean soups, and the sour cream and cottage cheese were characteristic of their foods; but they seemed to buy little outside food beside their self-produced foods. Recently Polish food patterns have become much integrated with American food patterns because of the tendency that many Polish young generations have

broken out of their traditional family system. The traditional diet of Czechs was rye bread, pork, goose on holidays, sauerkraut, beans, pastry, and beer. Their desire for Czech food seemed to be very strong. All of these Central European peoples make wide use of whole grain food in bread or porridge, prepare liver, tongue and other varieties of foods in various traditional ways, and are fond of sausage and, to a lesser extent, of cheese. Dried mushrooms are well-liked.

The American Negroes' food pattern was about the same as that of the white neighbors, except that they cook more by tradition instead of by recipe.¹ No information was available for the food pattern of other ethnic groups in the United States.

The total food consumption of non-white groups differed from that of white groups to some extent. It can be attributed to the fact that non-white groups are concentrated in younger age groups and are generally in lower income groups. In most cases, it was found that the non-whites spent a relatively higher percentage of their total expenditure for food than the whites in the equivalent income groups. It is due to the income effect that even in the same income class, a higher concentration of non-whites will be at the lower end of each of the respective income groups. But the phenomena persisted as the income of non-whites has risen. The difference also is considered to be more dependent upon the kinds of foods purchased

¹Natalie F. Joffe, "The Habits of Selected Subcultures in the United States", The Problem of Changing Food Habits, National Research Council Bul. 108, (Oct., 1943), pp. 97-103.

than the quantities of the foods purchased.¹

According to the family food expenditure survey of 1948 by the Bureau of Labor Statistics, the Negro families spent more for meat, poultry, and fish, and less for dairy products, eggs, fruits and vegetables than other groups. There was a survey at Washington D. C., during February and March, 1948. An analysis of the individual food items purchased by whites and Negroes showed that with net incomes of \$2,000-3,000, and with Negro households averaging 3.2 persons to white households averaging 3.5 persons, Negro households bought more meat, poultry, and fish; less dairy foods, fruits and vegetables; and used more cereals, bakery products and potatoes. The purchase of food for home use by white and Negro families of two or more persons, in the income class of \$2,000 to \$3,000, a week in February-March, 1948, was as follows:

Table 3. Average weekly expenditure for food per person, Washington D.C., February-March, 1948.

	White	:	Negro
All food	\$5.53		\$5.54
Meat, poultry, and fish	1.36		2.02
Dairy and eggs	1.36		1.28
Fats and oils	.33		.22
Sugar and sweets	.19		.12
Cereals and bakery products	.72		.64
Fruits and vegetables	.91		.84
Beverages	.27		.16
Miscellaneous	.28		.07

(Source: 1948 Food Expenditure Survey by Bureau of Labor Statistics).

¹Sidney Goldstein, op. cit., p. 216.

There seemed to be little influence of African food habits on the Negro food consumption pattern, and his food pattern represented the accumulated effects of past economic and social influences in this country. There was no definite information available for either point of view. At the aggregate, the ethnic background influence on total food consumption seemed to be negligible, because of the fact that the ethnic groups have adopted with American food patterns to a large extent, and that the various minority ethnic groups constitute too small a fraction of the whole population to have a conspicuous effect on the total consumption of food in the United States.¹

Characteristics of Homemakers

Information about homemakers can provide important clues to social status, way of living, knowledge of food and nutrition, and willingness to change food consumption patterns. The differences in age, employment status, and education level of the homemakers may influence the food consumption pattern. Younger homemakers, who have more recent information on food and nutrition, are more flexible in their food choices. Employment of the homemaker can lead to greater flexibility and more use of prepared foods, and the homemaker's education is also a good indicator of her knowledge of food and nutrition.

¹Mollie Orshansky, Some Highlights from the Household Food Consumption Survey, Spring, 1955, (Ag. Res. Service, U.S.D.A.) p. 4.

Nutritionwise, it was found that younger aged homemakers had larger quantities of several nutrients in their diets than had the older homemakers (over 30 years of age), and two-thirds of a gram of calcium in their food compared with only about a half gram in the food of the women over 40. The youngest group also had diets higher with respect to protein, thiamin, and riboflavin, but did not fare any better in vitamin A and C. Other studies have shown that milk drinking by young adults is greater than by those past middle age; however, tabulation of food quantities was not available.¹

Homemakers with some college education had food furnishing higher average quantities of almost all the dietary essentials for which calculations were made than did those with high school or elementary education. The most marked differences were in calcium and ascorbic acid. It is true that households were smaller for the group with more education, but difference in household size within income class had little effect on the nutritive content of homemakers' diets. Probably the most important factors of the women's diets were age and education. Little difference was found on the nutritive content of a homemaker's family diets and the diets of the homemaker herself because of the employment status of the homemaker.

Differences in food consumption of households of different age groups are revealed in the nationwide survey of Household Food Consumption in 1953. It was found that peak expenditures

¹Faith Clark and Lillian J. Fincher, op. cit., p. 19.

for food are made by families in which the housewife is between 30 and 50 years of age. Up to the time a homemaker reaches 50, as her family grows in number and age, both per person food consumption and household food expenses increased. At the stage of the family life cycle when the homemaker is between 30 and 50, family sizes are largest and some of the children have become hearty eaters; but when the homemaker is between 50 and 60, there are proportionally more adults in the household, and it is then that the food expenses per person are greatest. Then when the homemaker is 60 years of age, family size is smaller, and the per person money value of food declines, but not to that of the level of the youngest groups.

The trends discussed above are shown in the following table, which relates age of homemakers to household size, percentage of households with children under 16, and money value of food per household and per person:

Table 4. Food expenditures of households of different age homemakers.

Age of homemakers	Household size (persons)	Percentage with children under 16	Money value of food	
			per household	per person
Under 30 years	3.62	82.3	\$24.93	\$6.89
30-49 years	3.96	72.8	29.84	7.54
50-59 years	2.98	21.8	24.92	8.36
60 years and over	2.58	10.2	19.31	7.48

(Source: 1955 Food Consumption Survey data)¹

¹Ibid., p. 20.

Patterns are about the same at each income level. The greater proportion of the households in which the homemaker was 60 years or over had incomes of less than \$2,000 than at any other age groups (40 per cent as compared with from 10 to 20 per cent in the others); but the smaller size of the households match the income difference partly.

The 30 to 40 year-old group, with an average household size of 3.96, had the highest money outlay for food. About three-quarters of the food money was spent by households in which the homemaker was under 50 and only 10 per cent by those in which the homemaker was 60 or more.¹

The employment status of the homemaker, even though it does not make much difference in the nutritional conditions of the members of the households, exerted some difference on food patterns; and the money value of the food used per person in the employed homemaker's household was generally greater than that in the non-employed. These differences are attributed to the fact that the family size of the household in which the homemaker is employed was smaller on the average than were the others. For this reason the quantities and money value of foods used were often larger in the household in which the homemaker was not employed, but on a per person basis the reverse was true. The proportion of children also affected a family's food patterns,

¹Ag. Marketing Service, Food Consumption and Dietary Levels of Households as Related to the Age of Homemaker, United States-by Region, (U.S.D.A. Household Consumption Survey, 1955, Report 14), p. 1.

since fewer of the households in which the homemakers were employed had children under 16 as did the others. Most of the employed were in non-farm households, 30 per cent in communities versus 10 per cent of the rural farm homemakers. A quarter of the homemakers reporting on food consumption of their households in the spring of 1955 were employed outside the home, full time or part time. Seventy per cent of those employed were full time employed.¹

The effect of differences in the educational status of the homemakers on food consumption was not available for study.

¹Ag. Marketing Service, Food Consumption and Dietary Levels of Households as Related to Employment of Homemakers, United States-by Region, (U.S.D.A. Household Food Consumption Survey, 1955, Report 15), p. 1-2.

IMPACT OF LOCATIONAL FACTORS ON FOOD PURCHASING PATTERNS

Urbanization

Urbanization refers to degree of urbanization and reflects a combination of economic and social factors tied in with population density, occupations, and institutions.

Within each urbanization area there has appeared to be a greater degree of standardization of consumption patterns, as well as cultural standard of living, than in the usual rural areas. The differences of consumption patterns among these groups are attributed to: (a) home production; (b) accessibility to particular types of food markets; (c) economic factors related to occupation, money income, price of non-food goods and services; (d) social and cultural factors such as availability of educational opportunities, recreational facilities, or health institutions, and so forth.¹

There seem to be other factors affecting this difference in consumption patterns. For instance, the urban-rural price relationships showed that average meat, poultry, and fish prices paid by farm households in 1942 were higher in relation to those of the spring of 1955 average prices than the relationship of the Bureau of Labor Statistics urban food prices in the spring of 1942 were to those of the urban food prices in the spring of

¹Marguerite C. Burk, Influence of Economic and Social Factors on U.S. Food Consumption, p. 54.

1955.¹ Differences in consumption patterns can also be attributed to availability and distribution of supplies. In an intensive study of food habits in Cedar Rapids, Iowa, in April and May of 1942, Lewin noted that 47 per cent of the households said that they had already reduced their level of meat consumption from earlier dates in accordance with the unusual wartime distribution of meat supplies.²

There is marked diversity in food consumption between families living in cities and those living on farms. Farm families generally use more food (measured in calories), chiefly because their outdoor physical work requires large quantities of food energy and because of the large amounts of food supplied by home production. When the home-produced foods are evaluated in terms of money, they represent about 40 per cent of all the food used at home and away by the farm family.³ The proportion of food home-produced varied among farm families, but virtually every family had some.

For the 1955 survey week, the total value of food used by farm families averaged \$29.25 or \$7.10 per person. By contrast the urban average was \$32.75, which, because of the smaller size of city families, results in an average of \$9.40 per person. For

¹Marguerite C. Burk, "Appraisal of Rural Food Consumption," J.F.E., (August, 1958), p. 582.

²Kurt Lewin, "Forces Behind Food Habits and Methods of Change," National Research Council, N.R.C. Bul. No. 108, p. 52.

³Mollie Orshansky, op. cit., p. 2-4.

rural non-farm families, living in communities of fewer than 2,500 persons and outside the fringe areas around cities of 50,000 or more but not on farms, the food expenditure averaged at \$7.60 per person in the week.

The differences observed may partly be attributed to the prices of some foods which are bought locally. For example, the North Central farm families bought eggs for only 35 cents a dozen compared with 41 cents reported by rural non-farm and 50 cents by city families in the same region. If the foods of the farm and other rural families were valued at prices commonly paid in city markets, the money value of their food would probably be greater than that of city families.¹

The effect of urbanization has a close relationship to income effect; but in considering the urbanization effect, one should isolate it from the income effect. There is non-money income which will cause unadjustable variation in a food consumption pattern. The non-money income effect has greatly diminished in relation to total income in the last 20 years, as is evidenced by the following observations: (1) the decline in home food production which was the biggest part of such income; (2) the decline in the proportion of farm households in the U.S. total; and (3) the substantial increase in money income. Still some rural non-farm households have substantial amounts of non-money income in the form of home-produced foods and fuel; and

¹Mollie Orshansky, op. cit., p. 2-4.

there were probably farm households in the \$3-4,000 money income group that had total incomes approximating that of urban households in the \$4-5,000 range. The non-money income factor causes difficulty in isolating income effects from urbanization effects. The Department of Agriculture did not ask information on non-money income in the 1955 Survey of Household Food Consumption.

One possible procedure to isolate income effect is illustrated in Table 5. A relationship of urbanization to cross-section indexes of food consumption per person during a week of spring, 1955, is shown in the following table:

Table 5. Relationship of urbanization differences on food consumption for southern households, roughly comparable in money and non-money income. (U.S. all household average for each index = 100.)

	: Urban	: Rural non-farm	: Farm			
	: \$4,- 5,000	: \$4,- 5,000	: \$3,- 4,000	: \$4,- 5,000	: \$3,- 4,000	: \$2,- 3,000
Food use of farm commodities (farm level):						
All sources	99	102	92	103	97	95
Purchased	109	101	92	59	57	56
Consumption of all foods (retail level)	97	99	90	101	95	92

Source: Marguerite C. Burk, Influences of Economic and Social Factors on U.S. Food Consumption, p. 57.

The range of averages for the two rural non-farm income groups indicates how rural non-farm consumption patterns may vary from those of urban households with comparable total incomes.

Since non-money income has much greater significance for farm families, data of the \$2-3,000 money income group are included for those families in the table. This table clearly indicates that rural non-farm and farm households with \$4-5,000 money income per family, after taxes, ate better than urban households of comparable money income. But Burk states that "when we take into account the non-money income and look at the next lower money income group, this higher level appears questionable."¹ Urbanization, however, affects the purchased farm foods.

Farm families spent only about half as much for food as the urban families, and the rural non-farm families 80 per cent as much. However, since rural families generally have lower incomes, the share of money income going for food was nearly the same proportionally for the three groups, about one-third.²

There was more eating out for urban households than for the rural and the rural non-farm households. The city family that did eat away from home spent nearly 1 1/2 times as much as the rural non-farm families and more than twice as much as the farm family.³

The urbanization shift had little effect on the average quantity of all foods consumed, but it caused 2 to 3 per cent increase in the average use of purchased farm foods. Expenditure

¹Marguerite C. Burk, Influences of Economic and Social Factors on U.S. Food Consumption, p. 56.

²Mollie Orshansky, op. cit., p. 4.

³Ibid., p. 4.

for food at home increased 3 per cent per person, but based on the urbanizational differences in expenditure for marketing in the spring, 1955, the net shift from farm to rural non-farm status apparently raised average expenditures for food marketing services 3 per cent.¹

Over all, the food pattern shown in the survey indicates that farm families are likely to consume more food in total pounds than the non-farm families, although it is of lower money value. In nutritionwise, farm diets furnish larger amounts of all nutrients except vitamin A and C.²

There are time lags for the people to adopt new food consumption patterns as the urbanization process takes place; but it seems as if there is no satisfactory way to measure the time lag at present.

Regionality

Consumption of foods from all sources in the North Central region and in the West in 1955, measured at farm value level, was 107 per cent of the national average per person. In the Northeast, the average was the same as that of the national average, but in the South it was 91 per cent as great. The differences stem in part from the urbanization characteristics of each region, in part from the regional differences in distribution of families by income group, in part from the differences in degree

¹Ibid., p. 6.

²Ibid., p. 4, 12.

of urbanization, and only in part from regional differences in the overall food consumption pattern among consumption groups of people.¹ It is to be expected that since the United States covers so large a geographic area, regional variation in food patterns may occur, and one might also anticipate some differences lingering on because of the ethnic groups that originally settled in an area. However, the 1955 food consumption survey reports show that there were few differences. The differences were very slight and often no greater than those among families of different income groups within a region. Among the four regions, Northeast, North Central, South, and West, the South differed more from the other regions than they differed from each other.²

As stated before, the combined influences of urbanization effect, income effect, and other regional differences contribute to the differences of the food consumption between regions; and these may be attributed to many background causes, such as natural resources, locational conditions, certain characteristics of ethnic and cultural backgrounds, occupations, level of living, and food habits. Because of the conditions of the local economy, society adopted itself to the local conditions; but as industry and trade developed, changes in purchasing power and improved

¹Robert J. Lavell, "Introduction of New Regional Indexes for Food Consumption Analysis", (Nat. Food Situation No. 89, July, 1959), p. 33.

²Mollie Orshansky, op. cit., p. 4.

techniques of agriculture and transportation led to changes in the food patterns. The advances were made at different rates in the several regions and within them, however, the food habits that were adapted to the local environment of years ago are still somewhat persistent even today.¹

Isolating the effect of regionality from those of income and urbanization is a difficult task. For instance, the average South use of farm commodities from all sources was 91 per cent of that of the United States average, but the urban South averaged 94 per cent. For households of comparable income as well as urbanization, the South's use of farm foods was close to that of the national rate; but differences in consumption of processed foods in the South, such as canned and frozen fruits and vegetables, and the use of lower priced foods, such as condensed milk instead of fresh whole milk, were found to exist.

Differences in the food consumption of urban households according to regionality are shown in Table 6, page 43.

North Central families used more meat, milk, fruits and vegetables, and bakery products than their Southern counterparts, and less flour and cereals. More fats and sugars were used in the South, and still larger amounts were used by North Central families. Urban households compared in both regions averaged 3.6 persons, but farm households shown for the North Central regions averaged only 4 persons compared with 4½ in the South.²

¹Marguerite C. Burk, Influence of Economic and Social Factors on U. S. Food Consumption, p. 65.

²Mollie Orshansky, op. cit., p. 4.

Table 6. Regional differences in the food consumption of urban households in the disposable income class of \$4,000-\$5,000 (U.S. all household average for such index = 100.)¹

	Farm level		Retail
	All source	Purchased	level
United States	100	111	101
Northeast	99	112	100
North Central	102	113	103
South	99	109	97
West	100	110	104

Source: Marguerite C. Burk, *Influences of Economic and Social Factors on U.S. Food Consumption*, p. 57, according to 1955 U. S. Food Consumption Survey data.

¹Marguerite C. Burk, op. cit., p. 57.

EFFECTS OF EDUCATION, PROMOTION AND ADVERTISING ON FOOD CONSUMPTION

The institutional-availability circumstances on food consumption Bilkey mentioned included advertising, sales promotion, merchandising, and consumer education. These variables will affect the consumer behavior by exerting effects upon consumer knowledge about choices available and the merits and limitations concerning each item, and will influence consumer desires.¹

A consumer will wish to increase his satisfaction within the money available when he purchases food, and he always continues to strive to choose the combination of food items which he thinks gives the most satisfaction to him. The above variables, consumer education, promotional activities, and advertising may enable the consumers to realize more satisfaction through the following ways:

- (a) Increase supply of the factors (time, money, choices).
- (b) Increase knowledge of alternative use of the factors.
- (c) Increase utility and expand appreciation by changing standards.
- (d) Improve the technique to balance the choices.²

Economists point out that consumers can act only within the limits of alternatives available to them, and these choices are limited by outside forces; that is, missing information for consumers will narrow the possibility of choices, and the lack of

¹Warren J. Bilkey, op. cit., p. 15.

²E. E. Hoyt, Consumption in Our Economy, (McGraw-Hill, 1938), pp. 343-44.

the knowledge will contribute to sluggish marketing efficiency.

Margaret G. Reid briefly states that increasing consumer information and the relative estimates of the quantities of various foods consumed are equally important even though they have little influence on total expenditures of food.¹

Consumer Education

The purpose of consumer education is to provide knowledge concerning effective utilization of the various foods and to increase consumption of total agricultural foods. There are various arguments about the possibility of expanding the food consumption through consumer education. Robert Kramer argues that due to the inexpandability of the human stomach and the relative rigidity of food expenditure as a percentage of disposable income, the possibility of increase of total food consumption by consumer education is very limited. The cost of consumer education will not bring sufficient amounts of increased food demand to warrant economy on this item.²

However the reason of inexpandability of the stomach and rigid percentage of food expenditure of disposable income does not explain the whole reason of difficulty in increasing total consumption. There are opportunities to increase total food

¹Margaret G. Reid, "What We Do and We Do Not Know About Food Consumption of American Families," J.F.E. Vol. 40, (Dec., 1958).

²Robert Kramer, "The Place of Consumer Education in Increasing the Demand for Food," J.F.E., (Dec., 1955).

consumption. The depressed and the deficiency in nutrition of American food are still big problems. It is just that the consumer education program at present is too weak a weapon to change the whole food consumption pattern. According to Food Field Reporter, only one Kansas child in ten had a diet conforming fully to recommended nutrition standards; for the average child's diet does not supply adequate calcium, and there is a significant underconsumption of calcium, protein, and some vitamins in the average food diets.¹ The percentage of food consumption in relation to disposable income has also showed variation from a low 25.4 per cent in the depression to a high of 34.3 per cent soon after World War II, and it fell again to 30.8 per cent in 1953.² These variations show the possibility of influencing the total demand for food, even though the consumer education may have only limited effect on total consumption.

The most important influence of consumer education will be that through the improved knowledge of food nutrition of the consumers. To quote Hoffman:

Good nutrition is a many sided and complex thing. It seems to me that we may have overemphasized income as a factor in it. Many things affect the way we eat, apart from income. Partly it is a matter of family training and tradition; some families provide themselves with wholesome and well-rounded diets on a relatively small amount of money while others would not eat what they choose for their money.³

¹Food Field Reporter, (July 11, 1953: A survey by Kansas State Univ.)

²Karl Shoemaker, "Discussion: The Place of Consumer Education in Increasing the Demand for Food," J.F.E. (Dec., 1955), p. 1394.

³A.C. Hoffman, "Discussion: What We Do and Do Not Know About Food Habits of American Families," J.F.E. (Dec., 1958), p. 1313.

Education induces consumers to increase the consumption of quality foods, nutrition-wise, while their demand for the cheaper, bulky foods may decrease, and thus cause a net increase of the consumer expenditure.

Consumer education is also expected to increase market efficiency. If we assume an effective competition, market efficiency brings net price reduction to consumers. In the short run, the consumer demand of food will increase, and producers also will gain from the increased food demand. In the long run, the producer gain will depend upon the total quantity supplied that has not increased as much as the quantity demand. Increases in marketing efficiency that reduce marketing costs and consumer price may call for increased supplies. Increases in marketing efficiency that reduce marketing costs and consumer prices, and the reduction in waste will partly offset each other.¹

The average consumer has fixed consumption habits, and when the relative income rises, the consumer continues his accustomed consumption patterns for a while. This delaying time lag depends on a variability of factors, but the lack of information is the most important factor contributing to lengthening this time lag. Consumer education can encourage consumers to adopt new consumption patterns.²

It is impossible to quantitatively assess the many aspects

¹Robert Kramer, op. cit., p. 1375.

²Tibor Scitovsky, Welfare and Competition, (Chicago: Richard Irwin, Inc., 1951), p. 48-49.

of the effects by consumer education. There are several types of consumer education programs. These are designed to change people's tastes, habits, and attitudes for the mutual benefit of consumer; to inform the consumer concerning the seasonal supply of each foods; and educate him how to choose, how to store and how to prepare foods. Such education will contribute to reduction of waste of the foods, to market cost saving, to time saving.

At present, about ninety consumer education specialists are taking part in various consumer education projects in the United States. While their work and extent of effectiveness is hard to measure, through their cooperation with extension agencies and through utilizing various channels of communication and methods, this influence is expected to benefit producers as well as consumers many times more than its costs.¹

Promotion and Advertising

There are various decisions and activities that are involved in selling activities. R. L. Kohls listed the following decisions and activities:²

- (1) The choice of the product form such as fresh, canned, frozen, or perhaps dried concentrated orange juices.
- (2) The decisions as to the appropriate marketing channel

¹Robert Kramer, op. cit., p. 1376.

²R. L. Kohls, "The Place of Merchandising and Promotion in Expanding the Demand for Food," J.F.E., (Dec., 1955), p. 1380.

and agencies to be used such as direct salesmen, or independent wholesalers and brokers.

- (3) The efforts to control the product as it moves from producer to consumer as to the amount, timeliness and quality.
- (4) The decisions as to brand differentiation policies.
- (5) The decisions as to pricing policies.
- (6) The points of sale activities such as packaging and displays, and store and product arrangements to secure maximum consumer acceptance.
- (7) Advertising through the various communication media aimed at influencing the choice of either handlers or consumers.

The expenses accomplish the above decisions and activities are included in selling costs. Kohls thinks the references to selling activities properly refer only to the point of sales activities and the advertising budget.¹

Advertising and promotion activities are an old custom in history; but the economic analysis of advertising and promotion was not undertaken until very recently. Pre-Marshallian economists were aware of advertising, but they did not deal with it analytically. Even Marshall did not include the analytical economics of advertising in his books. He put advertising in the index to his Principles of Economics, but he did not write much to contribute to the analysis of advertising, except that he distinguished between "informative" and "persuasive" advertising.² Pigou sets forth a broad framework for considering the

¹Ibid., p. 1380.

²Sidney F. Hoos, "The Advertising and Promotion of Farm Products, Some Theoretical Issues," J.F.E., May, 1959), pp. 349-350.

social and welfare aspects of activities such as advertising; but he also did not articulate a theory in which advertising was integrally incorporated. In Edward Chamberlin's *Monopolistic Competition*, then, is the first attempt to develop a theory concerning selling costs.

Chamberlin also had to set up the necessary conditions for short run profit maximizing, such as when price and output are fixed with selling cost variable, or when output and selling costs are fixed with price variable.

Further progress for a more general analysis was developed by Barford, Boulding, Buchanan, Stigler, Dorfman, and Steiner,¹ so that with price, volume, quality and selling costs each being a variable, a short run profit maximizing solution became possible. This is the stage at which the conventional treatment of advertisement was incorporated into the theory of the firm. However, this theory, treatment of selling costs in the theory of the firm, also had shortcomings. For example, the theory assumed that increased sales occur along with increased selling costs. But Samuelson makes the following statement:

Even under monopoly, there is no unique effect of equilibrium output or price when the selling costs are introduced. Thus, the direction of change of output depends upon the direction of shift of the marginal

¹Borg Barford, "The Theory of Advertising," (Abstract in Econometrica, July, 1940), p. 279; Kenneth Boulding, Economic Analysis, Rev., (New York: Harper and Bros., 1948); Norman S. Buchanan, "Advertising Expenditures: A Suggested Treatment," (Journal of Political Economy, Aug., 1942), p. 537, 1942; George Stigler, The Theory of Price, (New York: MacMilan Co., 1946); and Robert Dorfman and Peter O. Steiner, "Optical Advertising and Optical Quality," (A.E.R., Dec., 1954), p. 827.

revenue schedule (upward and downward) as advertising changes. Now there is nothing in the formulation of the problem which requires that the shift be in any particular direction. Hence, short of quantitative empirical investigation of sales response to advertising, no presumption is possible. It is not possible, therefore, to state whether output will be larger or smaller under positive advertising expenditures. It may point out that the effect of advertising upon price is also incapable of unambiguous inference.¹

When other forms of market structures are influenced, the issue is naturally more pertinent.

In incurring the selling costs, the advertisers expect a favorable result, while some economists doubt the outcome. For particular directional relationship of selling costs to output or price, we can say that if advertising costs are incurred, the demand curve may shift so that either a larger quantity may be sold at the same price, the same quantity sold at a higher price, a larger quantity sold at a lower price, or a smaller quantity sold at a higher price. Actually the net result of the advertising could go in any direction.²

Chamberlin distinguished "selling costs" from "production costs" in this way: "Selling costs are costs incurred in order to alter the position or shape of the demand curve for a product ...production costs are the costs incurred to adapt the product to the demand."³ There are three possible ways the advertising

¹Paul A. Samuelson, Foundation of Economic Analysis, (Cambridge: Harvard University Press, 1947), pp. 41-42.

²Sidney Hoos, op. cit., p. 351-352.

³Edward Chamberlin, The Theory of Monopolistic Competition, 3rd Ed., Cambridge: Harvard University Press, 1938, p. 125.

(selling costs) can improve the demand curve, such as (a) by moving the position of demand curve right, (b) by changing the demand curve to be more elastic, and (c) by making the demand curve less elastic.¹

The first goal of these activities to increase demand, (changing the demand curve right) has been discussed by various economists. In evaluating these effects, there seem to be three levels of results one can consider:

1. How effective are such efforts in changing the demand for whole aggregates of products such as food, clothing, electrical appliances, etc?
2. How effective are such efforts in changing the demand for a general type of product--such as dairy product, men's hats, refrigerators, etc?
3. How effective are such efforts in changing the demand for the output of the product of a particular seller (often called selective demand). Such as Borden's milk, Adam's hats, and Philco refrigerators?²

It is generally conceded that advertising is not strong enough to increase total demand for food. Dr. Kohls states that in the aggregate, the people of the U.S. are wealthy and well-fed. The cross-elasticity of demand between food products and non-food products is very low. Thus the possibility of increasing the aggregate demand for food by increasing advertising is very limited and rather uneconomical. But, Robert Walsh mentions, advertising is only a part of promotion and merchandising

¹Frederick V. Waugh, "Needed Research on the Effectiveness of Farm Products Promotion," J.F.E., (May, 1959), p. 370.

²R. L. Kohls, op. cit., p. 1381.

activities, which should include decisions as to product form, appropriate marketing channels and agencies, efforts to control the product as it moves from producer to consumer, decision as to brand differentiation policy, and decisions as to pricing policies. Then he insists that these promotion and merchandising activities can expand the total demand for food.¹

The total consumer expenditures for all food as calculated from U. S. Department of Commerce data in relation to disposable income is quite stable; but it showed a little improvement in the last decade. This change is significant in the light that in accordance with Engel's law, the percentage of total income for food should decrease as the income level rises, but it didn't. The effect of improved promotion and merchandising helped to increase the food consumption ratio to disposable income.²

Second, the potency of the tools of promotion and merchandising used to influence demand increased as one moved down from the aggregate to the specific. There are many instances in which the advertising and promotion produced success in increasing demand of food groups, such as dairy products, oranges, lettuce, turkeys, chickens, etc.

Some economists, such as Dr. Kohls, are quite pessimistic about the result of advertising to increase the consumption of

¹Robert M. Walsh, "Discussion: The Place of Merchandising and Promotion in Expanding the Demand for Food," J.F.E. (May, 1955), p. 1396.

²Ibid., p. 1398.

particular food groups. He listed the conditions that must be present in order to succeed in advertising:

1. The product has a favorable demand trend.
2. The product has a large chance for successful differentiation from its potential substitutes.
3. There should be powerful emotional buying motives employed.
4. Enough funds must be spent to result in a sufficient degree of the activities.
5. Advertising efforts must be accompanied by other selling activities such as merchandising, store improved salesmanship, etc. (Advertising only creates traffic so that selling can be done.)¹

Kohls believes that it is not that the demand cannot be influenced, but rather that advertising is a poor tool to do the job. He rather favors such things as product development, retail and wholesale training, and product standardization.²

Borden also states:

One clear and important generalization can be made—namely, that basic trends of demands for products which are determined by underlying social and environmental conditions are more significant in determining the expansion or contraction of primary demand than is the case of lack of use of advertising.³

The things which Kohls recommended, however, are included in selling activities, and these activities had an effective influence on the increase of consumption (or demand) for the

¹R. L. Kohls, op. cit., p. 1381.

²Ibid., p. 1385.

³Neil Borden, The Effect of Advertising, (Chicago: Irwin, 1942), p. 436.

food groups. Domestic consumption of oranges in fresh and processed forms increased more than one-fourth in the past six years (1950-1955). When the price effect was eliminated, and the retail price drop discounted, it was evident that there was increased consumption brought about primarily by improved merchandising methods and successful promotion activities.¹ The wine industry has built up a demand in the past twenty years that did not exist in 1933. The Cling Peach Advisory Board has done an amazingly effective job by advertising effectively.

In the third category, of increasing demand for a particular food brand or store, the advertising and promotional activities had much success in increasing demand; and even though mainly substitutional effect results, the consumption demand of each brand was significant. The effectiveness of advertising for a specific brand was varied according to the type and kind of the food. For instance, for meat, brand did not make much difference in consumer behavior regardless of advertising. Rather the on-the-spot choosing of the meat in the show windows was the major factor to influence the demand. On the contrary, the advertising of an artichoke brand emphasizing a snob appeal had a successful effect of increasing demand; but this type of advertising is believed to have little social benefit in increasing total food consumption.

Advertising and promotional activities can make the demand

¹Robert M. Walsh, op. cit., p. 1396.

curve less elastic in order to make more profit. When the market for a product is threatened by a new and vigorously advertised possible substitute, it is possible that the old product will lose the present market to the new product, unless the older product is also advertised to let the public know the excellence of the older product compared with that of new products. This differentiation such as foods, by advertising the exclusive utility, can make the product less elastic. For instance, an advertisement which merely displays the name of a particular trademark or manufacturer may convey no information; yet if this name is made more familiar to buyers, they are led to ask for it in preference to unadvertised products, and to buy more.¹ This differentiation may involve distinctive packages and trademark, and effective marketing, which induce consumers to buy the particular commodity. In the "Result of a Promotional Campaign for Lamb in Sacramento, California, 1956", the example of the successful result of making the food less elastic through promotional campaign is mentioned.²

On the other hand, Schultz mentions the possible gains to agriculture in making the demand curve more elastic by promotion or merchandising. As inelasticity of demand for agricultural products becomes more acute, the consuming units benefit from

¹Grubbs, Clement, and Hunter, "Result of a Promotional Campaign for Lamb in Sacramento, California," (Marketing Research Report, U.S.D.A., No. 200), p. 7.

²Edward Chamberlin, op. cit., pp. 118-119.

economic development. The relevant information on which consumers act is certainly far from complete. It is not clear that better information would always make the demand for farm products more elastic. But there is a substantial lag in consumer behavior in adjusting to particular changes in relative prices. Substitution is at first delayed pending more information to convince the consumers that the change in relative price is likely to persist and that it will be worth while to change to the substitute. As a result, the relevant elasticities show up to be more elastic as time passes. It should be possible to shorten this adjustment period and thus reduce this particular lag in consumer behavior.¹ For instance, the practice of the Plentiful Foods Program of the U.S.D.A. is to encourage greater consumption of a food as soon as its price drops.

There are a few examples of advertising and promotional campaigns for particular food groups. For instance, the American Sheep Producers Council, Inc., undertook an advertising and promotional program for lamb and mutton in Sacramento, California, during the spring of 1956. The advertising was carried from April 23, to June 27, through newspapers, radios, and television. Changes in price, availability, and displays were allocated. The results showed that when the price was raised, the demand elasticity showed significant difference (improvement) from the estimated elasticity to be less elastic. The overall frequency

¹Theodore W. Schultz, Economic Organization of Agriculture, (McGraw-Hill, 1953), p. 356.

of use was about the same in June as it had been at the time of the pre-promotion survey in February, even though lamb prices were raised 15 per cent during and after the period. (Price increase for lamb was 4 times as much as the price increase for beef, and $2\frac{1}{2}$ times as much as that for pork during the period.)¹ The effect of this kind of advertising, to the extent of giving information, is to make the market more elastic.²

Advertising is becoming very important for agricultural products; but there is a difficulty of measuring the effect of advertising and promotional activities. The selling activities seem to affect total consumption of food in limited magnitude, but they improve the degree of effectiveness for selling particular food groups and the most effectiveness when a particular brand or store apply the activities. The "impulse buying" seem to have little influence on total food expenditure according to Shaffer.³

¹Grub, Clement, and Hunter, op. cit., p. 29.

²Tibor Scitovsky, op. cit., p. 401.

³James D. Shaffer, "The Influence of "Impulse Buying" or In-The-Store Decision on Consumer's Food Purchases," J.F.E., (May, 1960), p. 317.

PSYCHOLOGICAL FACTORS AFFECTING FOOD PURCHASING PATTERNS

There have not been many studies made of the psychological factors related to food consumption. Actually, psychology and economics have not been linked together in the study of food consumption until recently.

The difference in approach between economists and psychologists are considered to be as follows: Economists are generally concentrated on individual clinical explanation of attitudes without quantification. Psychologists concentrate on attitudes rather than behavior, on behavior rather than changes in behavior, or a limited number of simple motives, such as hunger and thirst, and are interested in the process of learning rather than in assessment of motives.

Now as economics becomes more sophisticated, in order to break the subject into components for which testable hypotheses might be derived, it takes up variables such as attitude, status roles, perception of situation, etc.¹ Actually the conventional statistical research gives only one side of the information, and diagnostic research in motivation of consumer behavior is needed as a base for accurate and creative prediction of the consumer actions.²

¹James Morgan, "A Review of Recent Research On Consumer Behavior," Consumer Behavior, edited by Lincoln C. Clark, (Harper, 1958), p. 97.

²Ernest Dichter, Toward an Understanding Human Behavior, Motivations and Market Behavior, edited by Ferber, 1958, p. 26-27.

Psychological factors are interrelated with all the economic and social factors. Those factors influence a consumer's attitude and motivations. A consumer motive is the combination effect of human basic needs and the degree of ego involvements. This reaction is referred to as a state of "need arousal", even though it is still a hidden motivation, through the cognitive process of anticipation of gratification of a particular need, and with external conditions such as anticipation of danger or harm, or guilty feelings; the consumer makes a decision in "true" or "rationalized" or "dissembled" action.

During this cognitive process, the consumer makes choices from various commodities, according to the memory factors of the differentiation between the commodities. When he anticipates the most gratification of his needs by choosing the particular commodity, and when he receives the anticipated gratification by consuming the commodity, he will repeat the same process when "reinforcement" is needed. When this process is repeated, the contributing activities become particularly automatic, and that is a "habit".¹

The decision passes through these three phases--motivation, cognition, and learning--in order to become an act. In each of these stages, the economic and social factors, as well as changes in attitudes and expectations, are capable of influencing the

¹James Bayton, "Motivation, Cognition, Learning--Basic Factors in Consumer Behavior," Journal of Marketing, (January, 1958), p. 282-289.

proportion of income spent on discretionary purchases.¹

Katona argues, however, that consumer behavior could be motivated by discretionary decision, or it could be that the behavior is merely the activity of habit. Discretionary purchases are largely centered in purchasing durable goods; purchases of non-durable goods, especially foods, are largely non-discretionary. This statement does not mean that all food expenditures are habitual. Changes in the standard of living may be, for instance, the result of genuine decisions as is any other changes in consumption patterns caused by any reason.²

Katona gives no evidence that food expenditures are largely non-discretionary. He states that large expenditures are more often discretionary, and routine purchases are more non-discretionary. Shaffer asserts that actually, individuals have a good deal of discretion in determining amounts spent for non-durables and exercise this discretion. And since non-durables constitute a much larger share of expenditure than durables, the discrete changes could be greater.³

Katona gives the impression that attitude is perhaps the most important factor in change of consumer activities. He states that in studying the origin of demand by attitude study,

¹George Katona, The Powerful Consumer, (New York: McGraw-Hill, 1960), p. 26.

²George Katona, Psychological Analysis of Economic Behavior, (New York: McGraw-Hill, 1951), p. 63-85.

³James D. Shaffer, "Review: The Powerful Consumer," J.F.E., (May, 1961), p. 476.

enabling conditions and availability of goods, however, are not sufficient to arouse forces driving us to eat. Our needs, at least today, in most cases, are group determined. This group determination belongs to a powerful force but is not one which one cannot evade. Far too little is known about these factors.¹

Concerning consumer motivation research, Katona sums the findings in this way: The chances for obtaining really deep-seated motives during a short interview are none too good; that repeated and extended psychiatric or psychological interviews would help in many cases. But all these circumstances are not too important for food consumption study. For understanding consumer behavior, Katona gives the following conclusions: First, the difficult task of discovering the hidden motives may not be necessary; second, that the "superficial" answers people give when they are asked why they have acted in a certain way may be of importance; and third, however, that there is a fruitful method of discovering motives besides asking people about their motives.

From what the consumer knows about the situations prevailing during a period, he speculates in the cognitive process, but he doesn't have to go that far. The motives concerning which people appear to be conscious, they repeat over and over in their mind until they themselves believe in them. Thus an analyst can rely on results of cross tabulation between form of behavior and

¹George Katona, op. cit., p. 107-111.

certain characteristics of people.¹

General decision-making depends upon motivation, frames of reference, attitudes, expectations, as well as on the so-called objective factors of income, age, assets, and so forth.

It seems to be evident that psychological approaches toward food choices and food consumption are interesting, but the results obtained do not yet seem to contribute much to the understanding of consumer behavior in food consumption.

¹Ibid., p. 73-76.

CONCLUSIONS

One general conclusion that has been rather well indicated from this study is that variables other than price and income are very important factors which affect food consumption patterns, and without study of the variables, the widespread application of results of income and price studies to food consumption is going to be much lacking in accuracy.

A second general conclusion is that total food consumption can be increased even if it is only to limited extent; and the possibility and extent of increasing food expenditures are increased by improvement of quality of the food consumed and by improved methods and systems which account for factors affecting food consumption other than price and income.

Among the variables of family characteristics, the effect of family size and composition and characteristics of homemakers seem to be very important, and the importance of their influences are well indicated. A problem in studying family composition is that because there are so many types of families, division of families into a few major family types will result in inaccuracy, while to divide them into many groups is difficult and costly. The characteristics of homemakers have very important influences, because homemakers usually determine what their families eat each day. The education factor, age factor, and occupation status of the homemakers are all important.

Study of occupation variables has the weakness of trying to divide the various occupations into a few major broad types and

still not losing the significance of difference of occupation. Recent surveys on food consumption patterns of occupational groups showed inconclusive results; and these inconclusive results are considered to be due in part to the complexity of occupational types.

Ethnic background has little influence on total consumption of food in the United States. Many of the ethnic groups are integrated with American food habits to some extent, and the ethnic groups constitute too small a minority of population to have conspicuous influences on the total food consumption in the United States. Most of the studies reviewed were about twenty years old, and it is suspected that differences in ethnic background are even less an important factor in explaining food consumption patterns than these studies indicated.

Locational factors are relatively important variables. Farm families are shown to be consuming more than urban families. Of four major regions, the South proved to be the region where households consume less food per family.

Education, promotion, and advertising are considered to be increasing yearly, and the importance of these variables is increasing, because through them, changes in food consumption patterns can be induced. The major influence of consumer education is in educating consumers about nutrition, and through nutrition education, increased demand for better quality of food consumption may be brought about. The combined effects of promotion and advertising, that is, selling activities, are expected to increase total food consumption according to many economists.

Psychological factors are important in analyzing basic human behavior; but a difficulty of attempting to analyze human behavior is inherent due to the complexity of the human mind. Katona advises that actually the results of cross tabulation between forms of behavior and certain characteristics of people may be a more realistic and simpler method of finding the aggregate influences on total food consumption of psychological factors.

As economic researches progress into more sophisticated stages, just like a great jigsaw puzzle, each finding of the various variables is going to be fitted into the whole influences, and more and more accurate information of food consumption related to new variables is going to be found.

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FACTORS OTHER THAN PRICE AND INCOME THAT AFFECT FOOD CONSUMPTION

by

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The main purpose of this report is to review recent studies which attempt to measure the impact of variables other than price and income on food consumption. The report is limited to factors affecting food consumption to keep the problem at hand within manageable proportion. To facilitate the presentation of the report, discussion has been centered around five major areas. These areas are: (1) development of consumer behavior theory; (2) effects of family characteristics on food purchasing patterns; (3) locational factors affecting food purchasing patterns; (4) effects of education, promotion and advertising on food purchasing patterns; and (5) psychological factors affecting food purchasing habits.

Development of consumer behavior theory attempts to outline the strains of classical economic thought pertaining to consumer behavior. Emphasis is placed upon recent trends in thought which incorporate variables other than price and income into the study of and analysis of consumer behavior.

Effects of family characteristics on food purchasing patterns were subdivided into family composition and size, occupation, ethnic background, and characteristics of homemakers. Family composition and size and characteristics of homemakers proved to be most important variables among these included in the study. Occupation categories are shown inconclusive as to its influence on food purchasing patterns due to the difficulty of grouping the occupational groups. Ethnic background proved to be of some influence in the total food consumption in the United States for the time period when most studies of this nature were con-

ducted (1940s). Characteristics of homemakers are studied in the effect of age, education, and occupational status; and proved to be very closely related to food purchasing patterns of households.

Locational factors affecting food purchasing patterns were subdivided into urbanization effects and regional effects on food purchasing patterns. Both of these variables were found to be relatively important considerations in explaining variations of food consumption patterns.

Effects of education, promotion and advertising were studied as to their effectiveness and importance in influencing food consumption. Consumer education was found to be of limited importance in increasing total consumption, but useful in exerting maximum influence to improve food consumption patterns. Promotion activities were found to be effective in improving the demand for certain food groups, and particular food brands or stores.

Research on psychological factors affecting consumer behavior seem to be in the pioneering stage of development and how and what kind of factors affect the decision making are studied. Suggestion of how it could be made simpler to conduct survey for psychological factors is included.

A general conclusion of this report is that variables other than price and income are very important and do influence food consumption. Without study of the influence of non-economic variables, the study of the influence of income and price effect on food consumption is going to be much lacking in accuracy.

Another conclusion is that total food consumption can be increased even though in limited extent, and the possibility and extent of

improving food demand are increased by improved methods and systems which take into account the effects of variables other than price and income.

