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TRENDS and PATTERNS in U.S. FOOD CONSUMPTION

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Economic Research Service
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PREFACE

Research on trends in food consumption in the U. S. Department of Agriculture since World War I has emphasized mainly the development of data and the study of changes in supplies and consumption of major commodities. Some economic measures of the production and consumption of all foods combined have been constructed. Another dimension of the research on historical changes in U. S. food consumption has been added by the gradual accumulation of statistics from household food consumption surveys. Some of the findings of recent research are reported in this bulletin which is designed to provide a comprehensive picture of major historical changes in U. S. food consumption. It summarizes, for all foods, kinds of information pertaining to major commodities in a series begun by Agriculture Handbook No. 187, Meat Consumption Trends and Patterns, published by the U. S. Department of Agriculture in 1960.

These bulletins draw in large part on statistical data on per capita consumption in The National Food Situation and in annual supplements to several statistical handbooks, published regularly by the Agricultural Marketing Service prior to April 1961, now by the Economic Research Service. This report relies heavily on overall economic statistics and special procedures reviewed in a companion work, Agriculture Handbook No. 206, Measures and Procedures for Analysis of U. S. Food Consumption. Cross-references in this bulletin frequently refer to this handbook, rather than repeating data and text descriptions here.

The research on farm-retail price spreads and marketing services, to which reference is made in this bulletin, was also transferred from the Agricultural Marketing Service to the Economic Research Service under the April 1961 reorganization of the U. S. Department of Agriculture. The Statistical Reporting Service received the responsibilities of the former Agricultural Estimates Division of AMS, including reports on current crop and livestock production and farm prices.

Contributions to this bulletin made by members of the staff of the Consumption Section, Statistical and Historical Branch, and by others now in the Economic Research Service are noted in the text.

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TRENDS AND PATTERNS IN U. S. FOOD CONSUMPTION

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Chapter 1. INTRODUCTION AND SUMMARY

Two aspects of food consumption in the United States are treated in this bulletin. They are (1) the broad outlines of trends in U. S. food supplies and consumption through the last 50 years, and (2) some of the more significant patterns of cross-sectional variations within the country in selected periods during the half century studied.

The study begins with a description of sources and uses of food supplies (chapter 2). Historical changes in average food consumption for the whole country are next considered (chapter 3). Description of variations in food consumption among population groups at several points in time follows in chapter 4. Variations in the use of marketing services over the last 30 years and among population groups are reviewed separately in chapter 5. The historical changes in food consumption in terms of the value of civilian food at several levels of distribution are summarized in chapter 6. Supplementary information is given in two appendixes.

1.1. Organization of the Reference Scheme

The system of numbering text sections, tables, and figures in this bulletin is one that is used in many technical works on statistics and economics for cross-references and is intended to contribute to the use of the bulletin as a reference work. The first digit of each text section number (3.1.3), table number (3.2), and figure number (4.1) refers to the number of the chapter in which it is given. The second digit in a text reference indicates a major section in the chapter. Headings of these major sections of the chapter are included in the table of contents along with the page number on which each begins. Numbering of subsections follows the same system.

The same reference system is used in Agr. Handb. 206, Measures and Procedures for Analysis of U. S. Food Consumption (9). Cross-references to text sections, tables, and figures in that publication are indicated by the prefix MP-(Measures and Procedures) before the reference numbers. The coding system for time series pertaining to quantities of food and food marketing services, and to value data developed in that publication, is used at appropriate points in this publication. A key to this system is provided in appendix A.

For standard literature on food consumption cited, an abbreviated identification is used for each major bibliographical reference in addition to the number assigned to it in the bibliography at the end of the bulletin. Example: Agr. Handb. 62 refers to Agriculture Handbook 62, Consumption of Food in the United States, 1909-52 (and its annual supplements), which is number 32 in Literature Cited and Other References.

1.2. Summary of Trends and Patterns in U. S. Consumption of All Food

Some of the more significant findings regarding historical trends in food consumption and variations among population groups are the following:

1.2.1. Domestic production of farm food commodities, excluding quantities used for for feed and seed in each year, increased by three-fourths from 1924 to 1959 while U. S. population increased a little over a half.

1.2.2. U. S. production of farm foods generally supplies 90 to 95 percent of food used in this country. Imports of noncompeting commodities account for 3 or 4 percent. The remainder is made up of imports of supplementary items and changes in stocks.

1.2.3. Home production of farm food commodities for household food use decreased from 22 percent of all foods consumed by U. S. civilians in 1924 to 7 percent in 1959.

1.2.4. Retail poundage of food consumed per capita has been about 100 pounds less in recent years than in the years immediately before World War I, but several economic and nutritional measures of consumption indicate significant increases have occurred in the overall level.

1.2.5. Significant changes in relative importance of foods in overall U. S. consumption during the last 50 years were the substantial decline in potatoes and cereal products, the substitution of vegetable for animal fats, and the increase in poultry consumption.

1.2.6. Per capita use of farm foods from all sources was 13 percent greater in 1955-59 than 30 years earlier, but the average use of purchased farm foods was 30 percent higher.

1.2.7. Statistical analysis of historical data indicates that the income elasticity of purchased farm foods has been about twice as high as for farm foods home produced and purchased.

1.2.8. The shift from home-produced to purchased foods was an important factor in the 54 percent increase in average use of food marketing services from 1935-39 to 1955-59.

1.2.9. Income elasticities of per person expenditures for all food at home and away from home by housekeeping households in each of the three separate urbanization categories -- urban, rural nonfarm, and farm -- declined from spring 1942 to spring 1955. Thus food expenditures varied less with income level of households in the more recent than in the earlier period.

1.2.10. Household food surveys indicate food use varies much more with money income among nonfarm households than among farm households. But the degree of variation is much less among high-income than among middle-income households.

1.2.11. In spring 1955 variations in food marketing costs paid per person among households grouped by income were apparently two to three times greater than comparable variations in use of food.

1.2.12. From 1947 to 1955 the proportion of disposable money income allocated to food expenditures decreased each year except in 1951. In 1955-58 this proportion was fairly stable at 22 to 23 percent, but it moved down to 21 percent in 1959.

Chapter 2. CHANGES IN THE SOURCES AND USES OF U. S. FOOD SUPPLIES

This chapter deals with historical changes in the sources of U. S. food supplies in terms of domestic production for home use and for sale, imports, and stock changes. The special problem of fishery products is treated separately. Uses and users of these food supplies are described in terms of exports, domestic nonfood use, and military food. At the end of the chapter the changing picture of the commodity group makeup is surveyed briefly. 1/

2.1. Sources of U. S. Supplies of Farm Foods

2.1.1. Domestic production of farm food commodities -- net of, or excluding quantities used for feed and seed in each year -- increased by three-fourths from 1924 to 1959. During the same period, U. S. population increased a little more than a half. 2/ Despite the great increase in domestic production, U. S. imports of food commodities are still 8 or 9 percent of net utilization of such food commodities each year.

Consideration of two questions helps to gain perspective on sources of our food supplies. These will be discussed in the following two sections.

2.1.2. How Self-Supporting in Farm Foods Is U. S.?

2.1.2.1. U. S. domestic production of farm food commodities generally has supplied about 90 to 95 percent of net utilization of food commodities, excluding feed and seed. The proportion during the 1924-59 period varied from 81 percent in 1936 and 83 percent in 1934 to an equivalent of 100 percent in 1948, the year that feed grain stocks were rebuilt. 3/ Low proportions in 1934 and 1936 reflected the effects of drought on current production and heavy withdrawals from stocks.

2.1.2.2. The contribution of imports to U. S. net utilization of food varied from a low of 6 percent in 1942 to 11 percent in 1935-37. Submarine warfare and other war-related factors in 1942 cut down our imports in that year. Imports loomed large in 1935 and 1937 as operating stocks were rebuilt following years of drought. The relationship of imports to net utilization of farm food commodities usually is around 8 or 9 percent of the total.

1/ Basic data for this chapter in the main are those developed in the computations of the master index of supply-utilization of all farm commodities, including sets of data given in tables 45-52 at the end of the Supplement for 1959 to Agr. Handb. 91 Measuring the Supply and Utilization of Farm Commodities (35).

2/ This change in production is measured by a subindex of the supply-utilization index adjusted for the approximate amount of feed and seed supplied from domestic production in each year. For further description see pp. 34-42 of Agr. Handb. 91 (35).

3/ Net utilization of farm food commodities is a measure of the net flow of such commodities from production, imports, and commercial stocks (including those held for price support) into domestic food and nonfood use except for feed and seed, into exports, or into stocks. Only supplies from a decrease in stocks are reflected in the measure. These data are in table 45 of the Supplement for 1959 to Agr. Handb. 91 (35).

Numbers in parentheses refer to item numbers in Literature Cited and Other References, beginning page 119.

On balance, the quantity of farm food commodities we import is greater than that we export. 4/ Exceptions occurred in 1945-47, years in which substantial supplies of food were shipped to feed civilian population in liberated and occupied areas; and again 1956-59, years in which surplus food supplies were shipped under "special" programs like the one provided by Public Law 480.

Imports exceeded exports by 20 percent in 1924, and the import balance increased from 1924 to 1936. Imports were almost 7 times the size of exports in 1936, but after 1936, the import balance declined as our exports recovered from the drought-enforced cutback. Yet we remained a net importer until 1945, this in spite of wartime expansion in exports under the lend-lease program and the contraction of imports because of enemy operations and use of commercial ships to carry military material. The addition of exports under the military civilian feeding programs to those handled through commercial channels and to deliveries by the U. S. Department of Agriculture for the United Nations Relief and Rehabilitation Administration and other relief and economic assistance programs caused total exports of farm products having food uses to exceed imports in 1945-47. In fact, the whole import situation was upset at the end of World War II by low agricultural production in countries normally exporters.

Only in 1957-59 were exports of food crop commodities larger than imports. In contrast, imports of food livestock products exceeded exports only in 1935-40, years in which domestic supplies were reduced by cutbacks in domestic production. We exported large quantities of livestock products to our allies under the lend-lease and postwar assistance programs in the years 1942 to 1947.

2.1.3. What Foods Are Imported, and How Much?

Imports of supplementary farm food commodities (those produced in the U. S. or closely competitive with U. S. commodities) usually exceeded the imports of complementary items between 1924 and 1937. 5/ In 1938-40 and from 1945 to 1959 (except for 1958), complementary commodities became somewhat more important. Variations have been greater in imports of supplementary commodities than in complementary imports. Changes in U. S. production and the relationships of domestic supplies to domestic demand affect supplementary more than complementary products. Also, supplementary products are often subject to some form of restriction on imports. Complementary imports are generally duty-free; they are principally affected by the availability of supplies abroad, relative prices, and U. S. purchasing power. 6/

Total imports of food for civilian use, including fishery products, rose two-thirds from 1929 to 1959. 7/ Low points were in the war years 1942 and 1943, when imports were cut back about a fourth from the 1941 rate. Imports set a record in 1959.

4/ Indicated by data in table 49 of the Supplement for 1959 to Agr. Handb. 91 (35). In this table commodities are valued in terms of their 1947-49 farm prices.

5/ Supplementary commodities include sugar, copra and other oils and oil seeds, specialty fruits, seasonal vegetables, and tree nuts. The principal complementary items are bananas, coffee, tea, and cocoa.

6/ For further description, see page 44 of Agr. Handb. 91 (35).

7/ Change indicated by the import data of the supply-utilization index for farm food commodities and import data on fishery products in terms of their 1947-49 prices.

2.1.4. Net Domestic Production of Farm Food Commodities

Overall domestic production of farm food commodities varied relatively little from 1924 to 1932 but, as indicated previously, it was substantially cut by drought in 1933, 1934, and 1936. 8/ Domestic production net of or excluding feed and seed used in each year was at the same rate per person in 1940 as in 1924. In the five succeeding years production expanded to meet accelerated wartime demand. The poor corn crop of 1947 pulled per capita production down considerably. Since 1947, total food production has increased about a fourth, reaching new high levels in 1956-59. Owing to large postwar increases in U. S. population, net production of food commodities per capita in the late 1950's was a little less than that during 1944 and 1946.

As changes in production have already been described and analyzed by production economists, 9/ a brief summary only will be included here. These studies indicate that production of crops which have food uses has fluctuated more than that of livestock and livestock products, especially before World War II. Because of wartime demands and abrupt postwar adjustments in Government takings and price controls, production of livestock and livestock products varied more in the 1940's than in the preceding two decades. Generally, the ups and downs in crop production preceded turns in livestock and livestock products by a year or two.

Basic data for studying changes in supplies of groups of commodities are given in Agr. Handb. 91 (35), and for individual commodities in the appendix tables of Agr. Handb. 62 (32).

2.1.5. Effect of Stocks on Food Supplies

2.1.5.1. Changes in stocks and how they have contributed to the supply of food commodities in each year will be considered in this section, but first pertinent information must be appraised. In general, the data on current stocks cover farm stocks of grain and most of the food stocks in distribution channels other than day-to-day operating stocks and supplies in the hands of retailers. The data on stocks incorporated in the supply-utilization index do not include the inventory of animals on farms. 10/ Stocks held under price support are included with free commercial and farm stocks beginning with 1947, but stocks held under foreign supply programs of the U. S. Department of Agriculture have been handled separately; these stocks are unlikely to flow back into U. S. utilization. Net changes in stocks are used as a source of domestic supplies. 11/

8/ Table 46 of the Supplement for 1959 to Agr. Handb. 91 (35).

9/ As in Durost Changing Sources of Farm Output (12) and Loomis and Barton Productivity of Agriculture, United States, 1870-1958 (17).

10/ This information is available, but the inventory of animals is not included in the supply-utilization measure. That measurement starts with meat when slaughtered and crops when harvested. Stocks held by the Armed Forces are also excluded, because supplies taken by the Armed Forces are considered to be used when procured and not returnable to utilization channels. The precise level of stocks is much less significant for the measure of changes in utilization than year-to-year changes in stocks. The supply-utilization index is set up in terms of calendar years; in most instances the stock data apply to January 1. [Detailed information on changes in stock coverage since 1924 is given in Agr. Handb. 62 (32).]

11/ For further information, see pp. 17-18 and pp. 47-60 of Agr. Handb. 91 (35) and the article "Measuring Stock Changes" by Harry Sherr and Leva C. Taylor in the National Food Situation, Feb. 1956 (29).

A comprehensive and strictly comparable measure of January 1 stocks of food commodities over a long period of years cannot be developed because of changes in commodity coverage and in the extent of reported coverage. Deficiencies in the data have been minimized, however, by using changes in comparable stocks during each year rather than aggregate values of reported stocks. In developing the basic data, comparability of stocks at the beginning and the end of each year was carefully observed. The series developed for the supply-utilization index provides useful indications of changes taking place in holdings of farm commodities throughout the economy. Changes in stocks at several levels of distribution and of processing are combined in terms of their farm commodity equivalents and of 1947-49 farm prices.

2.1.5.2. Changes in stocks of farm commodities normally add or subtract less than 3 percent to or from the flow of farm commodities into use. 12/ Exceptions in the 1924-59 period were (1) the drought period of 1934-37, (2) the war year 1943, (3) the year 1948 following the 1947 drought, and (4) 1958. In 1934 and 1936, withdrawals from stocks (primarily grains) amounted to 6 percent of the year's use of farm food commodities. Rebuilding of stocks amounted to 5 percent of total use in 1935 and 8 percent in 1937. Reduction in crop production and heavy feeding caused stocks of food and feed grains to drop in 1943. The short corn crop in 1947, followed by a record large crop a year later, accounted for most of the addition to stocks in 1948, equivalent to 7 percent of 1948 food use.

2.1.5.3. Although the effect of changes in stocks on food use is normally small in percentage terms, these reserves provide a significant source of supplements for current production and imports. The magnitude of such food resources measured as total stocks of farm commodities on hand on January 1 of each year is best evaluated in terms of their relationship to annual use of farm commodities. 13/ Through the 1920's, stocks apparently amounted to about a fourth of the following year's use of food commodities. After the drought years, stocks of grains were again built up, and totaled 30 percent of use annually. In 1944-48, exports, heavy feeding of livestock, and a poor corn crop (1947) cut the ratio back to a fourth. Since 1948, stocks have gradually increased; on January 1, 1959, they amounted to 41 percent of the total flow of farm food commodities into use that year.

2.1.5.4. As indicated by the tabulation that follows, the commodity makeup of stocks changed somewhat between 1929 and 1959.

	Percent of total stocks on January 1	
	1929	1959
Grains	67	76
Fruits and vegetables	11	7
Oil crops	6	11
Other	16	6

12/ Based on data in table 10 of Agr. Handb. 91 (35) and detailed commodity data in the appendix of Agr. Handb. 62 (32).

13/ This discussion is based on the statistical series of calculated available stocks. This was estimated by working back from total stocks reported as of January 1, 1956, using changes in comparable reported stocks. These stocks include processed and unprocessed supplies. For further information, see the references noted in footnote 11.

The value of grain stocks (1947-49 prices) more than doubled between 1929 and 1959. Stocks of oilseeds and oil were 4½ times as large in 1959 as in 1929. Most of the year-to-year changes in stocks are in grains.

2.1.5.5. The supply-utilization index is a measure of flow into utilization in each year. It does not take into account changes in inventory of food-producing livestock units on farms. For example, the totals of (1) the estimated value of food livestock on farms (in 1947-49 farm prices) and (2) the comparable value data for available stocks, including harvested grains and identified supplies in distribution channels, were $17.5 billion for January 1, 1924, and $27.3 billion for January 1, 1958. 14/ According to this measure, the increase in total stocks was 56 percent, practically the same as the increase in U. S. population between the two years. However, the productivity of breeding units of livestock on farms has increased greatly and so has productivity in terms of yields of milk and other products.

2.1.5.6. The next question of significance in an appraisal of the importance of stocks is: Who holds the stocks? The calculation of total available stocks excludes holdings by the Armed Forces and by the Department of Agriculture for export, as under lend-lease. They include stocks held by farmers as free stocks or under the price-support programs, holdings of marketing agencies and processors wherever reported, and supplies held by the Federal Government which were acquired under price-support operations and under emergency programs. These types of holdings are combined because they move into utilization channels in succeeding years.

"The question of ownership, whether Government or private, is not only difficult to ascertain for some commodities held on certain dates, but it also complicates the use of stock data for analytical purposes. Privately-owned stocks held as collateral for Government price support loans will often have a different effect on market prices from those not under loan, depending upon the relationship between market prices and the 'loan level.' Inventories of commodities acquired by the Commodity Credit Corporation under its price-support and emergency programs probably have even less effect on current prices." 15/

Price-support operations of the Federal Farm Board in wheat resulted in the holding of about 6 percent of total available stocks of food commodities in January 1931 and 1932. After these stocks were liquidated in 1933, the price-support holdings of the Government were relatively small up to the 1940's. From 1941 to 1944, large Commodity Credit Corporation stocks of wheat, peanuts, and soybeans were accumulated under price-support operations. On January 1, 1944, CCC stocks under price support were equivalent to a tenth of total available stocks of food commodities. Thereafter, large transfers of these commodities were made to war and postwar supply programs. CCC price-support stocks on January 1, 1947 and 1948, were down to 1 percent of total available stocks. 16/ Total price-support stocks, including those under loan but not

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14/ Derived as follows: The total value of food-producing livestock on farms on January 1, 1947 to 1949, averaged $11.9 billion. Applying the index of the inventory of meat animals and poultry on farms on January 1, 1924 and 1958, to this $11.9 billion, one obtains estimates of the total value of livestock on farms of $11.1 billion for January 1, 1924, and $13.1 billion for January 1, 1958, (in 1947-49 farm prices). These approximations were added to the $6.4 billion estimate for available stocks on January 1, 1924, (developed from the supply-utilization index data) and the $14.2 billion for 1958.

15/ From page 50 of Agri. Handb. 91 (35).

16/ Based on data in table 50 of the Supplement for 1959 to Agr. Handb. 91.

actually held by the Department of Agriculture, gradually accumulated from 3 percent in 1948 to 24 percent of all stocks on January 1, 1951. These supplies were reduced in 1952 and 1953 and then rebuilt in succeeding years. On January 1, 1959, about 40 percent of total reported stocks of food commodities, mostly grains, were held under price support by the CCC or under loan. In sum, changes in stocks of crops have resulted largely from (1) drought or recovery from drought and (2) special programs for price support and for export.

2.1.6. Home Production Versus Commercial Production

2.1.6.1. Data used in measuring food supplies and utilization include production for home use by farm families and by nonfarm families. Estimates of home production are generally less reliable than those of commercial production,particularly in the case of nonfarm families. Throughout the following discussion all measurements are in terms of the values of farm commodity equivalents at 1947-49 farm prices. 17/

Available data indicate that the home production of farm food commodities for household food use has decreased from 15 percent of all measured production of these commodities (including all nonfood use) in 1924 to 5 percent in 1959 with practically all of this decline taking place after 1936. The extent of the decline is about the same when home production is compared with production of farm commodities net of feed and seed use. Comparison with U. S. civilian food use shows that the importance of home production in the total quantity of food commodities used by civilians for food declined from 22 percent in 1924 to 7 percent in 1959.

2.1.6.2. There was little change in the proportion home produced in the years 1924 to 1936. Over that period the farm population declined only in relative terms, from 28 percent of the total population to 25 percent, but the nonfarm population was becoming somewhat more urbanized. After 1936, the proportion home produced declined from 15 percent to the 5 percent for 1959.

2.1.6.3. The greatest declines appear to have been in grain products, milk production, and fruit. According to Crop Reporting Board data, home production of meat has dropped from about 10 to 11 percent of the total in the 1920's to 5 percent of all meat slaughtered in 1959, while such production of poultry and eggs has fallen from 30 to 10 percent of the total. Milk production for home use declined steadily from 32 percent of total output in 1924 to 20 percent in 1940 and 7 percent in 1959. Home garden output was about half as important at the end of this 34-year period as at the beginning, and fruit and nuts home produced were down from 12 percent to 2 percent of total production. The fruit and nut data include only farm home production; no satisfactory basis for estimating nonfarm home production has been found.

2.1.7. Net Commercial Production of Farm Food Commodities

To appraise changes in output of food for sale we have to exclude home production, with these marked and continuing decreases, and the feed and seed used in ultimate production of other food commodities. The measures constructed for this purpose are the index of net commercial food production and the subindexes for commodity groups. 18/

17/ Based on data in table 47 of the Supplement for 1959 to Agr. Handb. 91 (35).

18/ These indexes are given in table 48 of the Supplement for 1959 to Agr. Handb. 91 (35). They are based on the production measure of the supply-utilization index. This index is compared with the index of farm output and the index of volume of farm marketings and home consumption on pages 37-39 of the text of Agr. Handb. 91.

In reading the review of changes in production that follows one should bear in mind that U. S. population increased a little over 50 percent from 1924 to 1959. The all-food measure shows that net production of food commodities for sale doubled in the period 1924-59, most of the increase coming after 1939, when the index was 69 (1947-49=100) compared with 129 in 1959. The food production measured here is the source of those supplies that move through commercial channels toward ultimate consumer use. Commercial output of milk and of poultry and eggs tripled during the last 36 years. Fruits and nuts and grain products -- excluding the quantities used for feed and seed and home produced -- about doubled. Production of vegetables (including potatoes, dry beans and peas) increased by 70 percent, and that of meat for sale by 60 percent.

2.1.8. Changes in Location of Farm Output

To measure changes in the location of farm output, regional breakdowns of net farm output of all commodities and of major food commodities have been calculated from value aggregates of the net farm output indexes constructed by the Farm Economics Division, now ERS. 19/ The regional shifts that are indicated by percentages of the U. S. totals given in table 2.1 can not be discussed at length in this report, though they are significant in marketing research. People in all regions do not consumed all foods at the same rate, as evidenced by data in chapter 4, yet comparisons of changes in regional shares in output of commodities and in population provide preliminary indications of major shifts in food marketing. (Fig. 2.1.)

For example, in 1920, New England produced 7 percent of the total milk output in the United States, and had 7 percent of the people, By 1957 the population was down to 6 percent of the U. S. total, but milk production was down to 5 percent. On the West Coast, the Pacific States included 5 percent of the population in 1920 and 11 percent in 1957. Their share in dairy output rose from 7 percent to 9 percent; their output of truck crops for fresh market from 20 to 36 percent, and of vegetables for processing from 14 percent to 41 percent. The East North Central Region produced 22 percent of our poultry and eggs in 1920, but only 14 percent in 1957, while the share of the South Atlantic Region rose from 11 percent to 22 percent and that of the Pacific States from 7 to 10 percent.

2.2. Fishery Products 20/

2.2.1. The data on fishery products used in this bulletin exclude fish caught for home use. The only indication available of the significance of the so-called game catch is that about a fifth of the fishery products used at home in spring 1955 had not been purchased. Taking into account the importance of the eating place market for fishery products, the share of home-caught fish in the U. S. total may have been

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19/ For description of data, see chapter 3, vol. 2 "Agricultural Production and Efficiency," of Major Statistical Series of the U. S. Department of Agriculture, Agr. Handb. 118 (44), and Changing Sources of Farm Output (12). Here, net farm output refers to the exclusion of feed for horses and mules and includes net changes in inventories of livestock on farms, crops harvested, livestock products marketed, and all farm foods produced by farm families for household use. For livestock, this index of output uses a product-added concept to avoid duplication of feed crop production, which is counted in the year of harvest. Interfarm sales are also excluded.

20/ Prepared with the assistance of Harry Sherr, ERS. Federal responsibility for fishery products data is in the Fish and Wildlife Service, Department of the Interior, but consumption of these products is measured and studied along with other foods by ERS.

Table 2.1.--Regional shares in net farm output of all commodities and of major foods, and distribution of U. S. population, by region, selected years, 1920 to 1957 1/

Year and region	Net farm output										Population 6/
	All farm commodities 2/	Meat animals	Dairy	Poultry and eggs	Food grains	Vegetables: All vegetables 3/	Vegetables: Fresh vegetables for sale 4/	Vegetables: Vegetables for processing	Vegetables: Other vegetables 5/	Fruit and nuts	
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
1920											
United States	100	100	100	100	100	100	100	100	100	100	100
New England	2	1	7	3	---	5	5	3	7	4	7
Middle Atlantic	8	4	20	10	5	16	21	20	19	19	21
East North Central	19	24	25	22	16	18	12	31	21	12	20
West North Central	25	38	18	25	44	11	4	7	13	4	12
South Atlantic	12	6	9	11	4	18	19	18	15	15	13
East South Central	8	6	5	8	1	8	5	2	6	5	9
West South Central	14	11	6	10	12	9	10	1	6	3	10
Mountain	5	7	3	4	10	5	4	4	6	2	3
Pacific	7	3	7	7	8	10	20	14	7	36	5
1930											
United States	100	100	100	100	100	100	100	100	100	100	100
New England	3	1	6	4	---	6	3	2	11	5	7
Middle Atlantic	7	3	16	11	4	12	14	17	13	12	21
East North Central	17	22	25	21	13	14	10	35	13	6	20
West North Central	27	47	20	26	51	9	3	7	12	2	11
South Atlantic	11	5	8	10	4	17	20	10	14	13	13
East South Central	7	4	5	6	1	7	4	2	6	3	8
West South Central	12	7	8	9	11	10	11	2	6	3	10
Mountain	7	7	4	4	9	9	7	5	15	3	3
Pacific	9	4	8	9	7	16	28	20	10	53	7
1940											
United States	100	100	100	100	100	100	100	100	100	100	100
New England	2	1	5	6	---	6	4	1	10	2	6
Middle Atlantic	7	3	16	13	4	13	17	17	14	7	21
East North Central	19	26	26	20	16	14	11	28	13	7	20
West North Central	24	40	19	22	42	9	2	7	12	2	10
South Atlantic	12	5	8	13	4	17	19	14	12	23	14
East South Central	7	5	6	6	1	6	2	2	5	2	8
West South Central	13	9	8	9	15	9	9	3	6	6	10
Mountain	6	7	4	3	10	8	7	4	14	2	3
Pacific	10	4	8	8	8	18	29	24	14	49	8
1950											
United States	100	100	100	100	100	100	100	100	100	100	100
New England	2	1	5	7	---	6	3	1	11	3	6
Middle Atlantic	6	3	16	13	3	11	11	19	13	8	20
East North Central	20	23	27	17	13	12	8	22	10	9	20
West North Central	27	41	17	21	43	7	2	5	10	2	9
South Atlantic	10	5	9	15	2	18	23	13	10	20	14
East South Central	7	6	7	6	1	6	3	1	4	2	8
West South Central	11	10	8	8	12	8	9	3	5	4	10
Mountain	7	7	3	3	15	10	8	4	18	2	3
Pacific	10	4	8	10	11	22	33	32	19	50	10
1957											
United States	100	100	100	100	100	100	100	100	100	100	100
New England	2	---	5	7	---	6	3	1	13	2	6
Middle Atlantic	5	2	16	11	2	9	10	13	10	7	19
East North Central	20	23	27	14	13	11	7	24	9	8	21
West North Central	28	40	17	17	39	6	1	6	7	1	9
South Atlantic	10	6	10	22	2	18	25	8	9	24	14
East South Central	6	7	7	8	2	5	2	1	3	2	7
West South Central	11	9	6	9	15	7	8	2	4	3	9
Mountain	7	8	3	2	16	11	8	4	21	2	4
Pacific	11	5	9	10	11	27	36	41	24	51	11

1/ Based on data prepared by the Farm Economics Division, ERS. Description of coverage and methodology of farm output indexes given in pp. 21-37, vol. 2, "Agricultural Production and Efficiency," Agr. Handb. 118 (44).
2/ Includes nonfood items but excludes horses and mules.
3/ Includes farm garden output in addition to categories specified.
4/ Excludes potatoes and sweetpotatoes.
5/ Includes dry beans and peas, potatoes, and sweetpotatoes.
6/ Total, excluding Armed Forces overseas.

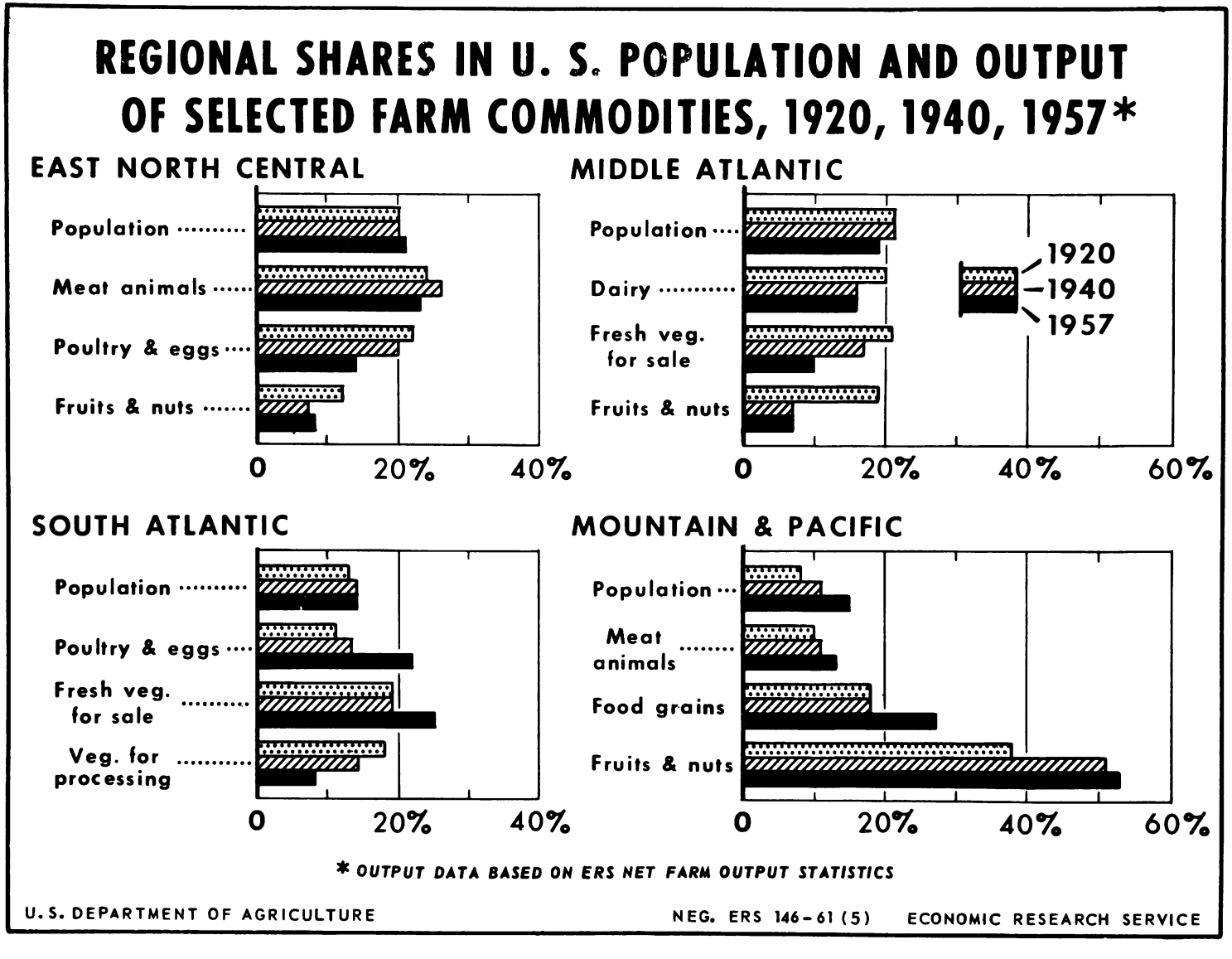
REGIONAL SHARES IN U. S. POPULATION AND OUTPUT OF SELECTED FARM COMMODITIES, 1920, 1940, 1957*
EAST NORTH CENTRAL
Population
Meat animals
Poultry & eggs
Fruits & nuts
0
20%
40%
MIDDLE ATLANTIC
Population
Dairy
Fresh veg. for sale
Fruits & nuts
1920
1940
1957
0
20%
40%
60%
SOUTH ATLANTIC
Population
Poultry & eggs
Fresh veg. for sale
Veg. for processing
0
20%
40%
MOUNTAIN & PACIFIC
Population
Meat animals
Food grains
Fruits & nuts
0
20%
40%
60%
* OUTPUT DATA BASED ON ERS NET FARM OUTPUT STATISTICS
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 146-61 (5)
ECONOMIC RESEARCH SERVICE

Figure 2.1

around 15 percent in the spring of 1955. For 1955 as a whole, it probably was between 10 and 20 percent. In the time-series data, for lack of something better, 1.2 pounds per capita per year are used throughout the 50-year period in computing nutrient supplies.

2.2.2. In terms of supplier values, the wharf value of the continental catch of edible fish plus the value of fishery products brought in from foreign countries and U. S. Territories made up somewhat less than $200 million out of the $10.4 billion figure for total supplier value of food in 1929, in current dollars. The figure for 1959 is estimated at $600 million out of the 25.4 billion total. In relation to the retail value of per capita consumption of all foods in 1947-49 prices, fish consumption reached a high of about 3 percent in 1929 and again in 1935-38. It declined to 2 percent of all food consumed in the World War II years, and this proportion has prevailed in the last few years.

2.2.3. To measure changes in the supply of fishery products in the last 30 years, we use the data on total edible weight. 21/ The total edible weight of fishery products consumed by U. S. civilians increased from about 1,450 million pounds in 1929 to 1,870 million pounds in 1959, including fresh and processed fishery products. Imports of fresh and frozen fish have become a much more important part of the picture in recent years than before World War II. Imports and shipments of canned fishery products into continental U. S., including those from Alaska, were lower in the 1950's than in the 1930's because of the big drop in the salmon catch. However, the increased domestic catch and pack of tuna has been at least partly offsetting.

2.2.4. Variations over time in the tonnage of fish and shellfish landed in the several regions reflect mainly the availability of resources in areas fished by commercial fishermen. The major landing areas for commercially caught food fish and shellfish are the New England and Pacific Coast States. Over the last 25 years, these two areas have accounted for two-thirds to three-fourths of the commercial catch in continental United States. (Table 2.2.)

For many years the Pacific Coast States have been the most important area for commercial fishery items. The high level in recent years has been maintained by the uptrend in the catch of tuna, rockfish, and halibut, offsetting the decrease in sardines. In the New England States, the second leading area, the heavier landings of ocean perch, flounder, whiting, lobster, and sea scallops have tended to more than compensate for decreases in groundfish. 22/ The relative importance of the Middle Atlantic and the Chesapeake Bay States in the national production picture has not changed significantly in recent years. For Alaska the lower proportion reflects the smaller catch of salmon.

2.3. Users and Uses of United States Food Supplies

Food supplies flow into a number of distribution channels for use in this country and for export. These include exports and shipments, domestic nonfood use, military takings of food, and civilian food.

21/ The development of such information is described in the article, "The Supply and Distribution of Fishery Products in the Continental United States, 1930-47," by Harry Sherr. National Food Situation, July-September 1948 (27). The supply and distribution tables for fishery products are published in the appendix of Agr. Handb. 62 (32). The current situation and statistics are summarized regularly in the National Food Situation.

22/ Includes cod, haddock, hake, pollock, and cusk.

Table 2.2.--Catch of edible fish and shellfish in the United States, total and by area, selected years 1/

Region	1930			1940			1950			1958		
	Catch	Percent of U. S. total	Percent of Total for U. S. and Alaska	Catch	Percent of U. S. total	Percent of Total for U. S. and Alaska	Catch	Percent of U. S. total	Percent of Total for U. S. and Alaska	Catch	Percent of U. S. total	Percent of Total for U. S. and Alaska
	Mil. lb.	Pct.	Pct.	Mil. lb.	Pct.	Pct.	Mil. lb.	Pct.	Pct.	Mil. lb.	Pct.	Pct.
New England States	700	32	26	625	22	19	997	30	27	825	32	30
Middle Atlantic States	141	6	5	108	4	3	117	4	3	97	4	3
Chesapeake Bay States	200	9	8	178	6	6	209	6	6	178	7	6
South Atlantic States	81	4	3	96	3	3	114	3	3	131	5	5
Gulf States	135	6	5	225	8	7	245	7	7	295	12	10
Great Lakes States	90	4	3	79	3	3	71	2	2	72	3	2
Pacific Coast States	829	37	31	1,441	52	44	1,514	45	41	876	35	32
Mississippi River and tributaries	54	2	2	45	2	1	83	3	2	64	2	2
Total Continental U. S.	2,230	100		2,797	100		3,350	100		2,538	100	
Alaska	466		17	470		14	317		9	290		10
Total U. S. and Alaska	2,696		100	3,267		100	3,667		100	2,828		100

1/ Total catch as reported less major items used mainly for nonfood purposes.

2.3.1. Exports

2.3.1.1. Exports of U. S. produced farm food commodities are considered only briefly here because they represent a fringe area for review in this bulletin. 23/ In the period 1924 to the 1930's, exports declined from 5.5 percent of annual flow of farm food commodities to less than 2 percent in the mid-1930's. Much of the decline was in wheat, pork, and lard, and reflected the depression of the 1930's, repercussions of the Hawley-Smoot Tariff Act, and droughts. Beginning in 1941, exports increased greatly with the inception of the lend-lease program. During World War II, three-fourths of the exports of farm food commodities were shipped by the Department of Agriculture under various aid programs. Until 1950, the Department of Agriculture and the U. S. military agencies continued to handle more of total exports than moved through commercial channels, under the military-civilian feeding program and special aid programs for our allies.

Since 1950, substantial quantities of farm commodities have been handled through commercial channels but financed by U. S. government grants, loans, and credits. 24/ The wheat crop failure in Argentina in 1951 and results of the Korean outbreak raised exports in 1951 and 1952. In 1956 and 1957-59, special efforts to reduce accumulated surpluses of farm food commodities resulted in exports accounting for the record of 8 percent of the total flow into utilization in those years.

2.3.1.2. During World II, emphasis was on shipment of high protein and high energy foods for use by our allies. Accordingly, large quantities of dairy and meat products and eggs were exported. Since 1946, the U. S. has exported much more grain than other commodities and the only substantial quantities of livestock products exported have been the surplus supplies of lard and dairy products accumulated under price-support operations.

2.3.2. Domestic Nonfood Use

2.3.2.1. Most nonfood use of farm food commodities is for feed and seed, which, in turn, contribute to future food output. In effect, this is a duplication in the subindex of production of the supply-utilization index. But it is inherent in the measurement of flow of farm commodities into use. The apparent double counting has been eliminated from the net measures of domestic production used in earlier sections of this chapter. In this section, feed and seed use must be considered as part of all nonfood uses of farm food commodities. (Farm food commodities are defined as those having any food use in the U. S.)

Feed accounted for 26 of the 31 percentage points of the total flow of farm food commodities into all uses that went for nonfood purposes in 1924. Seed accounted for 2 percentage points and the remainder went for soap, drying oils, leather, and other minor items including a small quantity for production of alcohol and alcoholic beverages. In 1959, 26 percent went for all nonfood uses -- 21½ percent for feed,

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23/ The term "exports" is used in the general sense of its meaning, and includes shipments to U. S. Territories. All comparisons are made on the basis of data compiled for the master index of supply and utilization of farm commodities. Exports are valued in terms of their content of farm commodities at 1947-49 average farm prices.

24/ Described by Doris Detre Rafler in "Government Financing of Farm Exports in the Postwar Period," Agr. Econ. Res., Oct. 1955 (23).

$1\frac{1}{2}$ percent for seed, 1 percent for alcohol and alcoholic beverages, and the remainder for miscellaneous purposes. 25/

Feed and seed took progressively smaller shares of annual utilization from 1924 to the late 1950's. The share of alcohol and alcoholic beverages was higher in the 1950's; other food uses remained about the same. The index data on utilization for seed for crops show little increase in the quantities used since 1924, but in 1955-59 crop production averaged about half again as large as in the mid-1920's. Improved seed, better production practices, and a great increase in use of fertilizer per acre contributed to the lowering of the seed-production ratio.

2.3.2.2. The great change in agricultural production from use of animal power (horses and mules) to mechanical power (tractors, motor trucks, and automobiles) had a great impact on use of feed. It made available for food crop production almost 75 million acres of crop land including acreages of hay formerly used for feed for farm and nonfarm horses and mules. 26/

2.3.2.3. Use of farm food products in alcohol and alcoholic beverages rose after the repeal of prohibition to a peak in the war years when the demand for industrial alcohol was heavy. Such use of farm food products then tapered off as petroleum products were substituted for grains and molasses as raw materials in production of ethyl alcohol.

2.3.2.4. Crop products contribute the largest share to nonfood uses as they are the principal sources of feed and seed. Since the period of World War II, the nonfood use of livestock and livestock products has declined to much lower rates, owing largely to the drop in the quantity of skim milk used for feed (and waste) and a reduction in the use of pulled wool. At the same time, nonfood uses of crops have been well above prewar rates; they made somewhat more than four-fifths of total nonfood use of domestic farm food commodities in 1955-59 compared with three-fourths in 1924-42.

2.3.2.5. As data on military takings of nonfood farm commodities are not available, domestic nonfood use cannot be subdivided between military and civilian users.

2.3.3. Military Takings for Food

2.3.3.1. Reliable and comprehensive information on military food procurement was first collected in 1941. Although the size of military takings in each year has been greatly affected by the size of the Armed Forces, military withdrawals do not measure their annual food consumption. Stocks of food at home and abroad were built up and drawn down, substantial quantities were supplied to allied troops during World War II and the Korean conflict, and, in some years, extensive purchases from foreign sources were made. Food purchased and used abroad is not reported to the Department of Agriculture, nor is it included in the measurement of military food procurement for the supply-utilization index.

25/ Table 52 of the Supplement for 1959 to Agr. Handb. 91 (35) contains the subindexes for major domestic nonfood uses and their relative importance in the total.

26/ The Durost bulletin, Changing Sources of Farm Output (12), provides an extensive discussion of this subject.

2.3.3.2. Military takings of food amounted to 4 to 9 percent of total utilization of all farm food commodities in 1942-45. After a sharp drop to 2 percent in 1946 and 1947, they ran 3 percent of the total in 1948 and 1949, years in which very large quantities of grain and grain products were procured for foreign aid programs. Except in the years 1951-54, when buying was stepped up to meet needs of the Korean conflict, military takings have been only 1 percent of total use of farm food commodities. 27/

Military shipments of all farm foods for use of the civilian population in liberated and occupied areas reached substantial proportions in 1945-49. 28/ As they are tied to military operations, such shipments are not normally measured as part of exports, though they ran from 5 to 21 percent of total calculated exports in 1944-49. By 1950 they had dropped to 4 percent and by 1954 to 1 percent.

2.3.4. Total Civilian Food Use

2.3.4.1. Total civilian food use is calculated as a residual after subtraction of exports and shipments, Department of Agriculture purchases for export, military food takings, and domestic nonfood use from total disappearance of farm food commodities in each year. 29/ During recent years total civilian food use has accounted for 66 to 67 percent of each year's flow of food into utilization, compared with 63 or 64 percent in the mid-1920's. The relative lows of the 1924-58 period came in the war years, 1942-45, when the civilian population was reduced by the build-up in the Armed Forces and takings of food for the Armed Forces and our allies were substantial.

2.3.4.2. The increase in per capita use of farm resources converted into food is indicated in figure 2.2 by the changes in the relationship of the index of civilian population and total civilian food use of farm commodities. The figure also shows the increasing importance of commercially produced farm foods in total civilian food use of farm commodities. The subject of the shift from home-produced to commercially produced supplies has already been discussed (2.1.6) and is further considered in later sections (3.2.2 and 5.3.2).

2.3.4.3. Shifts in commodity makeup of total civilian food use are the result of a complex mixture of elements ranging from year-to-year changes in supplies available from current production to changes in consumer preferences. Their net effect in the 1924-59 period has been a small but significant increase in the relative importance of livestock products. This change in makeup can be evaluated thus: In 1924-27, the farm value of livestock products used for domestic food averaged $10.7 billion (in 1947-49 farm prices) and represented 67 percent of the total. In 1955-59, civilian food use of livestock products accounted for 71 percent of the total. The 16 percent increase of the per capita rate of use of livestock products added $2.6 billion to the average annual use of farm resources. The decrease in the per capita use of crops for food resulted in a total cutback of $0.6 billion per year.

27/ This subject is considered extensively by Harry Sherr in his article, "U. S. Military Procurement of Food," National Food Situation, Feb. 1957 (28). This article gives some commodity detail; further details for individual foods are available in the supply and distribution tables in the appendix to Agr. Handb. 62 (32).

28/ Based on data in table 25 of Agr. Handb. 91 (35).

29/ Reported in table 2 of Agr. Handb. 91 (35) and, for current years, in table 2 of each issue of the National Food Situation.

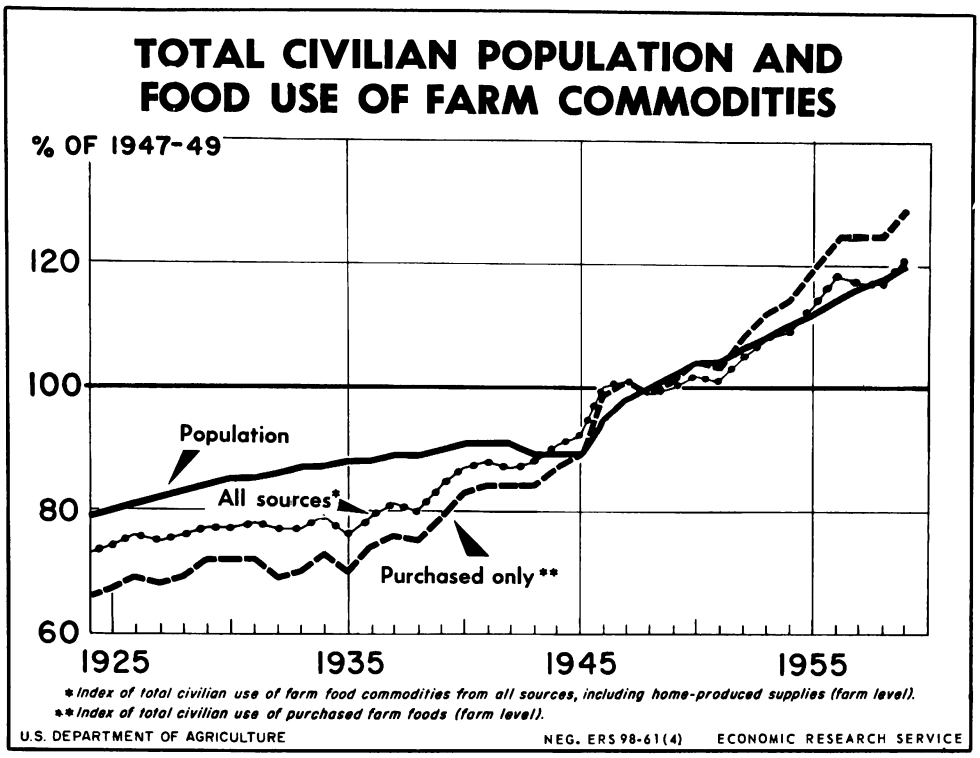

Figure 2.2

Therefore, the net gain in use of farm resources resulting from the increase in food use and shift in pattern was $2.0 billion or 8 percent of average annual use for civilian food in 1955-59.

The effects of such shifts can be described in another way, as we shall illustrate with the following example. A shift in consumption involving a 10-pound reduction in per capita consumption of wheat flour and an increase of 10 pounds in per capita consumption of meat means an increase of a half billion dollars (in 1947-49 prices) in the use of farm resources, aside from changes in marketing services (for the 1959 population). This demonstrates the major significance to U. S. farmers of the makeup of the poundage of food that the civilian population eats.

2.3.4.4. An exploration of relationships involved in the changes in per capita use of crops and of livestock products, by means of the regression analyses reported in the footnote below 30/, led to these tentative conclusions: There was not enough change in use of crops to provide the basis for a satisfactory analysis (Regression 2.1). But the change of signs between the two periods seems to indicate lack of direct relationships among use of crops and income, crop prices, and use of livestock products. In the prewar period, the depression years were accompanied by droughts which affected fruit and vegetable supplies. Years of higher consumption of crops apparently came in the low periods of the livestock cycles. Historical changes in use of livestock products have been more consistent with changes in income and their prices, but not with use of crops. Probably the lack of "reasonable" historical relationships between per capita use of crops and of livestock products results from the effects of the depression and droughts and the timing of the livestock cycles.

2.4. Effects of Short-Run Commodity Changes on Total Food Use

2.4.1. The civilian food supply has been affected from time to time by special cycles in some commodities and by unusual changes. Commodities having rather well-known production cycles are beef, pork, and some of the fruits. Study of the more significant shifts in per capita food use from year to year (excluding the war years) and concurrent year-to-year changes in major commodities leads to the conclusion that

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30/ Regression 2.1. Per capita civilian food use of crops (X_1), real disposable income (X_2), food prices for crops (X_3), and per capita civilian food use of livestock products (X_4), in logarithms:

(1) 1924-41: $\text{Log } X_1' = 1.539 + \underset{(.072)}{.327} \log X_2 - \underset{(.042)}{.021} \log X_3 - \underset{(.359)}{.375} \log X_4;\ R^2 = .69$

(2) 1948-57: $\text{Log } X_1' = 1.412 - \underset{(.119)}{.392} \log X_2 + \underset{(.067)}{.128} \log X_3 + \underset{(.320)}{.558} \log X_4;\ R^2 = .95$

(3) Combination: $\text{Log } X_1' = 2.999 + \underset{(.094)}{.067} \log X_2 + \underset{(.059)}{.047} \log X_3 - \underset{(.515)}{.762} \log X_4;\ R^2 = .14$

Regression 2.2. Per capita civilian food use of livestock (X_1), real disposable income (X_2), food prices for livestock (X_3), and per capita food use of crops (X_4), in logarithms:

(1) 1924-41: $\text{Log } X_1' = 1.645 + \underset{(.052)}{.276} \log X_2 - \underset{(.037)}{.111} \log X_3 - \underset{(.150)}{.072} \log X_4;\ R^2 = .74$

(2) 1948-57: $\text{Log } X_1' = .355 + \underset{(.055)}{.262} \log X_2 - \underset{(.019)}{.100} \log X_3 + \underset{(.104)}{.722} \log X_4;\ R^2 = .98$

(3) Combination: $\text{Log } X_1' = 1.616 + \underset{(.017)}{.200} \log X_2 - \underset{(.022)}{.057} \log X_3 + \underset{(.082)}{.021} \log X_4;\ R^2 = .93$

changes in meats and fruits have caused the sharpest shifts. 31/ The declines in average food use from 1926 to 1927 and from 1931 to 1932 were marked by unusually small fruit crops in years following very large ones. A decrease in the fruit crop partly offset the effect of increases in meat production, leading to increased food use from 1935 to 1936. From 1938 to 1939 the decrease in fruit complemented the meat increase.

The ups and downs in food use in the mid-1930's were related to the effects of droughts on crop production and to special Government operations in meat. The Federal Government purchased large numbers of cattle, calves, and sheep for slaughter on Government account, mostly drought-stricken animals. Most of the meat was distributed through Government agencies to persons on relief, and did not pass through the usual trade channels. Likewise, substantial quantities of pork obtained from the emergency hog purchase programs in 1933 and 1934 went for relief.

Since World War II, changes in meat production have been quite significant in shifts in overall food use, as in the increase from 1951 to 1952 and from 1955 to 1956, and in the decrease from 1956 to 1957 to 1958. In some postwar years poultry production has been coming in partly to offset meat changes, though it operated in the same direction from 1955 to 1956.

2.4.2. Regression 2.3 32/ was run to explore the relationships between these year-to-year changes in production of several major commodities or commodity groups and changes in per capita food use of farm commodities. From this regression it appears that changes in production of beef and veal and of pork were about twice as important to changes in use of all food as those for fruits and nuts and for vegetables. The span of the postwar period is too brief for the relationships to be clear-cut.

31/ Year-to-year changes measured by the 1947-49 values of farm commodities used by civilians for food.

32/ Regression 2.3 in first differences of logarithms of these variables:

X_1 = index of per capita food use

X_2 = index of per capita beef and veal production

X_3 = index of per capita pork production

X_4 = index of per capita fruit and nut production

X_5 = index of per capita vegetable production

(1) 1924-41: $$\Delta \log X_1' = .001 + \underset{(.033)}{.112}\,\Delta \log X_2 + \underset{(.029)}{.090}\,\Delta \log X_3 + \underset{(.021)}{.052}\,\Delta \log X_4 - \underset{(.094)}{.035}\,\Delta \log X_5;\ R^2 = .72$$

(2) 1948-57: $$\Delta \log X_1' = .006 - \underset{(.065)}{.041}\,\Delta \log X_2 + \underset{(.047)}{.015}\,\Delta \log X_3 - \underset{(.078)}{.157}\,\Delta \log X_4 + \underset{(.112)}{.368}\,\Delta \log X_5;\ R^2 = .92$$

(3) Combination: $$\Delta \log X_1' = .001 + \underset{(.023)}{.114}\,\Delta \log X_2 + \underset{(.021)}{.095}\,\Delta \log X_3 + \underset{(.017)}{.049}\,\Delta \log X_4 + \underset{(.059)}{.023}\,\Delta \log X_5;\ R^2 = .70$$

Chapter 3. CHANGES IN AVERAGE FOOD CONSUMPTION

How U. S. civilian food consumption per capita has changed in the last 50 years is discussed in this chapter. Changes in average quantity of food consumed, measured at the farm and retail levels, are compared with changes shown by other measures of food consumption. The treatment is largely descriptive, but the comparisons provide a basis for the study of why the changes occurred.

3.1. Changes in Overall Level of Food Consumption

3.1.1. Although poundage is not a satisfactory economic measure for overall food consumption, as discussed in MP-3.1.2.1 33/, it is worthwhile to note what has happened to poundage at retail. In the years just before World War I, about 1,600 pounds of food were consumed per capita per year, on a retail-weight basis. During the 1909-44 period, poundage varied a little from year to year, because of shifts among foods and among fresh and processed forms. Since World War II, the per capita poundage of food consumed has decreased about 100 pounds as more processed foods have been used. More frozen concentrated juices are consumed, for example, and less of such bulky foods as potatoes and fresh oranges.

3.1.2. Consumption Measured At the Farm Level

The index of per capita food use of farm commodities, including those imported but excluding fish (PFQ-1a, described in MP-3.1.2.2. 33/),provides the best measure of changes in consumption of those commodities at the farm level. It has been calculated only for the period beginning with 1924. Food consumption in 1924 was 7 percent below the 1947-49 average. The level of food used decreased during the depression and drought years, reaching a low of 87 percent of the 1947-49 average in 1935. Thereafter, per capita food use rose gradually to the 1946 peak of 105. Contributing to the peak in 1946 were the facts that after the end of the war, pantry and retailers' shelves were being restocked and that price controls were holding down food prices for much of the year. After 1946, per capita use of farm commodities for food declined gradually to a level of 97 in 1951; after 1951 they rose again to another peak of 103 in 1956. Figure 3.1 compares these changes in average food use with changes in income from 1924 to 1959. 34/

3.1.3. Consumption Measured At the Retail Level

The index of per capita food consumption (PFQ-2, described in MP-3.1.2.3), measured at the retail level, follows the farm level index (PFQ-1a) closely for years 1924-59. 35/ This series has been extended back to 1909, but for the years before

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33/ This reference is to a section in Agr. Handb. 206 Measures and Procedures for Analysis of U. S. Food Consumption (9). Further information on the reference scheme is in 1.1. A key to the coding system for time series is in appendix A.

34/ Addition of fishery products to this index of use of farm commodities does not affect these trends, as shown by comparison of PFQ-1a in MP-table 3.1 with the combined index PFQ-6a in MP-table 3.2.

35/ See Agr. Handb. 62 Consumption of Food in the United States (32) for details of the two indexes. The variation in relative importance of individual items in the two indexes, considered further in 3.1.4, apparently would result in an index of about 93 for per capita food use in 1909, notably higher than the index of 89 computed for the consumption index.

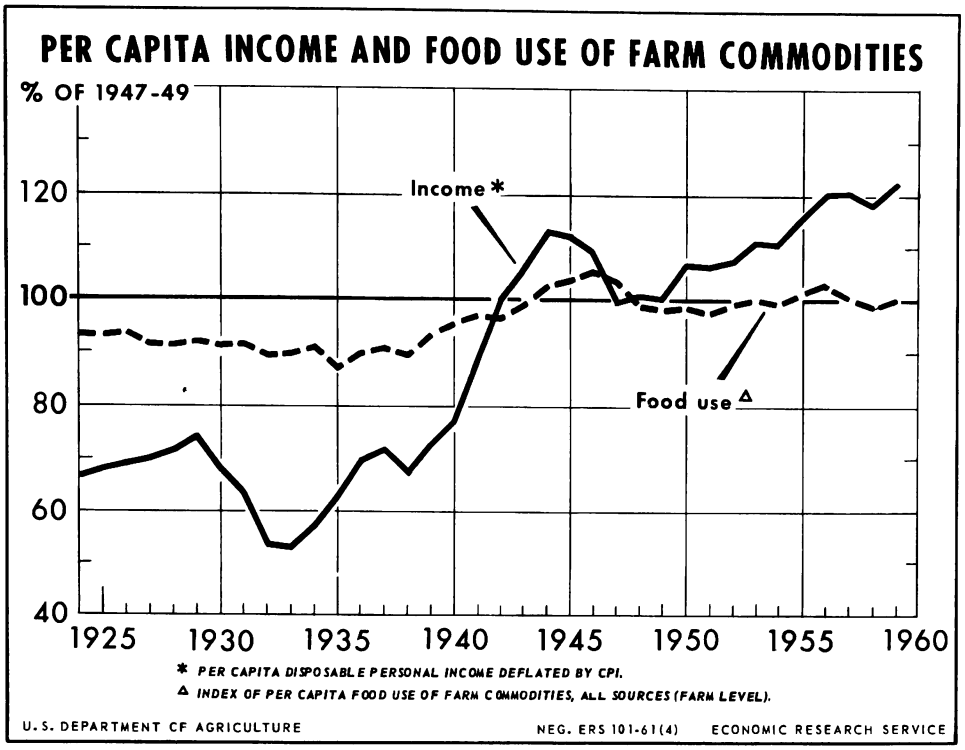

Figure 3.1

1924 it is based upon rough estimates for an increasing number of individual foods. The 1910-14 average was 88 percent of the 1947-49 average. Consumption measured at retail rose 5 percent between 1910-14 and 1924, the year for which the index at the farm level begins.

3.1.4. Comparison of the Two Measures

Since one index measures food per se at the farm level and the other includes food and farm-retail marketing services, an explanation for their concurrent movements is in order. The most significant reason is that they are derived from the measurement of the same flow of food into civilian consumption in terms of primary distribution weights. But the index of per capita food consumption combines the retail weight of all foods, including fish, by means of retail prices in 1947-49, whereas the index of per capita food use involves farm weights and farm prices.

Wide differences between the two indexes in the 1924-59 period are found in the depression years and during World War II. In the war years, the consumption of processed foods including fish was held down by noncivilian takings, while supplies of fresh and frozen fishery products were reduced by the war. Close comparison of the two series reveals that the farm level index ran about a point higher than the retail index before World War II and about a point lower since the end of the war. The reason for these variations is the inclusion of some marketing services in the retail index, but none in the farm index.

Another reason for the closeness of the two measures is to be found in the offsetting shifts among commodities. These shifts are indicated by data in table 3.1 on relative importance of the food groups in each index total for selected periods.

Meat and poultry products have made up a significantly larger proportion of the farm level index of food use than of the retail consumption index. Consumption of meats increased about a fifth from 1925-29 to 1955-59, and poultry consumption almost doubled. The effect of these changes was much greater in the farm level index than in the other measure, owing to the fact that marketing costs for meat and poultry products are lower relative to their farm value than these costs are relative to the farm values of most other food groups. Another contributive fact is that the farm level index was affected less by the decline in butter consumption than was the retail index.

But the decrease in the use of food grains over the last 30 years has exerted slightly more downward pressure on the farm level index than on the retail index. The increased purchases of processing services, such as commercial baking and premixing, in addition to the processing of the flour itself, has tempered the pressure on the retail measure. This phenomenon was even more striking for sugars and sirups than for bakery goods. The shift to more processing practically held constant the share of fruits (and melons) in the total, whereas their relative importance in the farm price weighted measure dropped. The same was true for vegetables other than potatoes and sweetpotatoes, dry beans and peas.

Another way of comparing the two indexes is to point out that those products with low farmer's share in retail value are relatively more important in the index of per capita food consumption than in the farm level index of per capita food use. 36/ With the exception of meats and poultry products, these have been the items for which major changes in consumption rates have occurred.

3.2. Further Consideration of Changes in Food Use, Measured at the Farm Level

3.2.1. Because of changes in stocks and the channeling of supplies into processing, the index of per capita food use does not measure precisely the quantities of each year's production and imports taken in that year for civilian use. But it does measure the changing use of farm resources in the form of food. It reflects both quantitative changes and shifts in takings from lower to higher cost or higher farm-resource-using products, as from potatoes to broccoli, or wheat to meat. For example, this index (PFQ-1a) indicates that U. S. civilians used about 10 percent more farm resources in the form of food per capita in the 1950's than they did in the 1930's, and about 3 percent more than in 1941. The greatest change in level of use occurred between 1938 and 1944.

The relationships of changes in average food use of farm commodities to changes (1) in real disposable income and (2) in the ratio of farm food prices to the general price level were practically the same in recent years as before the war. 37/ They are indicated by the regression coefficients of regression 3.1 in table 3.2. The coefficient of .2 for income means that with each 1 percent change in income per capita, the average use of farm food commodities rose 0.2 percent.

3.2.2. Increased Use of Purchased Farm Foods

Second only in significance to the shift in use among farm food commodities has been the rather dramatic increase in purchases of farm foods as home production has declined (figure 3.2). The exactness of the data for measuring this shift leaves

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36/ This approach was developed by Kenneth E. Ogren.
37/ Use of Fisher "t" test indicated no statistical difference.

Table 3.1.--Relative importance of food groups in the indexes of per capita food consumption (retail level) and per capita food use (farm level), selected periods 1/

(Percentages of U. S. totals)

Food group and index	1925-29	1935-39	1942-45	1947-49	1956
Meats and lard					
Consumption	25.8	24.4	26.2	25.9	27.7
Food use	35.0	34.0	35.3	35.7	38.1
Poultry					
Consumption	4.0	4.0	5.5	5.0	6.5
Food use	4.9	5.0	6.8	6.2	8.2
Eggs					
Consumption	6.1	5.4	5.8	6.4	6.1
Food use	9.4	8.6	9.2	10.0	9.2
Dairy products, including butter					
Consumption 2/	20.1	20.4	20.0	19.5	18.4
Food use	16.7	17.5	17.2	16.7	16.1
Vegetable fats and oils 3/					
Consumption	3.1	3.9	3.6	3.7	4.5
Food use	2.1	2.8	2.3	2.4	2.5
Fruits 4/					
Consumption 5/	7.0	7.6	6.2	7.3	6.8
Food use	4.9	5.2	4.4	5.0	4.4
Vegetables 6/					
Consumption 5/	10.8	11.7	12.2	11.3	10.8
Food use	7.9	8.4	8.5	7.7	6.9
Potatoes and sweetpotatoes					
Consumption	3.2	2.9	2.6	2.3	1.8
Food use	3.3	3.0	2.7	2.2	1.9
Dry beans, peas, treenuts					
Consumption	1.8	1.9	1.6	1.6	1.4
Food use	1.1	1.3	1.1	1.2	1.2
Cereal products 7/					
Consumption	9.6	8.7	8.5	7.6	6.5
Food use	7.1	6.2	5.5	4.9	4.4
Sugars and sirups					
Consumption 8/	6.2	6.4	5.4	6.4	6.9
Food use	3.8	3.4	3.0	3.1	2.9
Coffee, tea, cocoa					
Consumption	2.3	2.7	2.4	3.0	2.6
Food use	3.8	4.6	4.0	4.9	4.2

1/ The index of per capita food consumption measures foods at the retail-store level (weighted by average 1947-49 retail prices); the index of per capita food use measures quantities of farm commodities used for food (weighted by average 1947-49 farm prices). For this comparison fishery products have been excluded; they constitute 2 to 3 percent of total food measured by the retail index. 2/ Includes sugar in ice cream and condensed milk. 3/ Includes all peanuts. 4/ Excludes melons. 5/ Includes sugar in processed items. 6/ Includes melons. 7/ Excludes corn sugar and sirup. 8/ Excludes quantities used in processed fruits and vegetables, condensed milk and ice cream.

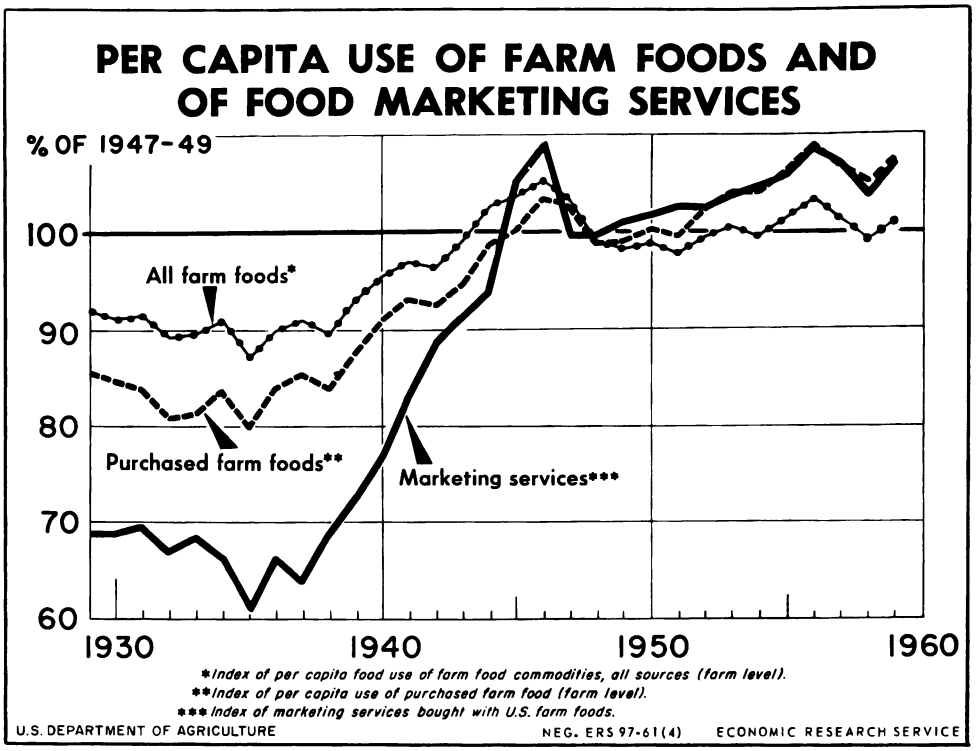

Figure 3.2

something to be desired, but the general picture is undoubtedly correct. Since the mid-1930's, the use of purchased farm foods has risen almost twice as much as the increase in use of farm foods from all sources. Home production supplied about a fifth of civilian consumption of all farm foods in the mid-1930's, whereas in 1959 the proportion was about 7 percent. Most of the change occurred after 1943. Home production of both livestock products and crops fell 40 percent from 1945 to 1959. But decreases in farm population, combined with problems of livestock production in increasingly urbanized areas, have reduced the proportion in civilian consumption of home-produced livestock products more than crop items.

Income elasticity of purchased farm foods has been about twice as high as for farm foods home produced and purchased. 38/ This is revealed by comparing changes in the use of purchased farm foods with changes in real income and with changes in the ratio of farm food prices to the general price level (regression 3.2 in table 3.2). On the other hand, changes in the use of purchased farm foods have been related little to changes in farm food prices (regressions 3.4 and 3.5).

38/ The same is generally true for the price elasticities, but the standard errors for these are rather high. Addition of home-produced food as a separate variable in regression 3.3 had little effect on the coefficients.

Table 3.2.--Summary of least-squares regressions for time-series measures of quantity of food consumed with income and other factors 1/

Regression number	Measure of per capita quantity of food consumed (X_1)	Variables 2/	Period	Constant term	X_2 Identification	X_2 Regression coefficient 3/	X_3 Identification	X_3 Regression coefficient 3/	X_4 Identification	X_4 Regression coefficient 3/	R^2
3.1	Index of food use, all farm foods (PFQ-1a)	Actuals	1. 1924-41	+1.69	Real disposable income per capita 4/	+.23 (.05)	Farm food prices 5/ CPI	-.09 (.04)	---		.66
	Do.	do.	2. 1948-57	+1.75	do.	+.17 (.13)	do.	-.05 (.06)	---		.80
	Do.	do.	3. Combined 6/	+1.68	do.	+.21 (.02)	do.	-.06 (.02)	---		.93
3.2	Index of use of purchased farm foods (PFQ-1b)	Actuals	1. 1929-41	+1.14	do.	+.42 (.05)	do.	-.19 (.04)	---		.91
	Do.	do.	2. 1948-57	+1.21	do.	+.35 (.13)	do.	-.10 (.06)	---		.94
	Do.	do.	3. Combined 6/	+.95	do.	+.45 (.02)	do.	-.12 (.03)	---		.97
3.3	Index of use of purchased farm foods (PFQ-1b)	Actuals	1. 1929-41	+1.37	do.	+.38 (.07)	do.	-.18 (.05)	Per capita use of home-produced farm foods	-.08 (.18)	.91
	Do.	do.	2. 1948-57	+1.28	do.	+.33 (.22)	do.	-.09 (.08)	do.	-.01 (.10)	.94
	Do.	do.	3. Combined 6/	+1.37	do.	+.32 (.06)	do.	-.07 (.04)	do.	-.09 (.04)	.98
3.4	Index of use of purchased farm foods (PFQ-1b)	Actuals	1. 1929-41	+1.68	Farm food prices 5/ CPI	+.10 (.04)	Use of marketing services per capita (PFQ-3)	+.35 (.13)	Price of marketing services 7/ CPI	-.28 (.24)	.84
	Do,	do.	2. 1948-57	-1.54	do.	+.05 (.12)	do.	+.88 (.32)	do.	+.79 (.49)	.95
	Do.	do.	3. Combined 6/	+.49	do.	-.01 (.03)	do.	+.54 (.03)	do.	+.22 (.14)	.96
3.5	Index of use of purchased farm foods (PFQ-1b)	First differences	1. 1929-41	+.00	do.	+.04 (.07)	do	+.38 (.19)	do.	+.14 (.33)	.38
	Do.	do.	2. 1948-57	+.00	do.	+.00 (.19)	do.	+.83 (.37)	do.	+.34 (.50)	.55
	Do.	do.	3. Combined 6/	+.00	do.	+.02 (.05)	do.	+.42 (.14)	do.	+.22 (.20)	.38
3.6	Index of food consumption, retail (PFQ-2)	Actuals 8/	1. 1924-41	+1.87	Real disposable income per capita 4/	+.23 (.03)	Retail food prices CPI	-.17 (.06)	---		.85
	Do.	do.	2. 1948-57	+2.11	do.	+.18 (.06)	do.	-.24 (.15)	---		.88
	Do.	do.	3. Combined 6/	+1.76	do.	+.25 (.02)	do.	-.14 (.04)	---		.97
3.7	Index of food consumption, retail (PFQ-2)	First differences	1. 1924-41	+.00	do.	+.19 (.06)	do.	-.14 (.11)	---		.46
	Do.	do.	2. 1948-57	-.00	do.	+.28 (.15)	do.	-.31 (.22)	---		.51
	Do.	do.	3. Combined 6/	-.00	do.	+.21 (.05)	do.	-.17 (.08)	---		.45
3.8	Composite quantity index of all food used plus all marketing services (PFQ-8)	Actuals	1. 1929-41	+2.09	do.	+.33 (.07)	do.	-.42 (.17)	---		.72
	Do.	do.	2. 1948-57	+1.80	do.	+.24 (.06)	do.	-.14 (.13)	---		.92
	Do.	do.	3. Combined 6/	+1.08	do.	+.43 (.06)	do.	+.02 (.16)	---		.92

1/ Linear regressions of logarithms. 2/ Using either actual index numbers or dollars or first differences, i.e. year-to-year changes. 3/ Standard errors given in parentheses. 4/ In 1947-49 dollars. 5/ Index of farm value of AMS farm food market basket. 6/ Combination of prewar and postwar periods in parts 1 and 2 above. 7/ Index of farm-retail marketing costs or margin for USDA farm food market basket. 8/ Slightly revised from data published in table 912 of Jour. Am. Stat. Assn. December 1958 (10), because of slight change in price series used.

3.2.3. Comparison of Changes in Quantities and Values at Farm Level

Per capita use of domestically produced farm food commodities (PFQ-4a) over the last 30 years has varied much less than the average farm value of these products during the period. 39/ The measure of food quantity excludes changes in prices. The low point of the per capita farm value of all domestic farm foods for the last 30 years was in 1932, $36 per capita. In that year, the index of domestic farm foods consumed was 90 percent of the 1947-49 average. The high point in the value measure was $156 in 1948 -- that year the per capita index for use of domestic farm foods was 98. Part of the price change in farm foods reflected the general change in purchasing power of the dollar. This factor can be handled by adjustment of the 1932 and 1948 value figures according to the change in the Consumer Price Index. This computation reveals that farm value per capita in 1947-49 dollars rose from $62 in 1932 to $151 in 1948, almost two and one-half times that of 1932. Over this 16-year period, the quantity of farm resources used in the form of foods went up only 9 percent per capita.

3.2.4. Comparison With Changes in Use of Marketing Services

The shift from home-produced to purchased foods increased significantly the use of food marketing services bought with domestic farm foods, measured by series PFQ-7 of MP-table 3.2. 40/ (Fig. 3.2.) While per capita use of domestic farm foods from all sources increased 13 percent (PFQ-4a) between 1935-39 and 1955-59, and those purchased increased 33 percent (PFQ-4b), use of marketing services with those foods rose 58 percent.

Changes in use of marketing services needed to get the food from farmers to consumers have been closely tied to changes in the use of purchased farm foods. The relationship has been closer since World War II than before. 41/

3.2.5. Commodity Changes

Although the analysis of changes for individual commodities is outside the scope of this bulletin, it is worth noting that there have been some slight changes over the years in the shares of crop and livestock items in overall per capita food use. In 1909 livestock products made up about 68 percent of the total, and crops 32 percent. 42/ With the decline in meat production and consumption relative to the population, the livestock share was down to 66 percent in 1929 and in 1941, rising to 69 percent in 1949 and 71 percent in 1959.

39/ Derived from TFV-1 plus TFV-2 in MP-table 3.3. Because these data exclude imported farm foods, the food quantity series for domestic farm foods (PFQ-4a) was used for the comparison instead of the more usual series, PFQ-1a.

40/ Described in MP-3.5.2.

41/ As indicated by comparison of coefficients of X_3 in parts 1 and 2 of regressions 3.4 and 3.5. However, their standard errors are rather high.

42/ Estimated by applying changes from 1909 to 1924 in per capita rates for major foods to 1924 value aggregates for civilian use of farm foods.

3.3. Further Consideration of Food Consumption, Measured at the Retail Level

3.3.1. The index of per capita food consumption, the measure of food quantity at the retail level, reflects changes in the use of farm resources in the form of food and in the use of most processing services. It does not reflect changes in the use of other marketing services because it uses the same retail prices as weights for all years and the prices for purchased "fresh" commodities are applied to foods home produced.

Changes within the overall picture of food consumption during the 50-year period from 1909 to 1959 fall into several subperiods (fig. 3.3). In the first period, 1909 to 1924, consumption of meat, cereal products, and potatoes was high relative to the consumption of other foods. Overall food consumption per capita was lower in the years just before and after World War I than at any time on record. From 1924 to 1931, the second period, consumption was higher than in the preceding period, with significant increases in vegetables and sugar consumption. In the years 1932 to 1938, a third period, food consumption was reduced by droughts and by economic depression. From 1939 to 1946 greatly increased consumption of livestock products pushed up the level of food consumption year by year. The averages for 1946 and 1947 were raised by restocking of shelves and by the favorable price and income situation. Thereafter, food consumption declined to the postwar low point of 1951, recovering as production and consumption of livestock products rose cyclically. In 1956, when meat consumption reached record levels, the average rate for all food consumed per capita was only slightly below the 1946 peak. Another near-record high was reached in 1959.

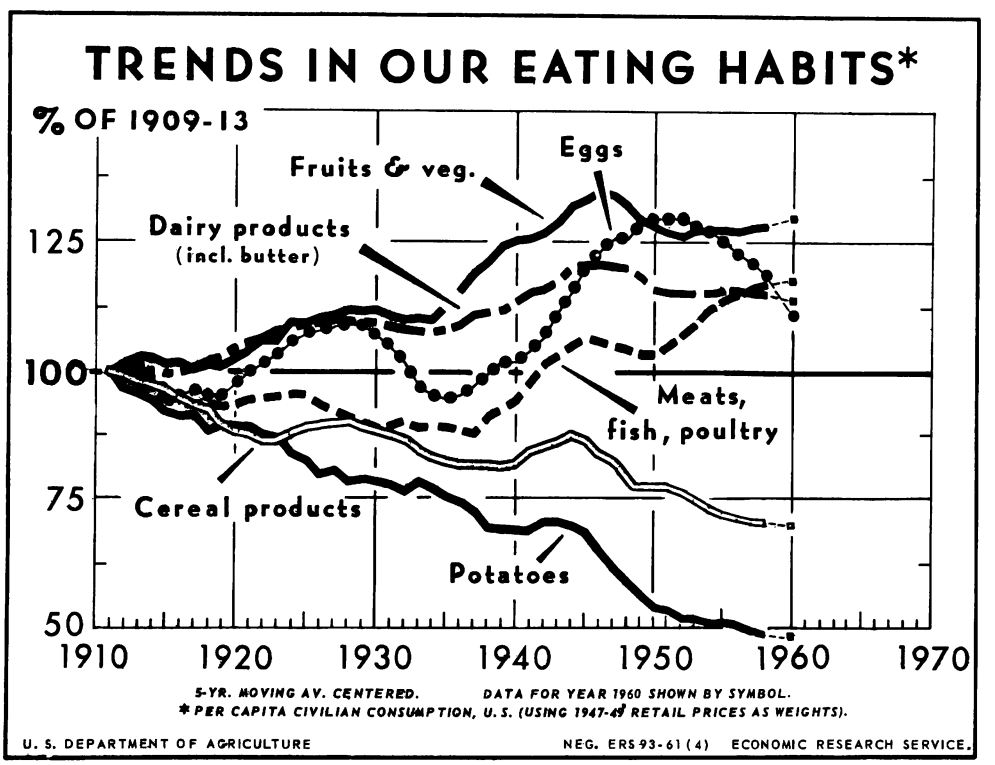

Figure 3.3

3.3.2. Changes in Major Food Groups

Changes in the consumption of major groups of foods have been much greater than changes in all foods combined. Among the crop items, the most significant changes in the last 50 years were substantial declines in the consumption of potatoes, sweetpotatoes and cereal products, though these downtrends were temporarily reversed during World War II.

There was little net change in the consumption of dry beans, peas, and nuts between 1909-13 and the late 1950's. Data on fruit consumption show a 10 to 20 percent increase from just before World War I to recent years, but information on the probable concurrent decline in production of fruit for home use by nonfarm families is lacking. Total per capita consumption of fruit probably increased slightly. A notable shift from apples to citrus and from fresh to processed forms has occurred.

Consumption of vegetables other than potatoes and sweetpotatoes, as measured by the retail consumption subindex, rose a third from 1909-13 to 1955-59. But the increase in poundage of these vegetables made up only about half the drop in the average number of pounds of potatoes and sweetpotatoes consumed. Per capita consumption of sugars and sirups in all forms combined has been significantly higher in recent years than 40 to 50 years ago, but less than average use in the 1920's. Consumption of coffee and cocoa is up considerably, but consumption of tea is down.

Average consumption of fish and of fats and oils changed relatively little between 1909-13 and the late 1950's. Consideration of the ups and downs and certain significant shifts among foods in these groups lies beyond the scope of this bulletin.

Per capita consumption of most livestock products in recent years has been greater than in the years immediately preceding World War I. Meat consumption in the last several years has averaged only slightly higher than it was 40 to 50 years ago, but the low level of the 1930's makes current rates appear high by comparison. The doubling of the quantity of poultry consumed per capita supplemented the supplies of red meat. The increase of about a fourth in egg consumption per capita (poundage basis) was largely in the form of egg content of purchased prepared foods.

Consumption of dairy products, excluding butter, gradually increased to a peak in 1946 and reached a level almost 50 percent higher than that of 1909, but in 1948-59 it was practically stable. The increases from the pre-World War I rates were primarily in the manufactured dairy products, other than butter, and in fluid whole milk. The decline in butter consumption since 1939 has held down the trend line for all dairy products on figure 3.3. 43/

3.3.3. Changes in Relative Importance of Major Food Groups

Changes in consumption of major foods described in the previous section resulted in changes in their relative importance in the total. The meat, poultry, and fish group contributed 34 percent of total food consumed in 1909-13 (measured in terms of retail value in 1947-49 dollars), 29 percent in 1935-39, and 35 percent in 1959. Significant shifts appearing in the relative importance of foods consumed over the 40-year period include substantial declines in consumption of potatoes and cereal products, the change from animal fats to vegetable fats in our diet, and the increase in poultry consumption.

43/ Detailed data for all major foods are published in annual supplements to Agr. Handb. 62 (32). Current estimates are given in the National Food Situation each quarter.

The cycles in the production of cattle and of hogs are well known. The question of whether the resulting swings of meat consumption are compensated by changes in the consumption of other foods often arises. Figure 3.4 provides clues. Examination of data for years other than World War II and the immediate postwar years, 1946 and 1947, leads to the conclusion that meat consumption has tended to increase or decrease along with the consumption of all foods combined. This means that the swings in meat consumption tend to carry the general level of consumption along with them. Almost half of the time, meats and other foods changed in the same direction from year to year. In 6 out of the 22 years under consideration, there were some counterchanges in the consumption of other foods, but they failed to offset the concurrent changes in meat consumption in terms of retail value. In three years, consumption of other foods changed enough to balance the change in meat consumption.

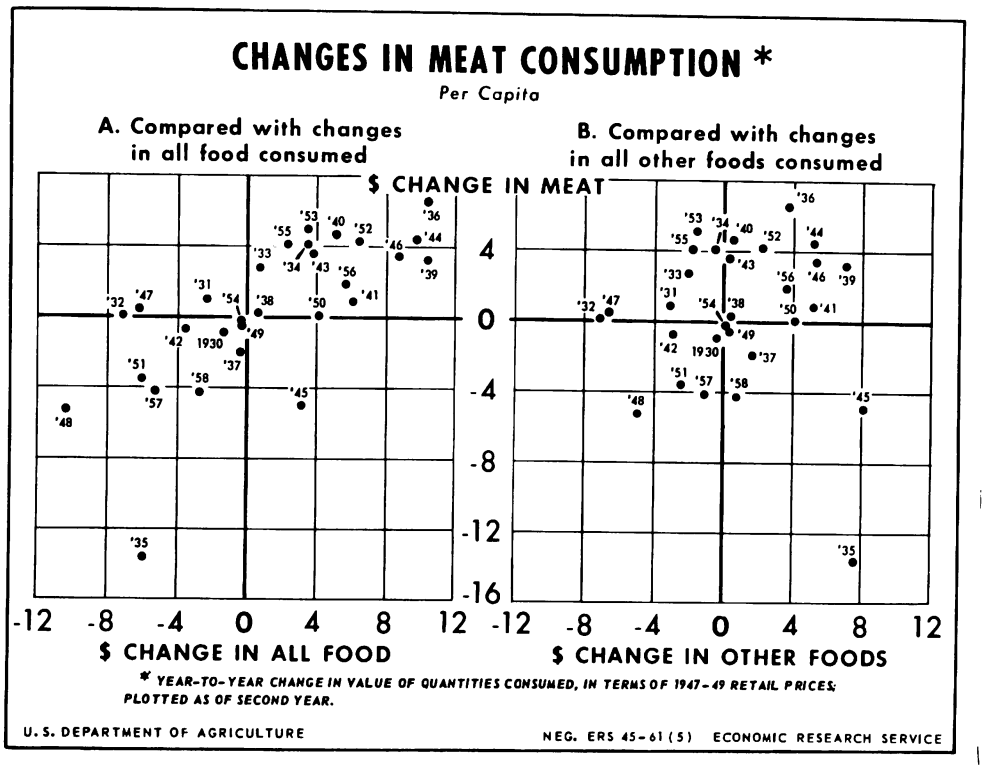

Figure 3.4

3.3.4. Comparison With Changes in Nutrient Supplies

In computing supplies of nutrients per person per day for each year, the Institute of Home Economics uses the AMS, now ERS, estimates of per capita consumption. 44/ Several of the series have been plotted in figure 3.5 for comparison with changes in overall food consumption. The figure shows the relatively close relationship between changes in the food consumption index and supplies of protein available

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44/ Described on page 69 of vol. 5 of Agr. Handb. 118 (44) and on pp. 160-169 of Agr. Handb. 62 (32).

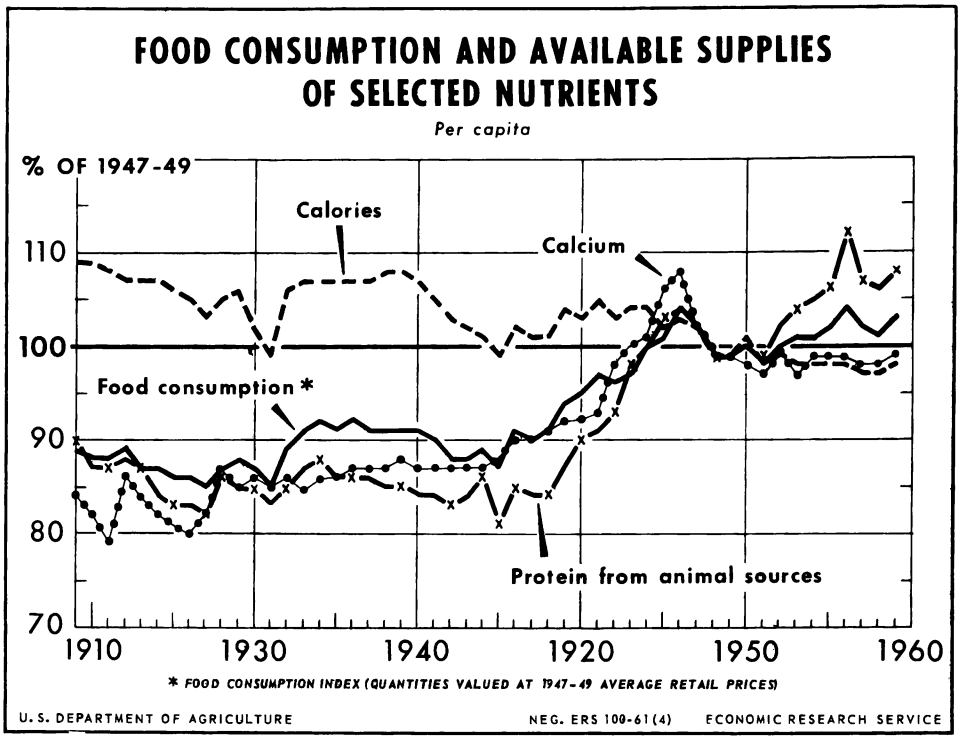

Figure 3.5

in the foods from animal sources and of calcium. Most of the calcium consumed is in dairy products. Also, the chart reveals the gradual decrease in food energy supplies, as measured in calories, contrary to the trend in the consumption index, which measures food consumption in economic terms. Food energy was affected much more than the economic measures of food consumption by reductions in consumption of cereal products and potatoes.

3.3.5. Comparison of Changes in Consumption With Changes in Income and Price

Changes in per capita food consumption measured at the retail level are related closely to changes (1) in disposable income and (2) in the relationship between prices of food and the general price level. These relationships have been studied, using the least-squares regression technique, as summarized in regressions 3.6 and 3.7 of table 3.2. The relationship of changes in the retail measure of food consumption (PFQ-2) to changes in real income is practically the same as the relationship of changes in the farm level index of per capita food use (PFQ-1a) to changes in income. But the price elasticity of food consumption appears to be slightly higher when measured at the retail level than at the farm level. The slight decrease in income elasticity from the years before to those after World War II, indicated by parts 1 and 2 of regression 3.6, is not statistically significant, nor is the increase in price elasticity.

The low R^2 values (coefficient of determination) for the three parts of regression 3.7 in table 3.2 indicate that year-to-year changes in food consumption are not closely related to changes in income and in price relationships. They appear to

result primarily from changes in food supplies. However, the coefficients are close to those of regression 3.6.

3.3.6. Changes in Consumption At Retail and Changes in Retail Value of All Food

Per capita food consumption, measured at the retail level, has increased about 15 percent since the low point of 1932, but the retail value of food per capita (PFV-9 of MP-table 3.4) in current dollars has tripled. The BLS index of urban prices for food at home averaged 116 in 1959 compared with 42 in 1933(1947-49 average = 100). In the 1949-59 period, per capita consumption index varied from 98 in 1951 to 104 in 1956. However, the retail value of all foods consumed rose from $332 per capita in 1949 to $385 in 1958. Because of relatively short supplies of meats and of fresh fruits and vegetables, retail food prices reached new highs in 1958.

3.3.7. Comparison of Changes in Quantity Measures for Food With Changes in Market Value

Partly because of general inflation, the market value of food, including taxes and tips (PFV-10b), rose from the low of $111 per capita in 1933 to the all-time high of $404 in 1958. Adjustment of the series for the change in the general price level indicates that the peak was in 1947, as shown by figure 3.6. This 1947 high was

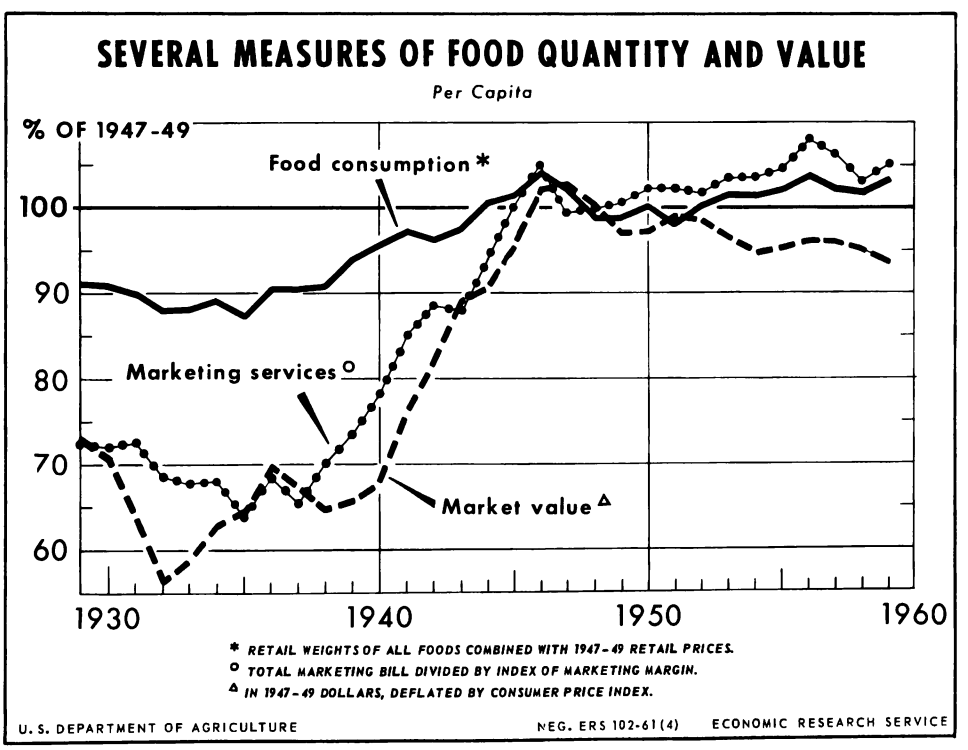

Figure 3.6

77 percent above average market value in constant dollars in 1933. But the retail index of per capita food consumption was up only 16 percent. 45/ Part of the increase in market value from the 1930's to the mid-1940's was due to the shift from home production (valued at the farm level) to purchased foods (valued mostly at retail), but it was influenced also by some additional outlays for meal preparation and serving. Although per capita consumption in 1957-59 was equal to that of 1947, the market value of all food per capita measured in constant dollars was 8 percent lower. In part at least, this decline reflects a substantial reduction in the ratio of food to nonfood prices in the Consumer Price Index.

45/ From 1933 to 1947, the composite index of quantity of food plus food marketing services rose twice as much as the retail price-weighted index for food. The difference was in the substantial increase in use of marketing services, as indicated by figure 3.6. The concurrent increases in use of food marketing services and real income per capita result in a somewhat higher income elasticity for this food measure than for the retail index. (Regression 3.8.compared with regression 3.6.)

Chapter 4. VARIATIONS IN FOOD CONSUMPTION AMONG POPULATION GROUPS

Back of the U. S. averages described in chapter 3 lie considerable variations in food consumption among individual families and among groups of families in the population. This chapter considers the variations in food consumption among certain specified groups in the population. 46/

Special surveys of food consumption are usually confined to housekeeping households. Such households included 94 percent of the U. S. civilian population in 1955. 47/ The principal bases for subdividing the housekeeping household population are region, urbanization, size of family income, and family size.

This chapter begins with consideration of available information on the importance of the nonhousekeeping sector in terms of its numbers and of its food consumption. Then the variations in food consumption among groups within the housekeeping population are described, using first alternative measures of food value then the new cross-section indexes for quantity. Particular emphasis is given to changes in variability from one survey to another, as from spring 1942 to spring 1955. These provide important clues to historical changes in U. S. average consumption. The survey data and adjustments for price level and household size made in them are reviewed in MP-section 3.7. The adjusted data in MP-tables 3.10 to 3.16 are used in this chapter.

4.1. The Nonhousekeeping Population and Their Food Consumption

About 6 percent of the civilian population in 1955 lived outside private housekeeping households. This population group included 1.6 million people in institutions, 1.2 million in permanent hotels and rooming houses, and about 6.5 million in households in which few meals were prepared. 48/ Many of the group last named were people living alone. Comparison of these data with information for the mid-thirties leads to the conclusion that the proportion of the nonhousekeeping population in the total population changed relatively little from 1935 to 1955.

As no overall surveys of food consumption outside private housekeeping households has been made, to study the subject one needs to subdivide the heterogeneous total as follows: (1) Food Consumption in institutions such as prisons, homes for the aged and orphans, and mental hospitals; (2) consumption of noninstitutional residents who eat practically all their meals in private or public eating places; (3) food consumption away from home by the housekeeping population. The three sectors are merged in such away-from-home food data as are available, and are discussed in section 5.5.

A pilot survey of food consumed in 16 non-Federal institutions consisting of nonrandomly selected case studies provides only preliminary indications of possible

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46/ Other ways in which total food consumption can be viewed or analyzed include the channels through which food reaches consumers, considered in the next chapter, and the commodity components of the whole food picture. Study of the latter lies outside of the scope of this study.

47/ In spring 1955 the civilian population included 162.3 million people, 800,000 of whom were members of the Armed Forces who ate at home.

48/ The criterion for a housekeeping household for the 1955 food survey was the preparation of at least 10 meals from household food supplies for consumption by one person in the week preceding the interview.

patterns of food consumption in institutions, and no measure of the total market. 49/ There is no basis for judging how representative the institutions were.

The only available data on food consumption by nonhousekeeping people outside institutions are market value and expenditure statistics obtained in surveys of consumer expenditures by the Bureau of Labor Statistics. 50/ These are recalls of expenditures and food received as pay during 1941, during the first quarter of 1942, and during 1950, by people residing in schools, hotels, rooming houses, and private households, but not qualifying as housekeeping. Data for urban households in the first quarter of 1942 (table 4.1) indicate how housekeeping and nonhousekeeping averages for value of all food and other measures differ at several income levels. With 1950 data one can study differences between the two population categories by size of city and region, as demonstrated in table 4.2. Practically all nonhousekeeping households

Table 4.1.--Market value and expenditure data for food per person in housekeeping and nonhousekeeping urban households in first quarter 1942, by income level 1/

Family money income, annual rate of first quarter (dollars)	Market value of all food and beverages 2/		Food at home				Expenditures for food away from home 4/	
			Expenditures		Value of food received in kind 3/			
	Housekeeping	Nonhousekeeping	Housekeeping	Nonhousekeeping	Housekeeping	Nonhousekeeping	Housekeeping	Nonhousekeeping
	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.	Dol.
Under 500	32.90	48.22	24.61	7.64	6.96	16.56	1.11	20.67
500-1,000	33.58	89.14	29.61	11.45	1.84	15.58	1.40	54.39
1,000-1,500	39.50	95.05	32.47	8.12	2.16	12.22	3.90	68.39
1,500-2,000	47.91	85.59	39.82	11.09	1.75	9.36	5.05	56.02
2,000-2,500	52.84	96.43	44.37	2.13	.97	.37	5.80	80.33
2,500-3,000	59.23	125.05	46.06	6.37	.66	2.41	10.35	101.63
3,000-5,000	65.18	107.51	50.53	0	1.09	5.62	10.09	82.14
5,000-10,000	77.37	0	54.38	0	1.57	0	16.72	0
10,000 and over	98.27	0	64.57	0	.85	0	23.03	0

1/ Derived from p. 122, BLS Bul. 822, Family Spending and Saving in Wartime (42). Family size estimated on basis of unpublished card counts of household sizes in first quarter 1942 and 1955 relationships between household and family sizes.
2/ Includes expenditures for alcoholic beverages.
3/ Includes value of food received as gift, payment in kind, and relief grants.
4/ Includes board in household where person lives.

49/ Food quantity data were reported in The Market for Food in Selected Public and Private Institutions by Hoofnagle, Dwoskin, and Bayton. Mktg. Res. Rept. 84 (14).
50/ Data from the Study of Spending and Saving in Wartime for 1941 and first quarter 1942, reported on pages 121 and 122 of BLS Bul. 822 (42); data from survey for 1950 reported in table 13-3, vol. III of Study of Consumer Expenditures, Incomes and Saving (48).

Table 4.2.--Average expenditures for all food and beverages and disposable money income per person in 1950 for urban families, by region, class of city, and housekeeping status 1/

Region, class of city and housekeeping status	Disposable money income per person	Expenditures per person				Distribution of family members	
		Food			Alcoholic beverages	By housekeeping status	By region and class of city
		Total	At home	Away			
	Dollars	Dollars	Dollars	Dollars	Dollars	Percent	Percent
U. S. - All	1,290	373	302	71	22	100.0	100.0
Housekeeping, all year	1,265	368	311	57	20	94.9	---
Nonhousekeeping 2/	1,917	508	160	347	55	5.1	---
North							
Large cities - All	1,319	397	320	77	26	100.0	36.0
Housekeeping, all year	1,298	395	335	60	25	94.4	---
Nonhousekeeping 2/	2,106	544	162	383	66	5.6	---
Suburbs	1,466	409	335	74	25	100.0	11.4
Housekeeping, all year	1,455	408	342	65	25	95.7	---
Nonhousekeeping 2/	1,728	435	163	272	28	4.3	---
Small cities - All	1,183	343	292	51	15	100.0	9.4
Housekeeping, all year	1,181	344	301	43	15	95.8	---
Nonhousekeeping 2/	1,485	403	153	250	25	4.2	---
South							
Large cities - All	1,171	340	271	68	19	100.0	8.4
Housekeeping, all year	1,117	327	276	52	16	94.3	---
Nonhousekeeping 2/	1,886	490	153	338	66	5.7	---
Suburbs - All	1,250	350	282	68	19	100.0	2.4
Housekeeping, all year	1,213	338	283	55	18	96.1	---
Nonhousekeeping 2/	1,723	516	144	371	34	3.9	---
Small cities - All	931	282	236	45	9	100.0	6.7
Housekeeping, all year	892	271	233	37	9	97.1	---
Nonhousekeeping 2/	1,563	442	161	281	14	2.9	---
West							
Large cities - All	1,388	381	290	92	24	100.0	12.9
Housekeeping, all year	1,339	367	299	69	20	93.1	---
Nonhousekeeping 2/	1,999	555	157	398	73	6.9	---
Suburbs - All	1,312	367	299	68	20	100.0	4.1
Housekeeping, all year	1,280	359	301	58	18	96.4	---
Nonhousekeeping 2/	1,999	541	216	325	56	3.6	---
Small cities - All	1,298	359	297	61	17	100.0	8.7
Housekeeping, all year	1,290	357	307	50	16	95.3	---
Nonhousekeeping 2/	1,743	469	161	308	43	4.7	---

1/ Derived from tables 1-3 and 13-3, volume III of Study of Consumer Expenditures, Incomes, and Savings (48).

2/ Includes people not keeping house for full year.

consist of adults; by definition they eat more meals away from home than do housekeeping households. Because of this, they pay more costs of meal preparation and serving. Accordingly, the significantly higher averages per person for value of the food for nonhousekeeping households than for housekeeping households given in these two tables are not surprising.

According to the data on average expenditures for food and alcoholic beverages by urban families in 1950 (table 4.2) the higher nonhousekeeping household average for all food expenditures had little effect on the U. S. all-urban average, owing to the small proportion of this group in the whole population. If rural nonfarm and farm households had also been taken into account here, the small proportion of nonhousekeeping households in those population groups would probably have reduced even more the effect on the average of higher nonhousekeeping household outlays. One may conclude, therefore, that analysis of food patterns of housekeeping households provides the key to the overall picture of U. S. food consumption. But the average expenditure per person for food away from home for the nonhousekeeping population is naturally much greater than that for the housekeeping population -- this must be taken into account in any study of the away-from-home food market.

Knowledge of patterns of food consumption in eating places is meager. The subject is discussed in chapter 5. In the remaining portion of this chapter we are concerned with food consumption of housekeeping households -- primarily at home, though away-from-home expenditures by members of housekeeping households are covered.

4.2. Variations in Food Consumption Indicated by Annual Value Data

Variations in food consumption among groups of households indicated by alternative measures for food are studied in this and some of the succeeding sections, using the variability method described in MP-section 4.2.3.

4.2.1. Changes Through Time

From 1935-36 to 1941 there was no substantial change in the variability with income for the market value of all food among U. S. households, grouped by income, summarized by data in table 4.3. But the market value of all food at all income levels for all U. S. households was somewhat higher in 1941 than in 1935-36. This finding accords with the fact that food consumption averaged 9 percent higher in 1941 according to the per capita food consumption index. The degree of variation with income in the market value of all food was slightly higher for households above the mean income level for 1941 than for households in that same real income range in 1935-36. But this was offset by less variation in lower income groups, hence the income elasticities are equal. (Regressions CS-II A1 and 2 in table 4.4.)

Variability of total expenditures for food and beverages at home and away from home by urban households in 4 selected years is summarized in table 4.5, based on data in MP-table 3.11. The closeness of the averages at roughly comparable real income levels throughout the middle income range is quite remarkable. So is the fact that the difference between food and beverage expenditures by middle and high income households was practically the same as in 1941. But lower income urban households differed significantly less in their average food expenditures from households at the mean in 1950 than in 1941. The income elasticities of food expenditures by urban households in 1944, 1947, and 1950 were significantly lower than in 1941, on the basis of the Fisher "t" test. (Regressions CS-II B in table 4.4.)

Table 4.3.--Variability of market value of all food at home and away from home with total disposable income, years 1935-36 and 1941, averages per person, all U. S. households 1/

(In 1941 dollars)

Year	Unit	Percentage below 1941 average income			Average disposable income in 1941, $680 2/	Percentage above 1941 average income				
		-75	-50	-25		+25	+50	+100	+150	+200
1935-36										
Market value	Dol.	90	130	160	185	205	220	250	275	295
Variation 3/	Pct.	-51%	-30%	-14%	0	+11%	+19%	+35%	+49%	+59%
1941										
Market value	Dol.	105	145	175	200	220	250	290	325	4/350
Variation 3/	Pct.	-48%	-28%	-12%	0	+10%	+25%	+45%	+62%	+75%

1/ Based on data in MP-table 3.10. Values for the several income points have been read from charts so they are not precise. See MP-text section 4.2.3 for description of methodology.
2/ Includes money and nonmoney income.
3/ Represents percentage change from the market value at the 1941 mean income level.
4/ Approximated from nearby observation.

4.2.2. Variations in 1950 Expenditures by City-Size 51/

Within the urban category there are variations in food expenditures by families according to the degree of urbanization or class of city and region. The 1950 BLS data for families in the North provide the example used here. The families living in the suburbs of large cities had somewhat higher expenditures for food per person than the families inside the limits of the large cities. The small-city families had considerably lower average expenditures than the other two groups. These differences among the city-size groupings are probably related to differences in the distributions of families by income level, food items used, importance of food away from home, and family characteristics. Proportionately more suburban families were in the higher income classes.

Average expenditures per person for all food at home and away from home in the urban North were higher at each successively higher income level. In the lower range of income at each given point of income per person the large-city families spent more than the suburbanites for all food. Groups of these households in the middle income range had about the same food expense. The average outlays per person of the suburban families ran higher in the upper range of incomes. Small-city families were generally lowest in purchase of all food at all income levels. In 1950, more was spent per

51/ Prepared with the assistance of Thomas J. Lanahan, Jr., ERS, using data from tables 1-3 and 3-3 in vol. III, Study of Consumer Expenditures, Incomes, and Saving (48).

Table 4.4.--Summary of least-squares regressions with cross-section data on selected measures of food and income 1/

Food measure (per person) (X_1)	Period	Number	Household group 2/	Income (X_2): Measure per person	Income (X_2): Period covered	Regression equation: Constant term	Regression equation: Coefficient 3/	R^2
CS-I.- Quantity-structural index of								
A. Use of farm foods - all sources	Spring 1955	1	U. S. all	Disposable money	1954	1.65	.12 (.01)	.96
Do.	do.	2	U. S. urban	do.	do.	1.62	.12 (.02)	.90
Do.	do.	3	U. S. rural nonfarm	do.	do.	1.46	.17 (.02)	.95
Do.	do.	4	U. S. farm	do.	do.	1.77	.09 (.01)	.97
B. Use of farm foods - purchased	do.	1	U. S. all	do.	do.	1.26	.24 (.02)	.97
Do.	do.	2	U. S. urban	do.	do.	1.62	.14 (.02)	.93
Do.	do.	3	U. S. rural nonfarm	do.	do.	1.21	.26 (.02)	.94
Do.	do.	4	U. S. farm	do.	do.	1.36	.15 (.02)	.86
C. Consumption of all food - retail	Spring 1942	1	U. S. all 4/	do.	First quarter 1942	1.62	.13 (.02)	.95
Do.	do.	2	U. S. urban 4/	do.	do.	1.49	.17 (.02)	.94
Do.	do.	3	U. S. rural nonfarm 4/	do.	do.	1.44	.19 (.02)	.96
Do.	do.	4	U. S. farm 4/	do.	do.	1.71	.12 (.02)	.88
D. Consumption of all food - retail	Spring 1955	1	U. S. all	do.	1954	1.61	.13 (.01)	.96
Do.	do.	2	U. S. urban	do.	do.	1.58	.14 (.02)	.91
Do.	do.	3	U. S. rural nonfarm	do.	do.	1.44	.18 (.01)	.96
Do.	do.	4	U. S. farm	do.	do.	1.74	.09 (.01)	.96
CS-II.- Value								
A. Total market value of food and beverages at home and away	1935-36	1	U. S. all 4/	Disposable	1935-36	5/.88	.48 (.02)	.99
Do.	1941	2	U. S. all	do.	1941	5/.93	.49 (.01)	.99
B. Food and beverage expenditures at home and away	1941	1	U. S. urban	Disposable money	1941	6/.64	.58 (.02)	.99
Do.	1944	2	do.	do.	1944	6/1.47	.33 (.03)	.95
Do.	1947	3	do.	do.	1947	6/1.61	.31 (.03)	.96
C. Food expenditures at home and away	1950	4	do. 4/	do.	1950	5/1.22	.40 (.04)	.95
D. Total market value of food at home and away	1950	---	do. 4/	do.	1950	5/1.28	.37 (.04)	.94
	Spring 1942	1	U. S. all	do.	First quarter 1942	7/-.01	.30 (.03)	.95
Do.	Spring 1955	2	U. S. all	do.	1954	7/ .15	.25 (.03)	.92
Do.	Spring 1942	3	U. S. urban 4/	do.	First quarter 1942	7/-.06	.31 (.03)	.95
Do.	Spring 1955	4	U. S. urban 4/	do.	1954	7/ .11	.27 (.04)	.89
Do.	Spring 1942	5	U. S. rural nonfarm 4/	do.	First quarter 1942	7/-.12	.32 (.03)	.97
Do.	Spring 1955	6	U. S. rural nonfarm	do.	1954	7/-.01	.30 (.02)	.96
Do.	Spring 1942	7	U. S. farm 4/	do.	First quarter 1942	7/ .29	.19 (.02)	.96
Do.	Spring 1955	8	U. S. farm	do.	1954	7/ .50	.13 (.02)	.78
E. Food expenditures at home and away	Spring 1942	1	U. S. all 4/	do.	First quarter 1942	7/-.73	.52 (.02)	.99
Do.	Spring 1955	2	U. S. all	do.	1954	7/-.24	.37 (.02)	.98
Do.	Spring 1942	3	U. S. urban 4/	do.	First quarter 1942	7/-.26	.38 (.02)	.98
Do.	Spring 1948	4	U. S. urban	do.	1947	7/-.01	.30 (.03)	.95
Do.	Spring 1955	5	do.	do.	1954	7/ .04	.29 (.03)	.91
Do.	Spring 1942	6	U. S. rural nonfarm 4/	do.	First quarter 1942	7/-.60	.45 (.04)	.97
Do.	Spring 1955	7	U. S. rural nonfarm	do.	1954	7/-1.25	.40 (.02)	.97
Do.	Spring 1942	8	U. S. farm 4/	do.	First quarter 1942	7/-.42	.31 (.06)	.88
Do.	Spring 1955	9	U. S. farm	do.	1954	7/ .03	.22 (.03)	.88

1/ Linear regression in logarithms. 2/ Households of two or more persons except where indicated. 3/ Standard errors given in parentheses. 4/ Including singles. 5/ Computed in 1935-39 dollars. 6/ Computed in current dollars. 7/ Computed on same dollar basis, 1954 dollars for income and spring 1955 prices for food.

Table 4.5.--Variability of total expenditures for food and beverages at home and away with disposable money income, averages per person in urban households, years 1941, 1944, 1947, 1950 1/

(In 1935-39 dollars)

Year	Unit	Below mean income			1950 mean disposable money income, $758	Above mean income			
		-75%	-50%	-25%		+25%	+50%	+75%	+100%
1941									
Expenditures	Dol.	90	145	180	220	245	265	285	340
Variation	Pct.	-59%	-34%	-18%	0	+11%	+20%	+30%	+55%
1944									
Expenditures	Dol.	135	165	200	225	235	250	260	---
Variation	Pct.	-40%	-27%	-11%	0	+4%	+11%	+16%	---
1947									
Expenditures	Dol.	155	170	215	240	260	275	285	---
Variation	Pct.	-35%	-29%	-10%	0	+8%	+15%	+19%	---
1950									
Expenditures	Dol.	---	175	205	235	265	290	310	360
Variation	Pct.	---	-26%	-13%	0	+13%	+23%	+32%	+53%

1/ Based on data in MP-table 3.11. Expenditure figures for the several income points have been read from charts so they are not precise. See MP-text section 4.2.3 for description of methodology.

person for food away from home by large-city families than by families in other classes of cities across the whole income range, except for the highest income levels, where suburban families spent more.

Factors other than income entering into the variations in food expenditures by degree of urbanization can be explored further by means of 1950 data. The effect of the makeup of consumer units on such variations -- as with single adults versus families with a number of children -- can be avoided, for example, by comparing the 1950 survey data for husband-wife units with oldest child 6-16 years among city-size groups of the urban North. This type of large-city and suburban family of comparable income per person differed little in food expenditures per person. But all across the income scale, food expenditures of small-city families were lower than those of suburban and large-city families. No research has been conducted in the measurement of separate effects of the probable causes for these situations. Small-city family expenditures are lowest because of greater reliance on home-produced food (especially in the smaller cities), the use of fewer prepared and other foods, which include relatively more expensive services, and proportionately higher purchases of foods grown commercially in nearby areas, to mention the more prominent causes.

4.3. Variations in Market Value of Food Among Household Groups

This section traces the variations in food consumption among household groups indicated by three market value measures: (1) Market value of all food at home and of food and beverages away from home (described below as market value of all food), (2) market value of food at home only, and (3) market value of home-produced food. The difference between the first two measures is found in the expenditures for food and beverages away from home. They both include home-produced food and that received as gift or pay, valued at prices paid by households of the same urbanization group. 52/

The interrelationships among the market value and expenditure measures for all food and for food at home are shown in figures 4.1 and 4.2 for all U. S. families grouped by income, spring 1942 and spring 1955. The overall changes in relationships of the per person food values to per person income are quite apparent.

In the following sections discussions for each measure begins with a description of variations among urbanization categories in spring 1942, then moves on to spring 1955, and concludes with comparison of the Engel curves of the two periods. MP-tables 3.12 to 3.16 give the actual survey averages for each urbanization used. In order to limit the range of detail, little use is made of the urban data for spring 1948 and spring 1951, but these data are available in MP-table 3.15.

4.3.1. Market Value of All Food

Spring 1942.--The market value of all food consumed by farm and rural nonfarm households at home and away from home in a week of spring 1942 averaged 30 percent below the urban average. But comparison of the Engel curves by means of the variability method reveals that farm households with money income per person equal to the U. S. average had an average for market value of all food only slightly below the urban rate (table 4.6, sec. A. 53/). The all-food average for rural nonfarm households at the average U. S. income level was 13 percent less than the urban all-food average.

Farm households differed much less in their market value of all foods from one income level to another in spring 1942 than did households in the other two urbanization categories. 54/ For households in all urbanizations combined, there was significantly less variation in market value of all food for households with incomes per person above the U. S. mean 55/ than for those below the mean.

Spring 1955.-- Despite substantial changes in distributions of families by size of income since 1942, the variations in the U. S. averages for the several urbanization categories shown in MP-table 3.16 were still greatly influenced in 1955 by the differences in distribution of families by income level. Farm average was 22 percent below urban average, rural nonfarm 18 percent below. But at the mean income for all

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52/ This pricing differs from that used for the time-series measure which uses prices received by farmers.

53/ Tables 4.6 to 4.10 are grouped together at the end of this chapter.

54/ Regression coefficients measuring incomes elasticities are given in section CS-II D of table 4.4.

55/ Average money income per person in families in first quarter 1942 times 4 equaled $1,038 in 1954 prices.

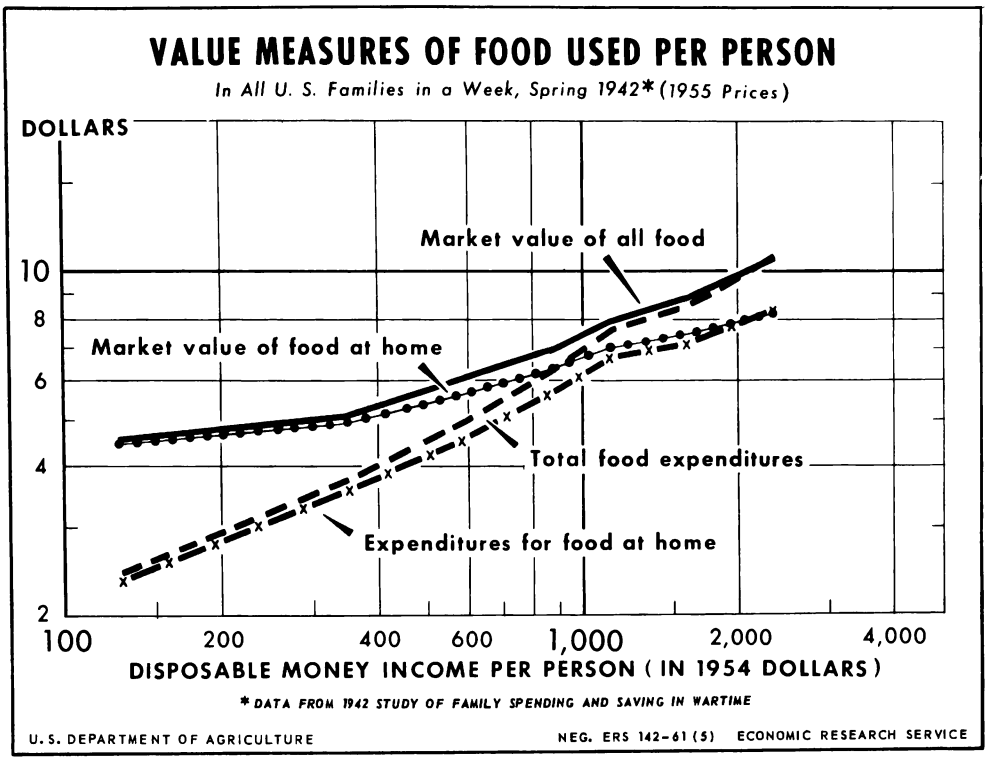

Figure 4.1

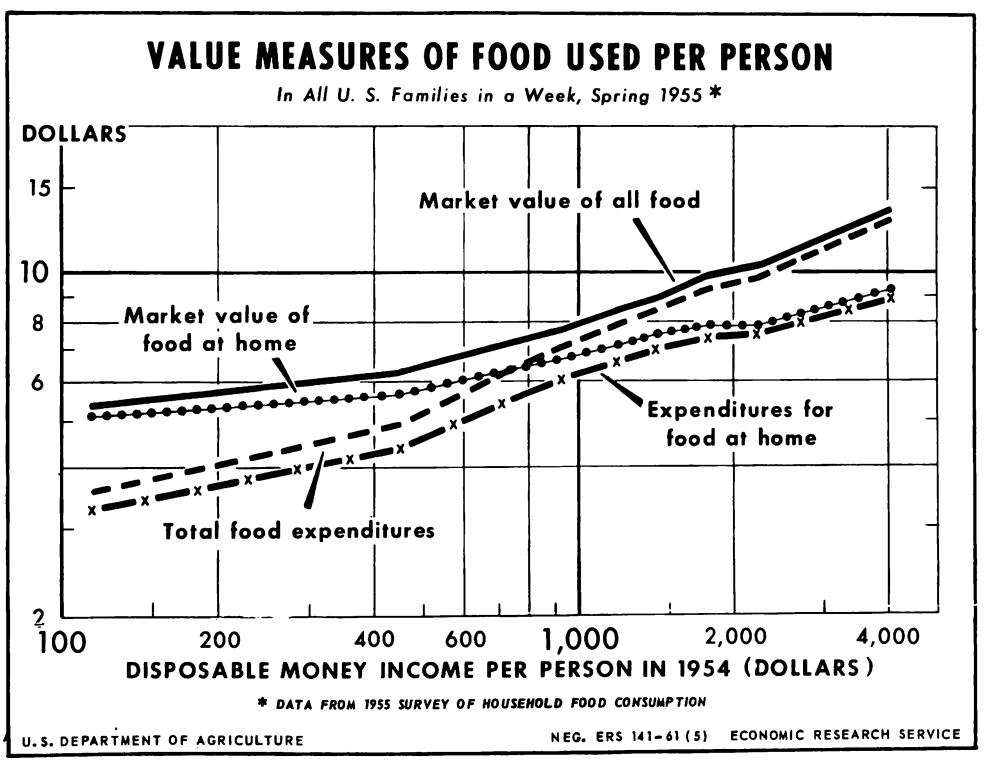

Figure 4.2

urbanizations, farm households used food valued only about 11 percent less than the average for urban households at that point. The rural nonfarm average was still closer to the urban (fig. 4.3 and table 4.7, sec. A).

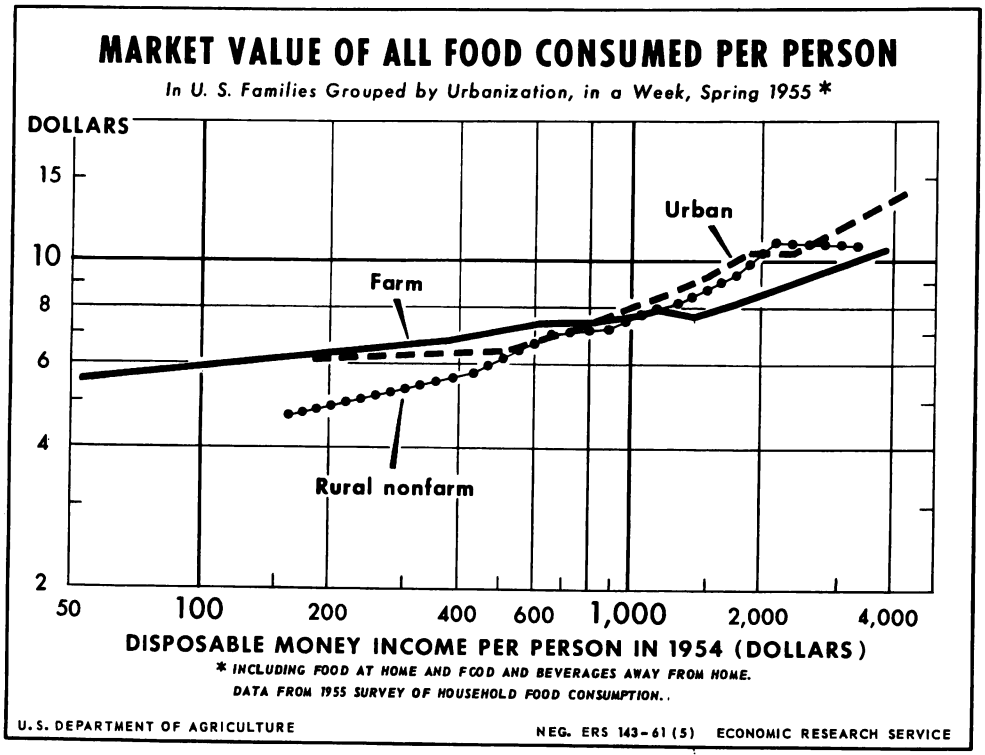

Figure 4.3

All U. S. households grouped by income at points 25 and 50 percent below the mean had market value of all food differing from those at the mean to about the same extent as the households with incomes 25 and 50 percent above the mean. Through this middle range of income, the averages for market value of all food varied about 40 percent as much as average income. But the market value of food among households at substantially higher income levels varied much less than did their average incomes. Up to the $2,500 level of income per person (in 1954 dollars), rural nonfarm households grouped by income differed much more in the market value of all foods they used than did the urban or the farm households of comparable money income. Farm households varied the least in value of food used. These general findings from the variability table are backed up by the income elasticities computed from linear regressions in logarithms (table 4.4).

4.3.2. Changes in Market Value of All Food

Although the knowledge of how specific population groups have varied in food consumption at one point in time is useful for many purposes, perhaps even more useful for marketing research is the knowledge of how food consumption among these groups has changed over the years. No available information measures the consumption of particular families through time for all foods. But it is possible to draw certain valid

conclusions of marketing significance from comparisons of the food consumption averages for groups of households with approximately the same major economic characteristics, such as income, urbanization, and household size.

The all-urbanization average of the market value of all food consumed at home and away from home in a week of spring 1955 was about 20 percent higher than the average for spring 1942 (in comparable prices). Differences among the averages for the three urbanization categories for households decreased from 1942 to 1955. Whereas the farm average was 29 percent below the urban average in spring 1942, it was only 22 percent lower in 1955. This change in variability resulted from changes in food used by households with real disposable money incomes below the 1954 mean of $1,250 per person. In 1955 households of all urbanization categories below this income point consumed food much closer in value than was the case for spring 1942 (table 4.8 and fig. 4.4). At the mean level of income (the base for this measure of variability) households of the three urbanization categories also were closer together in the market value of all food used per person in the spring of 1955. 56/

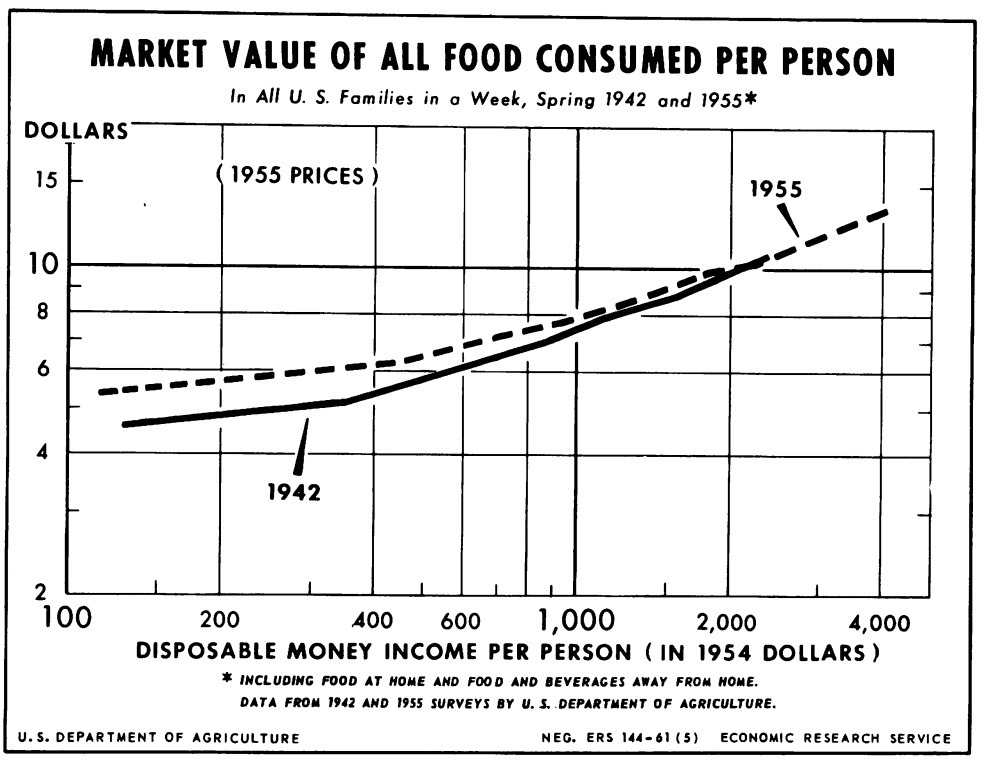

Figure 4.4

56/ The shift of the variability measurement for 1942 to use of 1954 mean income is described in MP-4.2.3.

Lower income households in all three urbanizations used more food in spring 1955 on a value basis than households in the lower range of income in spring 1942. The market value of food consumed by urban households below the mean varied less from the average at the mean, but households with incomes above the mean varied more in value of food used in spring 1955 (and 1948) than in spring 1942. Lower income rural households differed much less in their food average from households at the 1954 mean income level in 1955 than in 1942.

4.3.3. Market Value of Food at Home

Spring 1942.--Urbanization averages per person for a week of spring 1942 were: Urban - $6.79, rural nonfarm - $5.18, farm - $5.45. At the level of U. S. mean income per person, rural nonfarm households consumed food at home valued at $6.15 per person, the lowest among the three urbanizations. Farm households consumed the most, valued at $6.95. This value measure shows much less variation from households in one urbanization category to those in another than does any other value measure of food consumption (fig. 4.1). It comes closest to the index of quantity of food consumed described in section 4.5.1 but it shows much more variability with income than does the quantity measure. (Compare variabilities in table 4.9 and section D of table 4.6.) The relatively high level of farm food consumption was possible because of the contribution of home-produced food. However, the use of money incomes as the basis for grouping households understates the economic status of farm households, for these generally have significant nonmoney income in the forms of food, fuel, and housing.

Section D of table 4.6 reveals little variation in 1942 in the market value of food at home among farm households with money incomes above $500 per person in 1954 dollars. The plateau or levelling-off point of market value of food with income was at a substantially higher level of income for urban households than for farm households. It is significant to bear in mind that below the mean income level, market value varied only about 40 percent as much as did money income for households in all urbanizations. Above that level, variation in market value of food at home was only 20 percent as much as the variation in average income per person.

Spring 1955.--The average market value of food consumed at home in farm households was 11 percent less than the urban average, but the quantity of food they consumed per person, as measured by the index of per person consumption of all food, was only 3 percent lower (table 4.10). 57/ At the mean income level, the market value of food at home in households in each of the three urbanizations was practically equal. At that point the average quantity of all foods consumed by farm households was 6 percent above the rural nonfarm and urban averages (section C of table 4.10). This difference between the two measures reflects some difference in prices paid or used in valuing the food, but it also indicates fewer marketing services bought by farm households.

There was less variation with income in the market value of food used at home among households grouped by income than was the case for other food value measures. For example, at the income point 50 percent below the mean for all urbanizations, the value of farm household food averaged only 3 percent less than the rate at the mean. At the point 50 percent above the mean, farm households used only 5 percent more food in terms of value. There was relatively little difference between the value of food consumed at home by urban and by rural nonfarm households at comparable levels of disposable money income per person.

57/ Average use of farm foods by farm households equaled the urban average, as indicated by measure CFQ-1a.

Only in the highest income groups (over $8,000 family income) did farm households go in for extensive buying of food marketing services. This is shown by the fact that at the point 50 percent above mean income, farm households used only 2 percent more farm foods with value 5 percent more than those used at the mean level (section A 4 of table 4.10). At the point 100 percent above the mean income, they used 5 percent more food in terms of quantity of farm foods and 14 percent more in terms of market value of all food at home. At the income level 200 percent above the mean the farm households used an 11 percent larger quantity of farm food commodities, but valued at 26 percent more per person.

For rural nonfarm households, the variation in market value was practically the same as the variation in use of farm foods in terms of quantity. At the income point 75 percent below the all-urbanization mean, rural nonfarm use of farm foods per person was 24 percent below the rate at the mean and the market value was 26 percent lower.

Among urban households having incomes below the U. S. mean, there was substantially greater variation in their market value of food than in their use of food per person. This apparently reflected use of successively fewer marketing services and lower priced foods at lower and lower levels of income. On the upper side of mean income, only households in the highest income groups had market values of food which varied much more than the degree of variation in their use of the quantity of farm foods per person.

4.3.4. Changes in Market Value of Food at Home

4.3.4.1. Differences among the average market values of food used at home by the three urbanizations were reduced from 1942 to 1955 by the substantial increase in the value of food used at home by rural nonfarm and farm households. This increase apparently resulted from three factors: (1) The change in the proportion of households at the several levels of income; (2) generally higher levels of food consumption by households at all income levels; and (3) increases in meat and poultry consumption.

4.3.4.2. The only significant change indicated for this measure of relationships among households in the three urbanization categories at the 1954 mean income level was the increase for rural nonfarm households. But the general rise in the market value of food consumed at home by lower income households of all urbanizations decreased the differentials between their average market value and the averages for households at the U. S. mean income point. No marked changes were indicated by the value data for higher income households. Comparison of data for urban households in 1942, 1948, and 1955 indicates that this upward shift in food value had occurred for at least those households between 1942 and 1948.

4.3.5. Value of Home-Produced Food

Home production varied greatly among the three urbanization categories. In spring 1942 the value of home-produced foods used by farm households was three times as high as the rural nonfarm average. Data for detailed comparisons are given in section F of table 4.6, at the end of this chapter. Figures 4.5 and 4.6 show the very significant changes in the Engel curves for home production from 1942 to 1955. The levels of both the rural nonfarm and farm curves dropped significantly. These phenomena and the sharp reduction in the proportion of farm people in the U. S. population contributed greatly to increased demand for commercially produced and marketed food supplies. But in spring 1955, farm households grouped by income did

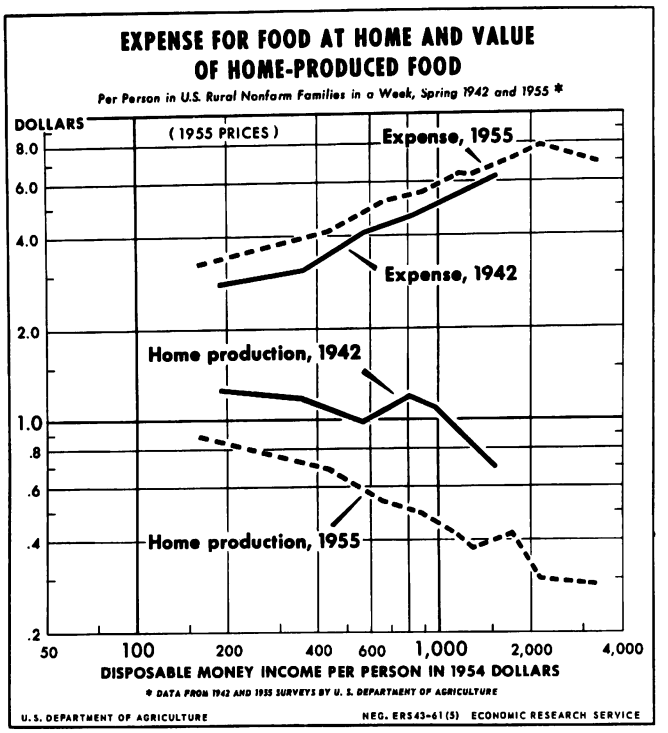

Figure 4.5

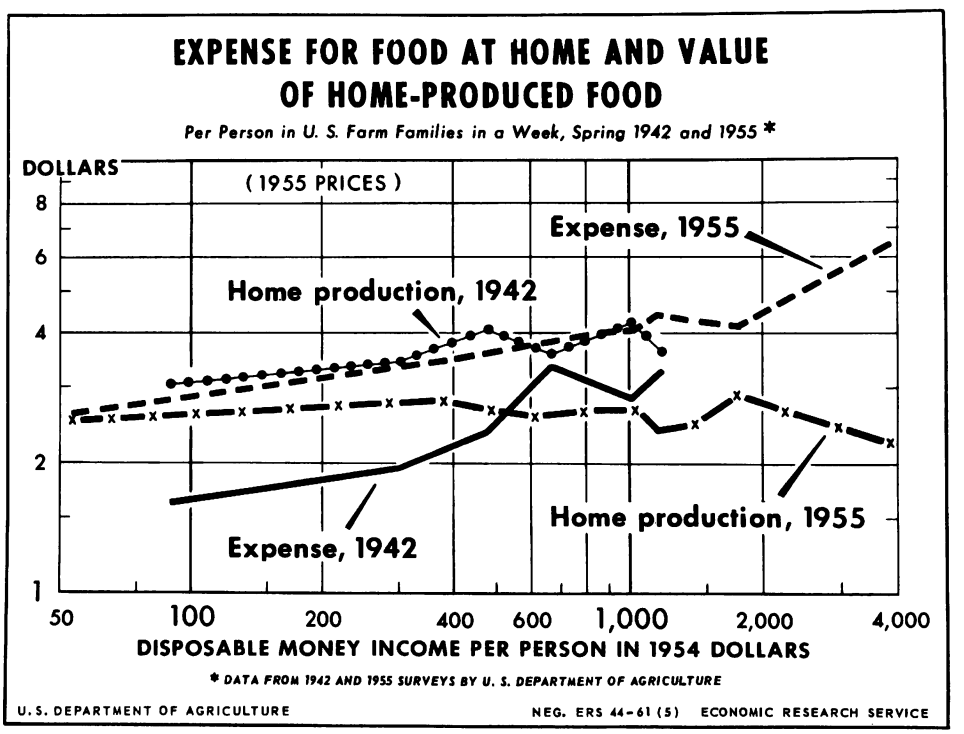

Figure 4.6

not differ much in the value of home-produced foods per person except for the slightly lower level among households with family incomes of $10,000 or more.

4.4. Variations in Expenditures for Food

Households differ much more in their expenditures for food than in the value of food consumed, including supplies received without direct expense. The principal elements in the differences among households grouped by urbanization and by income is the extent of home production.

In this section, differences among households are indicated for three expenditure measures -- (1) expenditures for food at home and for food and beverages away from home, 58/ (2) expenditures for food at home only, and (3) expenditures away from home.

4.4.1. Expenditures for All Food

Spring 1942.--Having much more home-produced supplies, farm households spent only $2.23 per person for all food in a week of spring 1942, compared with the $7.92 for urban households and $4.43 for rural nonfarm. Such averages for all households in each urbanization category are affected by the proportion of these households at each money income level. This effect is avoided by considering variations among households at the mean level of money income for all urbanization groups, shown in the center column of table 4.6. At this level, the farm household average per person was 42 percent of the urban, and the rural nonfarm was 74 percent.

The variability method used in this chapter highlights the differences among households for the market value and expenditures for all foods. For example, at the money income level 75 percent below the $1,038 average, average expenditure for all foods by households in all urbanization categories combined was a little less than half of the average at the mean income level. In contrast, market value of all food including home-produced food was down only a third.

Expenditures for all food by farm households grouped by income varied less with income than did such expenditures by urban households. But the whole level of farm expenditures was much lower, as shown by table 4.6. Here, too, there was significantly less variation in expenditures among households with incomes above the mean than below. For example, urban households with incomes per person 50 percent above the mean spent 17 percent more for food than those at the mean. But urban households whose incomes were 50 percent less than the mean spent 29 percent less for food per person than those at the selected base.

Spring 1955.--Farm households spent only about half as much as urban households, on the average. The variations are traceable to differences in home production and in eating away from home. At the mean income point, farm households spent almost 40 percent less for all food than urban households per person. Rural nonfarm expenditures were about a tenth below the urban rate.

58/ To simplify the reference, this measure will be referred to as "expenditures for all food" or "total food expenditures" without specific reference to expenditures for beverages away from home.

In general, food expenditures of urban households grouped by income varied from the average at the mean income somewhat more than did those for farm households and at quite different levels. Rural nonfarm households grouped by income differed much more than the other two urbanizations in their food expenditures. In fact, within the range of 50 percent more and less than the mean income of $1,250 per person, rural nonfarm households' food expenditures varied half as much as did their average incomes. These differences are borne out by the regression coefficients reported in section CS-II E of table 4.5 for the general relationships between variations in per person income and variations in all food expenditures for households of each urbanization grouped by income.

Detailed market value, expenditure, and quantity data for households grouped by region, urbanization, and income are available for spring 1955 for use in comparable analyses, but are not covered in this bulletin. However, figure 4.7 shows regional variations in total food expenditures per person for households grouped by income. Pertinent data are given in appendix B.

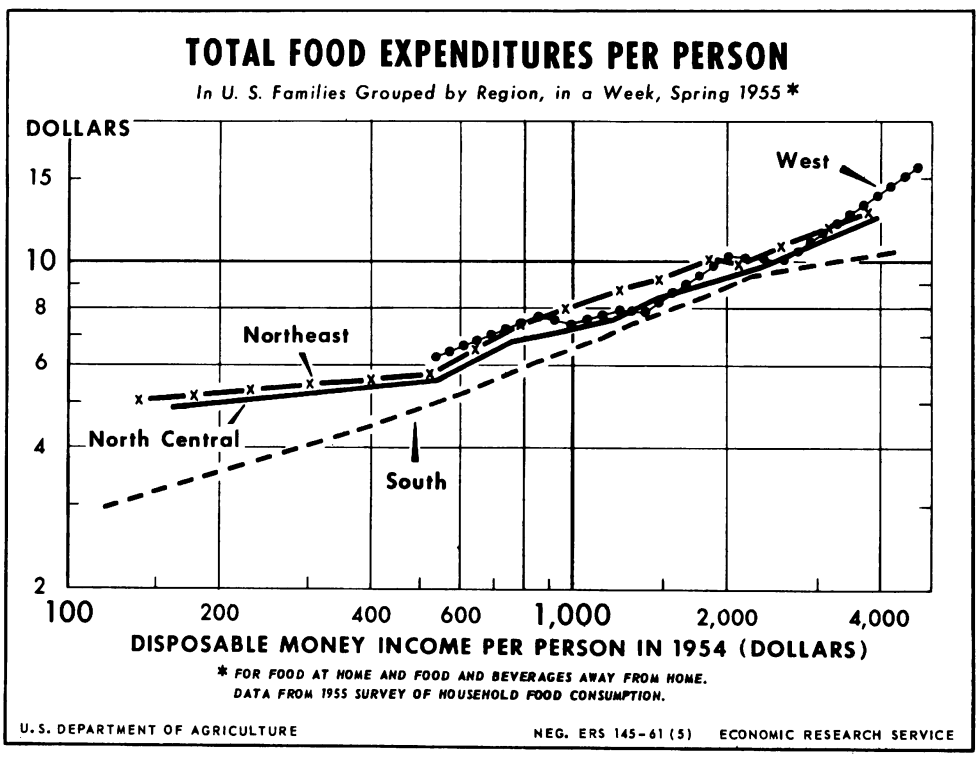

Figure 4.7

4.4.2. Changes in Expenditures for All Food

The average expenditures per person for food at home and away from home by all U. S. housekeeping households increased 27 percent from spring 1942 to spring 1955, a third more than the increase in market value of all food. The variation between the per person averages for farm and urban households was halved. The all-urbanization average for expenditures for all food at the 1954 mean income point was practically

unchanged, but it was made up of a lower rate of expenditures by urban households and a substantially higher level of expenditures by rural households. For each urbanization category, there was less variation from the average for households at the 1954 mean income in expenditures for food by all three urbanizations in 1955 than in 1942. This is reflected in figures 4.8, 4.9 and 4.10 and in the income elasticities given in section CS-II E of table 4.4. The variation in urban expenditures among households with incomes above the mean increased between the two periods. The changes in the urban variability apparently occurred between 1942 and 1948.

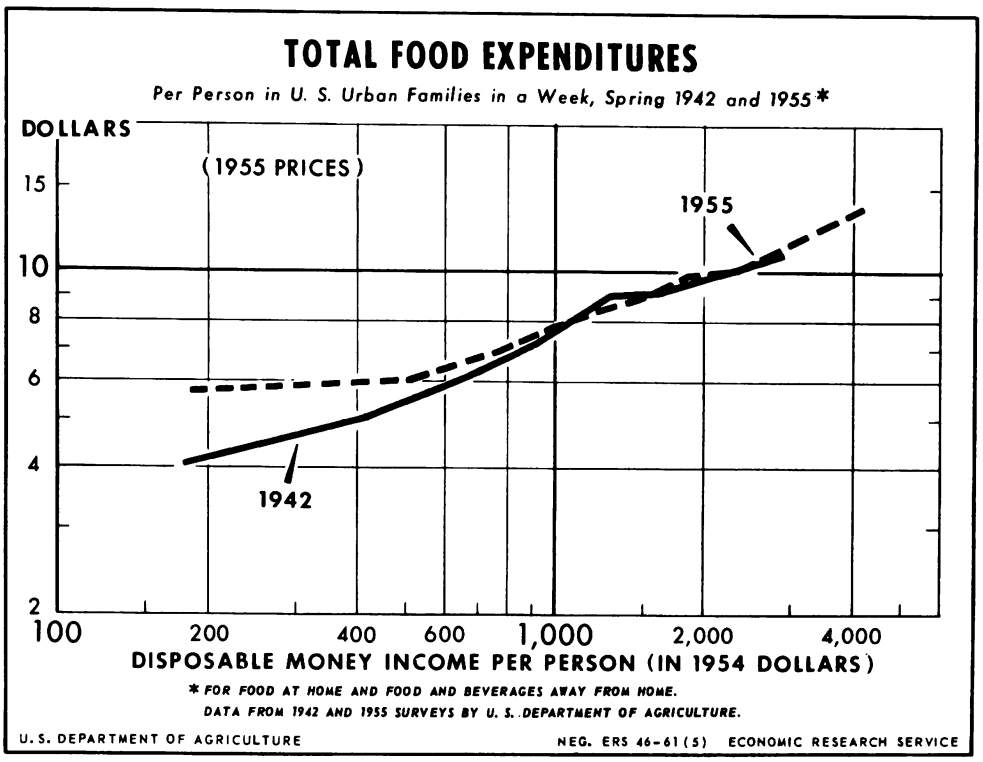

Figure 4.8

4.4.3. Expenditures for Food at Home

Spring 1942.--The data on expenditures for food at home in a week of spring 1942 were reported independently of the data on use of food during the week. Accordingly, there is a conceptual difference, but not a practical one, from the so-called "expenditure" figures for spring 1948 and 1955. For the latter two years, these data represent the value of purchased food used during the week. In spring 1942, farm households spent only about three-tenths as much for food at home as did urban households. The rural nonfarm average was about three-fifths the average per person in urban households. The variations in the Engel curves are indicated by data in section E of table 4.6.

Spring 1955.--In the spring of 1955, farm households spent only half as much per person for food at home as did urban households. But at the U. S. mean level of income, their expenditures were only one-third lower. At this income point, rural

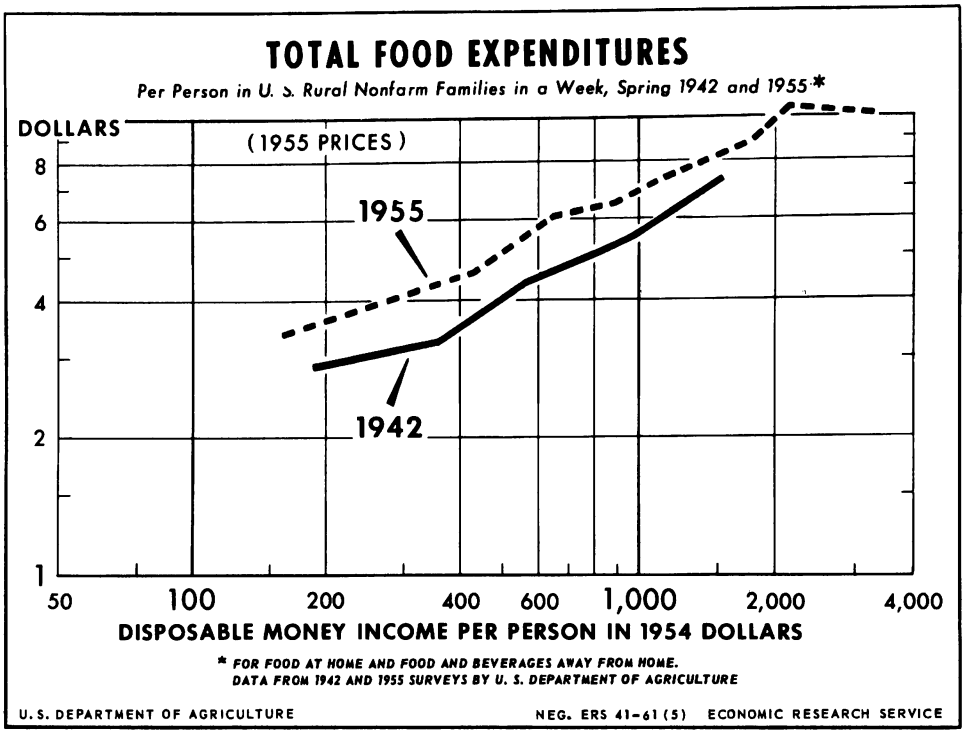

Figure 4.9

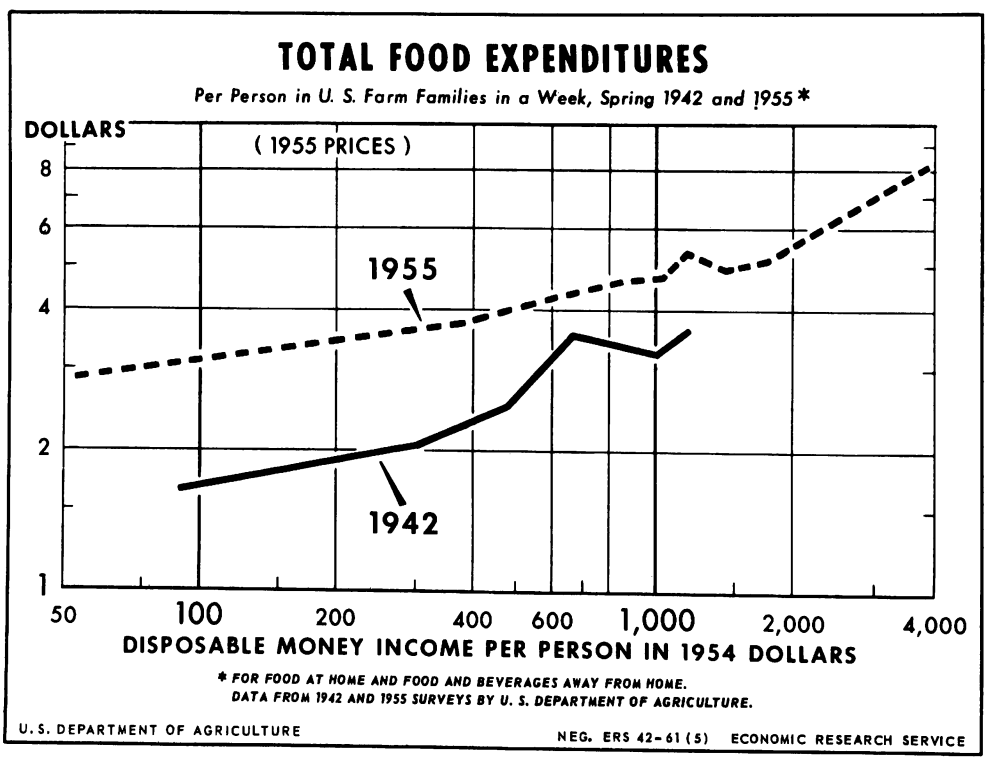

Figure 4.10

nonfarm households spent only 10 percent less than did urban households. Further details are found in section E of table 4.7.

Variations in expenditures for food at home among the three urbanizations at the 1954 mean income level were generally comparable with their variations in the quantity of purchased farm food used. 59/ In groups of all U. S. households having incomes below $1,500 per person, expenditures for food at home varied in practically the same degree as variations in the quantity of purchased farm foods used per person. Above that point, expenditures were progressively greater with variations in income than the use of purchased farm foods. Urban households grouped by income differed more in their expenditures for food at home than in the quantity of purchased farm foods used, indicating more marketing services and/or higher cost of such services. Among rural nonfarm households grouped by income, only those with disposable money incomes per person above the mean had expenditures varying more from the average at mean level than their use of purchased foods. Only the highest income groups of farm households stepped up their expenditures for marketing services more than their use for purchased foods.

4.4.4. Changes in Expenditures for Food at Home

Average expenditures for food at home by urban households changed relatively little from spring 1942 to spring 1948 and again to spring 1955. But substantial increases in the averages for farm and rural nonfarm households from 1942 to 1955 raised the all-U. S. average about a fifth. Expenditures by urban households at the 1954 mean income level were apparently lower in 1955 than those by households of comparable real income in 1942. (However, the price adjustment probably is not entirely satisfactory.) Higher levels for expenditures by rural households at that real income level offset the apparent reduction by urban households (figs. 4.5 and 4.6).

The decrease between 1942 and 1955 in the difference between average expenditures for food at home by all-U. S. households at the mean income point and averages at income levels below the mean was significant. Urban households with income above the 1954 mean differed more in their expenditures for food at home in spring 1955 than did comparable households in 1942. 60/

4.4.5. Expenditures for Food and Beverages Away From Home

Outlays for food consumed away from home differ greatly among households grouped by urbanization and income. In a week of spring 1942, such expenditure by farm households averaged only 13 cents, but the urban average per person was $1.10. Variations at the point of mean income for all urbanizations were much less than among the weighted averages for each category. Variability data in section C of table 4.6 indicate that the income elasticity of such expenditures was rather high in each urbanization.

59/ Comparison of section E of table 4.7 with section B of table 4.10.
60/ Regression equations were not calculated for this food value measure.

In spring 1955, urban households spent more than three times as much per person for food and beverages away from home as did farm households. However, at the mean income point the urban average per person was less than twice the farm average. Farm households grouped by income differed less in such expenditures than did nonfarm households, but rural nonfarm varied somewhat more than did urban.

Households in all three urbanizations increased their average expenditures for food and beverages away from home from 1942 to 1955, but the increases in the rural nonfarm and farm averages were much greater proportionately than the urban. The Engel curve for each urbanization was higher in 1955 than in 1942, with the greatest rise in the farm curve.

From 1942 to 1955 the variability of food and beverage expenditures away from home between households at the 1954 mean income point and those with lower incomes decreased in all urbanization categories. There was no major change in general variability with income for all households above the mean income point. More rural households fell in this group in 1955 than in 1942. But urban households at higher income levels stepped up their expenditures proportionately more from 1942 to 1955 than did urban households at the mean income level.

4.5. Variations in Quantities of Food Consumed at Home Among Groups of Households

Cross-section indexes of per person food consumption provide the means for summarizing variations in the quantity of farm foods used at home from all sources and purchased only and in the retail quantity of all foods, including farm and fishery products. 61/ The U. S. average of each of these indexes is its base, set equal to 100.

4.5.1. Variations in Spring 1942

Only the retail level consumption index has been calculated from 1942 data to measure cross-section variations in average quantity of all foods consumed. The urban average in spring 1942 for food consumed at home per person was 5 percent above the farm average per person and 15 percent above the rural nonfarm average. At the U. S. 1942 mean level of money income, the rural nonfarm average was only 2 percent below the urban, but the farm average was 9 percent above the urban. Here, again the relatively high level of farm food consumption reflects the substantial amount of nonmoney income in the form of home-produced food, fuel, and housing.

61/ The retail index for spring 1942 is described in MP-section 3.7.5.4 and given in MP-table 3.12. The 3 cross-section indexes for spring 1955 are discussed in section MP-3.7.5.5 and given in table MP-3.13. The following references to matching time-series indexes may be helpful:

	Cross-section	Time-series
(a) Index of per person use of farm foods, all sources, farm level	CFQ-1a	PFQ-1a
(b) Index of per person use of purchased farm foods, farm level	CFQ-1b	PFQ-1b
(c) Index of per person food consumption, retail level	CFQ-2	PFQ-2

Variation in the quantity of food consumed at home per person with variations in income are shown in table 4.9. These data and figure 4.11 show that for households in all urbanizations combined there was much more variation in quantity of food consumed below the mean income level than above it. At the point 50 percent below mean income per person, food consumption was 14 percent lower than the average at the mean; whereas, at the point 50 percent above, consumption per person in terms of quantity was up only 5 percent.

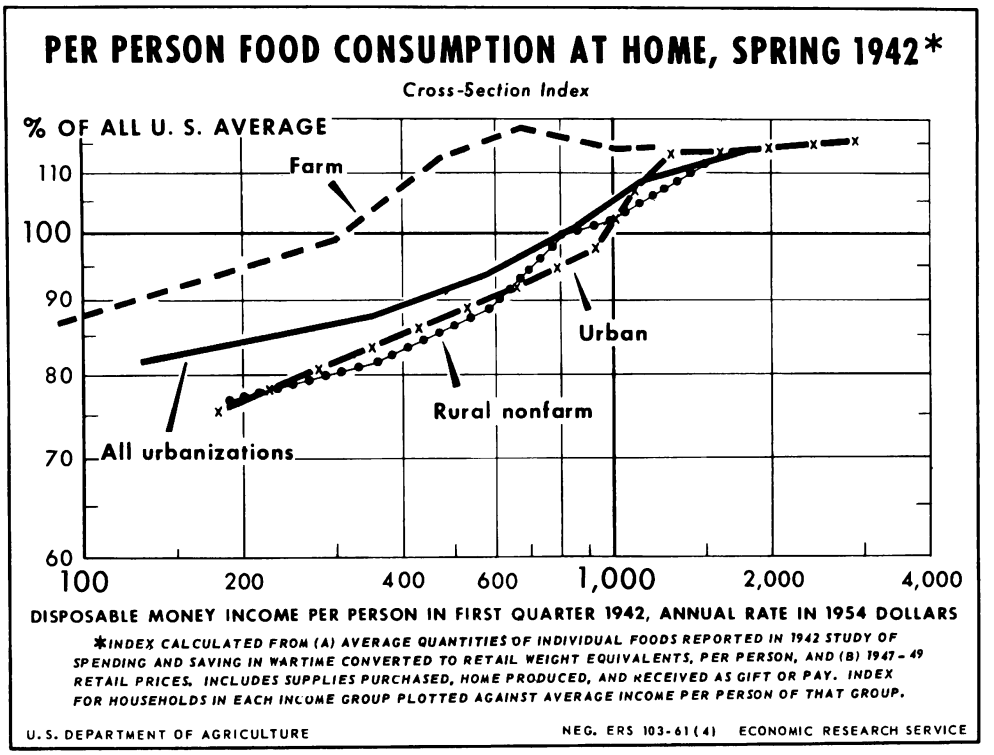

Figure 4.11

Overall patterns of food consumption by urban and by rural nonfarm households in relation to their income were similar. At the income point 75 percent below average income per person, food consumption was 23 percent below the average per person in households of the same urbanization category at the mean. There was much less variation in farm food consumption with income than for nonfarm households, especially above the $500-per-person income level. Even at very low money income levels ($100 per person in 1954 dollars), farm food consumption was only 12 percent below the all-U. S. average for food consumed at home in the spring of 1942.

4.5.2. Variations in Spring 1955

4.5.2.1. The average quantity of all farm foods used per person at home in U. S. farm households equaled that of U. S. urban households in spring 1955 (CFQ-1a). But the urban index for the retail price-weighted measure for all foods (CFQ-2) was about 3 percent above the farm average, reflecting in part their differences in use of food marketing services. The rural nonfarm average for these indexes was 4 to 5 percent lower than the all-U. S. average.

However, the index which measures variations in use of purchased farm foods gives a different picture. Farm households used only half as much purchased foods in spring 1955 as did urban households. Rural nonfarm households averaged a sixth less than urban.

4.5.2.2. Per Person Food Use, All Sources, Farm Level.--Among households with per person money income equal to the U. S. mean, farm households used about 14 percent more farm food commodities than did urban households (table 4.10). Rural nonfarm households also slightly exceeded average use by urban households. As noted in the discussion of 1942 food variations, this differential reflects both the contribution of home-produced foods and the fact that money incomes are not a satisfactory measure of economic status of farm households in comparison with nonfarm households. Many farm families have a substantial amount of nonmoney income. Also, they are subject to greater year-to-year variations in money income.

In spring 1955 those U. S. households with income per person about 50 percent below the mean level of disposable money income per person used only 8 percent less farm-produced food than the average for households at the mean level of income. The same degree of variation in food use with income was found among households 50 percent above the mean in terms of income. But among households with incomes three times as large as the average per person, food use was up only 16 percent from the average for households at the mean. Food use varies much more with money income among nonfarm households than among farm households.

Income-food relationships derived from linear regressions of logarithms of this and other structural indexes measuring food consumption by U. S. households in spring 1955 and disposable money income per person for each group of households are given in table 4.4. Tests of the relationships between income and the use of farm foods from all sources for the three separate urbanization categories indicate that the income elasticity for rural nonfarm households was significantly higher than the urban, and that for farm households significantly lower. 62/

Discussion of regional variations indicated by cross-section data for the four regions is omitted, but data are given in appendix B.

4.5.2.3. Food Consumption Per Person, Retail Level.--At the mean level of money income farm households consumed only about 6 percent more food per person than urban households in terms of this retail price-weighted index. This index takes commercial processing services and some of the other farm-to-retail marketing services into account by means of the retail prices used 63/ along with farm resources in the form of farm food commodities. Therefore, the differential between farm and urban averages indicated by the farm food index (CFQ-1a) is halved.

Among households of all urbanization categories grouped by income, the average amounts of food consumed by those below mean income differed more than did the averages for households with incomes above the mean (table 4.10). Moreover, their consumption of food plus farm-to-retail food services varied more than did their use of food per se. 64/ Here, too, nonfarm households showed greater variation in food consumption with money income than did farm households (fig. 4.12).

62/ The Fisher "t" test was used.

63/ But the same retail prices are used for home-produced as for purchased farm foods.

64/ Indicated by comparison of the variations under A 1 with those for C 1 in table 4.10.

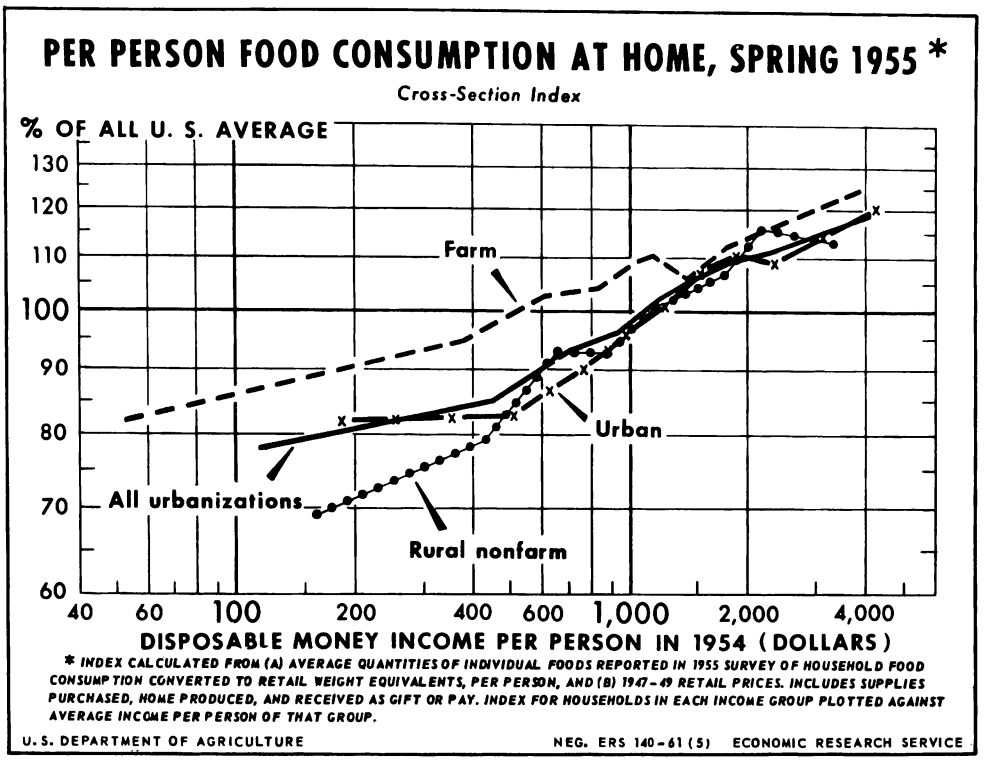

Figure 4.12

The income elasticities of consumption measured by this index were practically identical with those for the all-farm-food measure for all U. S. households and for each of the 3 urbanization categories (indicated by the regression coefficient in CS-I A and C in table 4.4). However, the elasticities varied from one category to another. The urban and rural nonfarm income elasticities differed less significantly for the food consumption index measured at the retail level than for the index of per person use of farm foods from all sources, measured at the farm level.

4.5.2.4. Per Person Use of Purchased Farm Foods, Farm Level.--Rural nonfarm households with approximately the same money income per person as the U. S. average used about 5 percent less purchased farm foods than did urban households, but half again as much as did farm households at that money income level. The impact of home production on purchases of food was much greater among households with less than mean income per person than among those with higher income. Rural families make up a larger proportion of all families in the lower money income groups.

For households of all urbanizations with average money income approximately 50 percent below the $1,250 mean, use of farm foods from all sources was only 8 percent less than use by households at the mean income level, but use of purchased farm foods was 20 percent less. On the other hand, at the income point 50 percent above mean income per person, use of all farm foods and use of purchased foods only were both 8 percent above the average at the mean income level.

Farm households in the group with money income per family over $10,000 used about as much purchased farm food per person as urban households with incomes below $1,000. Most farm households used substantially less purchased food. But table 4.10

shows that farm households at all levels of money income used substantially more farm foods, including home produced foods, than did nonfarm households of comparable money income per person.

The relationship to income of the index for purchased foods measured at the farm level differed from those for the two indexes which include home-produced supplies. The use of purchased farm commodities rose significantly more with income for successively higher classes for (1) all urbanizations combined, (2) rural nonfarm, and (3) farm households than the other two measures. The urban coefficients for the three measures with income were not significantly different because home production is only a minor source of food for urban households. In the case of the purchased farm food index, the rural nonfarm income elasticity was even higher than the urban. Differences in levels of food purchased by households in the three urbanizations tilted the regression line for all urbanizations combined. Proportionately more farm households have low money incomes and low average purchases of farm foods, whereas the opposite is true for urban households, thus increasing the elasticity. This phenomenon is comparable in some respects to that observed when the prewar and postwar sets of time-series data for income and purchased food are combined. Apparently, the more people differ in economic characteristics other than income, the more their food consumption rates tend to vary with income.

Purchases of farm foods varied more among rural nonfarm households grouped by income than was the case for farm or urban households. This probably reflects the fact that low-income rural nonfarm households are more similar to farm households in their food producing and buying patterns; whereas, higher income rural nonfarm households are more likely to be suburbanites and tend to buy food as urban households do.

4.5.3. Changes in Quantity of Food at Home, Spring 1942 and Spring 1955

From comparison of the cross-section indexes for the quantity of food consumed at home per person in spring 1942 and in spring 1955, these findings have been developed:

The indexes of per person food consumption for spring 1942 and for spring 1955 have the all-U. S. averages for their bases, as explained in MP-sections 3.7.5.4 and 5. Because they were both computed using 1947-49 average retail prices from the time-series index of per capita food consumption at the retail level, they can be related.65/

65/ The value aggregates for 1942 were computed from the data given in Misc. Pub. 550 (41) and 1947-49 average retail prices. The 1942 survey data for meat and poultry consumption at home appeared to be somewhat low, though the Engel curves were internally consistent. Comparison of quantity and value data from the two surveys led to the conclusion that the average quantity of all food consumed per person in households in spring 1942 was probably about 85 percent of the 1955 average. This represents a much larger difference between the two sets of survey data for the U. S. average quantity of food consumed at home than the differential in the time-series data. However, the differential in time-series data measures differences in total food consumption per capita of the whole civilian population at home and away from home between the calendar year 1942 and calendar year 1955. Possibly food consumption at home in the spring of 1942 was significantly below the annual average for all food consumed per capita in the year because of short supplies and a disproportionate number of children among the civilian population eating at home. Starting from the premise that the 1942 all-U. S. average consumption was 85 percent of the 1955 all-U. S. average, the index numbers for 1942 given in MP-table 3.12 were converted to a 1955 base for these comparisons.

Comparison of the results shows that a substantial increase in average food consumption occurred between 1942 and 1955 for each urbanization category. The weighted averages for the three urbanization categories varied less from one to another in 1955 than they had in 1942.

At the 1954 mean income level, the range of variations among the urbanizations was about the same. The rural nonfarm average was equal to the urban in 1955; it had been lower in 1942. Farm households at the 1954 mean income level consumed significantly more food than did nonfarm households in both years.

In general, the degree of variation in food consumption among households below the mean income of 1954 from the average for households at the mean decreased. For urban households the decrease in the variation in food consumption by households below the mean was substantial and so was the increase in variation from the average at the mean level of income for those with incomes above the mean. For rural nonfarm and farm households, there was only a slight change in variations in the quantity of food consumed among households having less than 1954 mean income from the average rate at that point. 66/ Only a small proportion of farm and rural nonfarm households had per person money incomes above $1,250 in 1942 (in 1955 dollars) so comparisons cannot be made for that sector.

4.6. Summary of Changes From 1942 to 1955 in Food Consumption by Household Groups

Average consumption of all food per person in urban, rural nonfarm, and farm households was substantially higher in spring 1955 than in spring 1942. The rural nonfarm increase was the greatest. The material reduction in differences in food consumption and expenditures among the urbanizations was partly due to changes in income. Also important was the change in food consumed by households at the same real money income levels. These are reflected in the changes in the levels of the Engel curves for the several quantity and value measures described above and the decreasing elasticity with income measured by the regression coefficients in table 4.4.

In 1955 there was much less difference in market value and expenditures for food at home and away from home for all urbanizations between lower income households and those of average income than was the case in 1942. The differentials between the market value and expenditures for food by higher income households and those at the 1954 mean income point increased substantially between 1942 and 1955. This change indicates the possibility of further changes in the future.

Description of commodity changes in the consumption of food by population groups is generally outside the scope of this bulletin. But households in each urbanization category, and at most income levels, increased their use of meat and poultry and commercially processed foods between 1942 and 1955. Also, they shifted much of their consumption from butter and lard to margarine and shortening.

66/ This finding differs from that for the market value of food at home reported in 4.3.4.2. The possible reasons for the difference merit further analysis.

Table 4.6.--Variability of market value and expenditure measures for food used in a week of spring 1942 with average disposable money income first quarter 1942, based on 1942 mean income, averages per person, by urbanization 1/

(In spring 1955 dollars 2/)

Item	Unit	Below mean income				At 1942 mean income, $1,038	Above mean income		
		-90%	-75%	-50%	-25%		+25%	+50%	+100%
Sec. A.- Market value of food at home and away 3/									
All urbanizations									
Market value	Dol.	---	4.95	5.80	6.70	7.60	8.25	8.70	10.00
Variation	Pct.	---	-35%	-24%	-12%	0	+9%	+14%	+32%
Urban									
Market value	Dol.	---	4.95	5.85	6.80	7.70	9.05	9.00	9.70
Variation	Pct.	---	-36%	-24%	-12%	0	+18%	+17%	+26%
Rural nonfarm									
Market value	Dol.	---	4.40	5.20	6.20	6.70	7.40	---	---
Variation	Pct.	---	-34%	-22%	-7%	0	+10%	---	---
Farm									
Market value	Dol.	4.70	5.40	6.75	7.20	7.35	---	---	---
Variation	Pct.	-36%	-27%	-8%	-2%	0	---	---	---
Sec. B.- Expenditures, at home and away 3/									
All urbanizations									
Expenditures	Dol.	---	3.30	4.65	5.90	7.15	7.95	8.45	10.00
Variation	Pct.	---	-54%	-35%	-17%	0	+11%	+18%	+40%
Urban									
Expenditures	Dol.	---	4.45	5.55	6.65	7.80	9.10	9.10	9.85
Variation	Pct.	---	-43%	-29%	-15%	0	+17%	+17%	+26%
Rural nonfarm									
Expenditures	Dol.	---	3.05	4.15	5.00	5.75	6.55	---	---
Variation	Pct.	---	-47%	-28%	-13%	0	+14%	---	---
Farm									
Expenditures	Dol.	1.67	2.00	2.70	3.45	3.30	---	---	---
Variation	Pct.	-49%	-39%	-18%	+5%	0	---	---	---
Sec. C.- Expenditures for food away from home 3/									
All urbanizations									
Expenditures	Dol.	---	.14	.33	.56	.83	1.08	1.30	2.00
Variation	Pct.	---	-83%	-60%	-33%	0	+30%	+57%	+141%
Urban									
Expenditures	Dol.	---	.20	.37	.67	.85	1.45	1.45	1.85
Variation	Pct.	---	-76%	-56%	-21%	0	+71%	+71%	+118%
Rural nonfarm									
Expenditures	Dol.	---	.08	.24	.46	.53	.76	---	---
Variation	Pct.	---	-85%	-55%	-13%	0	+43%	---	---
Farm									
Expenditures	Dol.	.02	.08	.13	.28	.39	---	---	---
Variation	Pct.	-95%	-79%	-67%	-28%	0	---	---	---

Continued -

Table 4.6.--Variability of market value and expenditure measures for food used in a week of spring 1942 with average disposable money income first quarter 1942, based on 1942 mean income, averages per person, by urbanization 1/ -Continued

(In spring 1955 dollars 2/)

Item	Unit	Below mean income				At 1942 mean income, $1,038	Above mean income		
		-90%	-75%	-50%	-25%		+25%	+50%	+100%
Sec. D.- Market value of food at home									
All urbanizations									
Market value	Dol.	---	4.80	5.50	6.15	6.80	7.20	7.45	7.90
Variation	Pct.	---	-29%	-19%	-10%	0	+6%	+10%	+16%
Urban									
Market value	Dol.	---	4.75	5.45	6.10	6.85	7.55	7.55	7.80
Variation	Pct.	---	-31%	-20%	-11%	0	+10%	+10%	+14%
Rural nonfarm									
Market value	Dol.	---	4.30	4.95	5.75	6.15	6.60	---	---
Variation	Pct.	---	-30%	-20%	-7%	0	+7%	---	---
Farm									
Market value	Dol.	4.70	5.30	6.60	6.90	6.95	---	---	---
Variation	Pct.	-32%	-24%	-5%	-1%	0	---	---	---
Sec. E.- Expenditures for food at home									
All urbanizations									
Expenditures	Dol.	---	3.10	4.30	5.30	6.30	6.85	7.10	7.85
Variation	Pct.	---	-51%	-32%	-16%	0	+9	+13%	+25%
Urban									
Expenditures	Dol.	---	4.25	5.20	6.00	6.95	7.65	7.65	8.00
Variation	Pct.	---	-39%	-25%	-14%	0	+10%	+10%	+15%
Rural nonfarm									
Expenditures	Dol.	---	2.95	3.90	4.60	5.20	5.75	---	---
Variation	Pct.	---	-43%	-25%	-12%	0	+11%	---	---
Farm									
Expenditures	Dol.	1.65	1.90	2.55	3.20	2.85	---	---	---
Variation	Pct.	-42%	-33%	-11%	+12%	0	---	---	---
Sec. F.- Market value of home-produced food									
All urbanizations									
Market value	Dol.	---	4/	4/	4/	4/	4/	4/	4/
Variation	Pct.								
Urban									
Market value	Dol.	---	4/	4/	4/	4/	4/	4/	4/
Variation	Pct.								
Rural nonfarm									
Market value	Dol.	---	1.22	1.02	1.20	1.05	.82	---	---
Variation	Pct.	---	+16%	-3%	+14%	0	-22%	---	---
Farm									
Market value	Dol.	3.05	3.40	3.90	3.75	4.20	---	---	---
Variation	Pct.	-27%	-19%	-7%	-11%	0	---	---	---

1/ Basic data from reports on Study of Family Spending and Saving in Wartime, adjusted to achieve comparability with spring 1955 data. See MP-table 3.14. Includes single person households. Value figures for the several income points have been read from charts so they are not precise. See MP-text section 4.2.3 for description of methodology. 2/ Disposable money income per person in first quarter 1942 at annual rate converted to 1954 dollars using change in the Consumer Price Index; food value data converted to spring 1955 dollars using change in Retail Food Price Index from April-May 1942 to April-June 1955. 3/ Includes alcoholic beverages away from home. 4/ Not available.

Table 4.7.- Variability of market value and expenditure measures for foods used in a week of spring 1955 with average disposable money income in 1954, based on 1954 mean income, averages per person, by urbanization 1/

Item	Unit	Below mean income				At 1954 mean income, $1,250	Above mean income			
		-90%	-75%	-50%	-25%		+25%	+50%	+100%	+200%
Sec. A.- Market value of food at home and away 2/										
All urbanizations										
Market value	Dol.	5.45	6.00	6.85	7.65	8.45	9.20	9.90	10.75	12.90
Variation	Pct.	-36%	-29%	-19%	-9%	0	+9%	+17%	+27%	+53%
Urban										
Market value	Dol.	---	6.25	6.70	7.80	8.75	9.45	10.25	10.50	13.00
Variation	Pct.	---	-29%	-23%	-11%	0	+8%	+17%	+20%	+49%
Rural nonfarm										
Market value	Dol.	---	5.30	6.80	7.35	8.10	8.85	9.75	10.75	---
Variation	Pct.	---	-35%	-16%	-9%	0	+9%	+20%	+33%	---
Farm										
Market value	Dol.	5.80	6.55	7.35	7.55	7.80	7.85	8.30	9.20	10.55
Variation	Pct.	-26%	-16%	-6%	-3%	0	+1%	+6%	+18%	+35%
Sec. B.- Expenditures at home and away 3/										
All urbanizations										
Expenditures	Dol.	3.70	4.55	5.85	7.05	7.90	8.75	9.35	10.25	12.40
Variation	Pct.	-53%	-42%	-26%	-11%	0	+11%	+18%	+30%	+57%
Urban										
Expenditures	Dol.	---	5.90	6.45	7.65	8.50	9.20	9.95	10.40	12.85
Variation	Pct.	---	-31%	-24%	-10%	0	+8%	+17%	+22%	+51%
Rural nonfarm										
Expenditures	Dol.	---	4.15	5.90	6.65	7.50	8.35	9.25	10.35	---
Variation	Pct.	---	-45%	-21%	-11%	0	+11%	+23%	+38%	---
Farm										
Expenditures	Dol.	3.00	3.60	4.35	4.70	5.20	5.05	5.35	6.35	7.95
Variation	Pct.	-42%	-31%	-16%	-10%	0	-3%	+3%	+22%	+53%
Sec. C.- Expenditures for food away from home 3/										
All urbanizations										
Expenditures	Dol.	.30	.45	.75	1.02	1.30	1.60	2.05	2.55	3.70
Variation	Pct.	-77%	-65%	-42%	-22%	0	+23%	+58%	+96%	+185%
Urban										
Expenditures	Dol.	---	.72	.85	1.10	1.50	1.60	2.25	2.55	3.80
Variation	Pct.	---	-52%	-43%	-27%	0	+7%	+50%	+70%	+153%
Rural nonfarm										
Expenditures	Dol.	---	.28	.80	.90	1.15	1.50	1.80	2.80	---
Variation	Pct.	---	-76%	-30%	-22%	0	+30%	+57%	+143%	---
Farm										
Expenditures	Dol.	.26	.29	.54	.67	.84	.83	1.00	1.22	1.62
Variation	Pct.	-29%	-69%	-36%	-20%	0	-1%	+19%	+45%	+93%

Table 4.7.- Variability of market value and expenditure measures for foods used in a week of spring 1955 with average disposable money income in 1954, based on 1954 mean income, averages per person, by urbanization 1/ -Continued

Item	Unit	Below mean income				At 1954 mean income, $1,250	Above mean income			
		-90%	-75%	-50%	-25%		+25%	+50%	+100%	+200%
Sec. D.- Market value of food at home 2/										
All urbanizations										
Market value	Dol.	5.20	5.55	6.15	6.65	7.15	7.60	7.85	8.10	9.10
Variation	Pct.	-27%	-22%	-14%	-7%	0	+6%	+10%	+13%	+27%
Urban										
Market value	Dol.	---	5.50	5.90	6.75	7.20	7.80	7.95	8.00	9.25
Variation	Pct.	---	-24%	-18%	-6%	0	+8%	+10%	+11%	+28%
Rural farm										
Market value	Dol.	---	5.10	6.05	6.45	6.90	7.35	7.85	8.05	---
Variation	Pct.	---	-26%	-12%	-7%	0	+7%	+14%	+17%	---
Farm										
Market value	Dol.	5.60	6.30	6.80	6.85	7.00	7.05	7.35	7.95	8.85
Variation	Pct.	-20%	-10%	-3%	-2%	0	+1%	+5%	+14%	+26%
Sec. E.- Expenditures for food at home										
All urbanizations										
Expenditures	Dol.	3.40	4.10	5.15	6.05	6.65	7.15	7.35	7.70	8.70
Variation	Pct.	-49%	-38%	-23%	-9%	0	+8%	+11%	+16%	+31%
Urban										
Expenditures	Dol.	---	5.15	5.60	6.55	6.95	7.65	7.70	7.85	9.00
Variation	Pct.	---	-26%	-19%	-6%	0	+10%	+11%	+13%	+29%
Rural nonfarm										
Expenditures	Dol.	---	3.85	5.10	5.70	6.30	6.85	7.40	7.55	---
Variation	Pct.	---	-39%	-19%	-10%	0	+9%	+17%	+20%	---
Farm										
Expenditures	Dol.	2.75	3.30	3.80	4.00	4.35	4.20	4.35	5.05	6.35
Variation	Pct.	-37%	-24%	-13%	-8%	0	-3%	0	+16%	+46%
Sec. F.- Market value of home-produced food										
All urbanizations										
Market value	Dol.	1.45	1.10	.74	.47	.35	.34	.34	.30	.25
Variation	Pct.	+314%	+214%	+111%	+34%	0	-3%	-3%	-14%	-29%
Urban										
Market value	Dol.	---	4/	4/	4/	4/	4/	4/	4/	4/
Variation	Pct.	---								
Rural nonfarm										
Market value	Dol.	---	.74	.56	.48	.39	.40	.38	.30	---
Variation	Pct.	---	+90%	+44%	+23%	0	+3%	-3%	-23%	---
Farm										
Market value	Dol.	2.60	2.75	2.80	2.65	2.45	2.70	2.85	2.60	2.25
Variation	Pct.	+6%	+12%	+14%	+8%	0	+10%	+16%	+6%	-8%

1/ Based on data from the 1955 Household Food Consumption Survey given in MP-table 3.16. Except where noted, excludes alcoholic beverages. Value data for the several income points have been read from charts so they are not precise. See MP-text section 4.2.3 for description of methodology.

2/ Includes food received as gift or pay as well as purchased and home produced.

3/ Includes expenditures for alcoholic beverages away from home.

4/ Negligible.

Table 4.8.--Variability of market value and expenditure measures for food used at home in a week of spring 1942 with average disposable money income in first quarter 1942, based on 1954 mean income, averages per person, by urbanization 1/

(In spring 1955 and 1954 dollars 2/)

Item	Unit	Below mean income				At 1954 mean income, $1,250	Above mean income		
		-90%	-75%	-50%	-25%		+25%	+50%	+100%
Sec. A.- Market value of food at home and away 3/									
All urbanizations									
Market value	Dol.	---	5.05	6.20	7.25	8.10	8.70	9.55	---
Variation	Pct.	---	-38%	-23%	-10%	0	+7%	+18%	---
Urban									
Market value	Dol.	---	5.10	6.30	7.20	8.80	9.00	9.40	10.35
Variation	Pct.	---	-42%	-28%	-18%	0	+2%	+7%	+18%
Rural nonfarm									
Market value	Dol.	---	4.50	5.60	6.45	7.25	---	---	---
Variation	Pct.	---	-38%	-23%	-11%	0	---	---	---
Farm									
Market value	Dol.	4.85	5.60	7.00	7.30	4/7.40	---	---	---
Variation	Pct.	-34%	-24%	-5%	-1%	0	---	---	---
Sec. B.- Expenditures at home and away 3/									
All urbanizations									
Expenditures	Dol.	---	3.55	5.15	6.65	7.85	8.45	9.40	---
Variation	Pct.	---	-55%	-34%	-15%	0	+8%	+20%	---
Urban									
Expenditures	Dol.	---	4.70	6.00	7.30	8.85	9.10	9.55	10.40
Variation	Pct.	---	-47%	-32%	-18%	0	+3%	+8%	+18%
Rural nonfarm									
Expenditures	Dol.	---	3.20	4.55	5.40	6.35	---	---	---
Variation	Pct.	---	-50%	-28%	-15%	0	---	---	---
Farm									
Expenditures	Dol.	1.73	2.08	3.22	3.30	4/3.50	---	---	---
Variation	Pct.	-51%	-41%	-8%	-6%	0	---	---	---
Sec. C.- Expenditures for food away from home 3/									
All urbanizations									
Expenditures	Dol.	---	.15	.43	.70	1.04	1.30	1.75	---
Variation	Pct.	---	-86%	-59%	-33%	0	+25%	+68%	---
Urban									
Expenditures	Dol.	---	.21	.54	.77	1.30	1.45	1.70	2.20
Variation	Pct.	---	-84%	-58%	-41%	0	+12%	+31%	+69%
Rural nonfarm									
Expenditures	Dol.	---	.10	.31	.48	.70	---	---	---
Variation	Pct.	---	-86%	-56%	-31%	0	---	---	---
Farm									
Expenditures	Dol.	.05	.09	.19	.36	4/.35	---	---	---
Variation	Pct.	-86%	-74%	-46%	+3%	0	---	---	---

Continued -

Table 4.8.--Variability of market value and expenditure measures for food used at home in a week of spring 1942 with average disposable money income in first quarter 1942, based on 1954 mean income, averages per person, by urbanization 1/ -Continued

(In spring 1955 and 1954 dollars 2/)

Item	Unit	Below mean income				At 1954 mean income, $1,250	Above mean income		
		-90%	-75%	-50%	-25%		+25%	+50%	+100%
Sec. D.- Market value of food at home									
All urbanizations									
Market value	Dol.	---	4.90	5.80	6.50	7.10	7.45	7.75	---
Variation	Pct.	---	-31%	-18%	-8%	0	+5%	+9%	---
Urban									
Market value	Dol.	---	4.90	5.75	6.50	7.45	7.55	7.70	8.10
Variation	Pct.	---	-34%	-23%	-13%	0	+1%	+3%	+9%
Rural nonfarm									
Market value	Dol.	---	4.35	5.25	6.00	6.50	---	---	---
Variation	Pct.	---	-33%	-19%	-8%	0	---	---	---
Farm									
Market value	Dol.	4.80	5.50	6.80	6.95	4/7.05	---	---	---
Variation	Pct.	-32%	-22%	-4%	-1%	0	---	---	---
Sec. E.- Expenditures for food at home									
All urbanizations									
Expenditures	Dol.	---	3.40	4.70	5.90	6.75	7.10	7.60	---
Variation	Pct.	---	-50%	-30%	-13%	0	+5%	+13%	---
Urban									
Expenditures	Dol.	---	4.50	5.50	6.55	7.50	7.65	7.85	8.25
Variation	Pct.	---	-40%	-27%	-13%	0	+2%	+5%	+10%
Rural nonfarm									
Expenditures	Dol.	---	3.05	4.25	4.95	5.65	---	---	---
Variation	Pct.	---	-46%	-25%	-12%	0	---	---	---
Farm									
Expenditures	Dol.	1.68	1.98	3.05	2.95	4/3.15	---	---	---
Variation	Pct.	-47%	-37%	-3%	-6%	0	---	---	---
Sec. F.- Market value of home-produced food									
All urbanizations									
Market value	Dol.	---	5/	5/	5/	5/	5/	5/	---
Variation	Pct.								
Urban									
Market value	Dol.	---	5/	5/	5/	5/	5/	5/	5/
Variation	Pct.								
Rural nonfarm									
Market value	Dol.	---	1.20	1.05	1.12	.85	---	---	---
Variation	Pct.	---	+41%	+24%	+32%	0	---	---	---
Farm									
Market value	Dol.	3.10	3.50	3.65	4.10	4/3.80	---	---	---
Variation	Pct.	-18%	-8%	-4%	+8%	0	---	---	---

1/ Differs from table 4.6 because of shift to 1954 mean income base. Basic data from reports on Study of Family Spending and Saving in Wartime, adjusted to achieve comparability with spring 1955 data. See MP-table 3.14. Includes single person households. Value figures for the several income points have been read from charts so they are not precise. See MP-text section 4.2.3 for description of methodology. 2/ Disposable money income per person in first quarter 1942 at annual rate converted to 1954 dollars using change in the Consumer Price Index; food value data converted to spring 1955 dollars using change in Retail Food Price Index from April-May 1942 to April-June 1955. 3/ Includes alcoholic beverages away from home. 4/ Approximated on basis of nearby observation. 5/ Not available.

Table 4.9.--Variability of the quantity measure of food consumption at the retail level in a week of spring 1942 with average disposable money income in first quarter 1942, based on 1942 mean income and 1954 mean income, averages per person, by urbanization 1/

Urbanization	Below mean income				At 1942 mean disposable money income level, $1,038 2/	Above mean income		
	-90%	-75%	-50%	-25%		+25%	+50%	+100%
	(Index: U. S. average consumption in spring 1942=100)							
A. Based on 1942 mean income								
United States								
Consumption index	---	85.5	92.0	99.5	106.5	110.0	112.0	---
Variation 3/	---	-20%	-14%	-7%	0	+3%	+5%	---
Urban								
Consumption index	---	80.0	88.5	95.0	104.5	113.5	114.5	115.0
Variation 3/	---	-23%	-15%	-9%	0	+8%	+10%	+10%
Rural nonfarm								
Consumption index	---	79.0	87.0	98.0	102.5	107.5	---	---
Variation 3/	---	-23%	-15%	-4%	0	+5%	---	---
Farm								
Consumption index	88.0	97.5	114.0	116.0	114.0	---	---	---
Variation 3/	-23%	-14%	0	+2%	0	---	---	---
	Below mean income				At 1954 mean money income level, $1,250	Above mean income		
	-90%	-75%	-50%	-25%		+25%	+50%	+100%
	(Index: U. S. average consumption in spring 1955=100)							
B. Based on 1954 mean income								
United States								
Consumption index	---	74.0	80.8	88.0	93.5	95.2	---	---
Variation 3/	---	-21%	-14%	-6%	0	+2%	---	---
Urban								
Consumption index	---	69.7	77.4	84.2	95.2	97.3	97.3	98.2
Variation 3/	---	-27%	-19%	-12%	0	+2%	+2%	+3%
Rural nonfarm								
Consumption index	---	68.4	77.8	85.8	91.0	4/95	---	---
Variation 3/	---	-25%	-14%	-6%	0	+5%	---	---
Farm								
Consumption index	76.5	85.0	99.4	97.3	4/98	---	---	---
Variation 3/	-22%	-13%	+2%	0	0	---	---	---

1/ Index of per person food consumption (CFQ-2) derived from (a) quantities of food used per household as reported in Misc. Pub. 550, Family Food Consumption in the United States (41) adjusted to terms of primary foods as sold in grocery stores, and (b) multiplied by average 1947-49 retail prices used in time-series index. MP-appendix D provides a description of indexes. The figures for the several income points have been read from charts so they are not precise. MP-text section 4.2.3 describes the methodology.

2/ In 1954 dollars.

3/ Variation from average quantity consumed at the mean money income level.

4/ Approximated from nearby observation.

Table 4.10.--Variability of the quantity measures of U. S. food use and consumption, at farm and retail levels, in a week of spring 1955, with average disposable money income in 1954, based on 1954 mean income, averages per person, by urbanization 1/

(Index: U. S. average consumption in spring 1955=100)

Item	Below mean income				At 1954 mean disposable money income level, $1,250	Above mean income			
	-90%	-75%	-50%	-25%		+25%	+50%	+100%	+200%
A.- Per person food use (farm level) -- all sources (CFQ-1a)									
1. All urbanizations									
Index of food use	80.0	85.0	92.0	95.5	100.0	106.0	108.0	110.0	116.5
Variation 2/	-20%	-15%	-8%	-4%	0	+6%	+8%	+10%	+16%
2. Urban									
Index of food use	---	84.0	87.5	94.5	98.0	105.5	110.0	108.0	116.0
Variation 2/	---	-14%	-11%	-4%	0	+8%	+12%	+10%	+18%
3. Rural nonfarm									
Index of food use	---	76.5	92.5	95.0	100.0	105.5	110.0	113.0	---
Variation 2/	---	-24%	-8%	-5%	0	+6%	+10%	+13%	---
4. Farm									
Index of food use	91.0	96.0	104.5	108.0	112.0	111.0	114.0	118.0	124.0
Variation 2/	-19%	-14%	-7%	-4%	0	-1%	+2%	+5%	+11%
B.- Per person food use (farm level) -- purchased (CFQ-1b)									
1. All urbanizations									
Index of food use	58.5	70.0	86.0	97.5	107.0	113.5	116.0	117.5	125.5
Variation 2/	-45%	-35%	-20%	-9%	0	+6%	+8%	+10%	+17%
2. Urban									
Index of food use	---	91.0	96.5	105.0	111.5	118.5	122.0	121.5	128.5
Variation 2/	---	-18%	-13%	-6%	0	+6%	+9%	+9%	+15%
3. Rural nonfarm									
Index of food use	---	67.5	88.0	95.5	105.5	110.0	115.0	120.0	---
Variation 2/	---	-36%	-17%	-9%	0	+4%	+9%	+14%	---
4. Farm									
Index of food use	47.0	51.5	58.5	62.0	68.5	63.5	63.5	72.5	87.5
Variation 2/	-31%	-25%	-15%	-9%	0	-7%	-7%	+6%	+28%
C.- Per person consumption (retail level) -- (CFQ-2)									
1. All urbanizations									
Index of food consumption	78.0	83.0	91.0	96.5	102.5	107.0	110.0	112.5	117.5
Variation 2/	-24%	-19%	-11%	-6%	0	+4%	+7%	+10%	+15%
2. Urban									
Index of food consumption	---	82.5	86.5	95.0	101.5	107.5	110.0	110.0	117.5
Variation 2/	---	-19%	-15%	-6%	0	+6%	+8%	+8%	+16%
3. Rural nonfarm									
Index of food consumption	---	75.5	91.5	94.5	101.5	105.0	109.5	114.5	---
Variation 2/	---	-26%	-10%	-7%	0	+3%	+8%	+13%	---
4. Farm									
Index of food consumption	87.0	94.0	102.0	106.0	108.0	109.0	112.5	117.0	124.0
Variation 2/	-19%	-13%	-6%	-2%	0	+1%	+4%	+8%	+15%

1/ Based on data in MP-table 3.13. Description of indexes given in text, MP-sec. 3.7.5.5, and MP-appendix D. The figures for the several income points have been read from charts so they are not precise. See MP-sec. 4.2.3 for description of methodology.

2/ Variation from quantities consumed at the mean money income level.

Chapter 5. VARIATIONS IN USE OF MARKETING SERVICES

Marketing services are an integral part of food purchases made by consumers, but to describe and study many of the variations in U. S. food consumption, marketing services have to be separated from food per se.

To do this, one must understand the meaning of "marketing services." Following the practice of most agricultural economists--particularly those in the U. S. Department of Agriculture who work in its program of marketing research--this chapter uses "...a broad definition of marketing, covering not only buying and selling but also such subjects as transportation, processing, and storage. ..." 67/ As Harry C. Trelogan and Kenneth E. Ogren have stated, 68/ the use of this broad concept is "... directly related to the questions agricultural economists are asked to answer and the problems they are trying to solve. ..." Accordingly, this chapter describes, insofar as possible, changes through time in all economic inputs applied to food commodities between the farm and the consumer.

5.1. Objectives and Scope

The central objective of this chapter is to provide an overall framework for study of changes in the interrelationships between consumption of food per se and use of food marketing services. Although several new measures permit us to quantify historical changes in the overall picture and in a few of the major sectors, 69/ many aspects of changes in marketing institutions and the services provided by them are so difficult to analyze that as yet they can only be described, as they are in the following section (5.2).

Following the general description of trends in food marketing services (5.2) is a section quantifying major historical changes in the use of these services, insofar as possible (5.3). Because of substantial changes in prices and quantities, two types of marketing services--food processing and meal preparation and serving--have attracted particular attention of the public and of marketing firms. Section 5.4, which treats processing, reviews several studies of alternative aspects of the subject.

Although section 5.5 deals with several aspects of commercial meal preparation and serving, special emphasis is placed on the purpose of answering the question: How has the role of eating places in the total food picture changed?

The last section of the present chapter reports preliminary research on variations in use of marketing services at one point in time, among households grouped by urbanization and income.

Many of the findings reported in this chapter are preliminary in character; they are presented here primarily to encourage and to assist in further research. Several economists in the Department of Agriculture have worked with the basic data. Their experience indicates that the data yield reasonable answers, when used with care, in analysis of specific problems such as description of historical changes in this chapter.

67/ Page 4, Waugh, (Editor) Readings on Agricultural Marketing (51).

68/ Page 404, Jour. Mktg., April 1956, in "What is the Marketing Margin for Agricultural Products? A Rejoinder" (31).

69/ E.g., value series TFV-14 for all foods and TFV-15 for domestic farm foods and matching quantity series PFQ-3 and PFQ-7, described in MP-3.5.2.

5.2. Trends in Food Marketing Services 70/

5.2.1. Marketing is getting products to consumers--in the form, time, and place desired. The major services involved include assembly, transportation, storage, processing, wholesaling, retailing, and commercial meal preparation and serving. To perform these services requires several million workers, hundreds of thousands of marketing firms, and billions of dollars invested in processing plants, retail stores, wholesale markets, railroad cars and motortrucks, and many other types of facilities.

Changes in the resources used in marketing food products indicate the increased importance of food marketing services in the dollars consumers are spending for food. Between 1939 and 1959, for example, the number of full-time jobs in marketing domestically produced food products rose from 3.8 million to 5.2 million, an increase of nearly 40 percent. 71/ During this same period, the numbers of workers on farms declined by a third. 72/ A part of these relative changes in numbers of workers may have been caused by the faster productivity gain among agricultural workers than among marketing workers; however, the relative increase in services performed by the marketing system appears to have been the more important factor.

Investments of food processing firms in new plant and equipment have totaled more than $10 billion since the end of World War II. While similar data are not available for other segments of the food industries, trade sources indicate that retailers have spent up to a billion dollars in some years in building new supermarkets and renovating old stores.

Marketing is changing constantly--the institutions, their organization and structure, and the services they perform. Some of the changes are primarily related to "internal" factors such as development of new product forms, new processes for preserving quality, and improved methods for transporting and handling food products. Other changes may be in the nature of adjustments to "external" factors such as higher consumer real income, changes in the size and location of population, greater proportion of women working away from home, and developments in production technology on the farm that affect the supply of farm products. Whatever the primary cause of changes in the marketing system, these developments are an integral part of changes in food production and consumption. 73/

70/ Written by Kenneth E. Ogren, Director, Marketing Economics Division, ERS.

71/ For a description of the labor series, see pp. 20-25, vol. 4, Agr. Handb. 118 (44).

72/ The numbers of workers on farms declined from 11.3 million in 1939 to 7.5 million in 1958. These numbers are not directly comparable with those for food marketing because they include full- and part-time family and hired workers (not adjusted to a full-time basis) and include workers in production of nonfood products as well as food products.

73/ For further information, see the 1954 USDA yearbook--Marketing (45), the research reports of the Marketing Research Division, State experiment stations, and other Government reports and industry publications. Other selected references are:

(1) Part I of Farm-Retail Spreads for Farm Products, Misc. Pub. 741 (33).

(2) "The Food Marketing Industries, Recent Changes and Prospects" by Forrest E. Scott, Mktg. Transp. Sit., Nov. 1957 (26).

(3) Reports of the Censuses of Retail and Wholesale Trade and Manufactures (39, 40).

(4) "Marketing Coordination and Buyers' Requirements" by George L. Mehren in Policy for Commercial Agriculture (19).

(5) Facts in Grocery Distribution, Annual Report of Progressive Grocer (22).

(6) Supermarket Industry Speaks, Annual Report of Supermarket Institute (30).

5.2.2. Retailing

Consumers now make most of their food purchases at large departmentalized supermarkets. The 5,000 or more items found in many of these stores represent a wide variety of fresh and processed products brought together from all parts of the United States and foreign countries, available for the most part on a year-round basis. The rapid growth of supermarkets is probably the major development in the food marketing industry affecting the choice of foods and related services available to today's homemakers. It also has had a strong impact on the organization and structure of the entire food industry.

One-stop shopping is now customary for most food shoppers. Combination grocery stores now account for more than 90 percent of sales of all food retail stores. Other food stores, such as meat markets, bakeries, fruit and vegetable markets, and delicatessens, make up less than 10 percent. In 1929, sales through these specialty food stores constituted almost a third of the total.

Supermarkets are a small but growing proportion of the total number of grocery stores, but they account for a large part of total grocery store sales. In 1959, 11 percent of the stores had sales of $375,000 or more, but these stores accounted for 69 percent of grocery store sales. This was an increase from 43 percent of sales in 1952. Superettes (annual sales of $75,000 to $375,000) accounted for another 24 percent of total sales in 1959. The remaining 200,000 grocery stores--two-thirds of the total number--accounted for only 7 percent of total sales. 74/

The current trend is toward fewer retail stores, larger supermarkets with more items, and greater emphasis on nonfood lines. But some evidence indicates a saturation point is being reached in size of stores, as sales per square foot are now averaging higher in smaller supermarkets than in some of the new larger ones. Different trends are developing in some areas. These include "delicatessen" chains and miniature supermarkets with a relatively complete merchandising line but with minimum selection. Small retailers can offer location, service, and convenience features that may compete effectively with large supermarkets.

5.2.3. Wholesaling

The growth of large-scale retailing has affected the organization and services performed by the wholesale trade. As in retailing, the number of wholesalers is declining. A small number of large wholesalers with efficient mechanized operations now handles a large share of the grocery wholesale business. Small wholesalers are declining in number, and they are receiving a small share of the total business.

Many chain retailers and large independent retailers now own and operate their own warehouse facilities and perform many of the functions formerly done by independent wholesale houses. Some wholesalers have strengthened their position by sponsoring successful voluntary retail groups who merchandise and operate under a common name. Their operations are similar to those of a chain organization except for ownership. Some independent retailers have joined cooperative wholesale buying groups to obtain the advantages of large-scale buying and merchandising.

74/ The definitions of supermarket (over $375,000 in sales) and superette and these statistics are based on the 1960 edition of Facts in Grocery Distribution of the Progressive Grocer (22).

These various forms of retailer owned and operated wholesale establishments have concentrated the buying of foods from processors and other suppliers into a much smaller number of oranizations than formerly. Also, many of these groups now own their own processing facilities or contract for manufacture under private label brands.

The increased coordination of retailing with the wholesaling and other functions of the marketing system has reduced the flow of products through organized terminal and wholesale markets. More fruits and vegetables now move directly from suppliers to retailers or retail-owned wholesalers. For example, the volume of fruits handled by terminal fruit auctions dropped from 160,000 carlots in 1929 to about 55,000 carlots (with somewhat larger loads per car) in 1957. 75/

The volume of eggs and butter moving through produce exchanges has fallen off so much that prices based on transactions in these exchanges cover only a small proportion of the total supply. In Chicago, for example, about half of the eggs move directly from country points to retail outlets. 76/ The importance of central markets for livestock has declined markedly in recent decades. The percentage of all hogs slaughtered under Federal inspection dropped from 77 percent in terminal markets in 1923 to 37 percent in 1955. 77/

5.2.4. Processing

The variety, availability, and total output of processed foods has increased greatly in recent years. Technological developments in processing, the rapid growth of large supermarkets, and increased consumer demand for convenience foods have contributed to these upward trends. Quick freezing of foods is perhaps the outstanding development in processing that in recent years has affected the rate and seasonal consumption of many food products. 78/ Developments of other processed foods such as cake mixes and various ready-to-serve canned and packaged products also have affected consumption trends and availability of marketing services to homemakers.

The scale of operation in processing many food products has increased greatly in recent years, accompanying technological improvements in these products and increased consumer demand for them. However, in 1954 two-thirds of the plants in 30 food manufacturing industries employed fewer than 20 workers. Of the total value added by the 30 industries, these small plants accounted for only 8 percent. Smaller plants are still important in industries such as natural cheese which historically have been largely family operations.

Trends in food manufacturing have varied greatly among industries. The growth of large-scale plants and reduction in numbers of small plants have been much more pronounced in some industries than others. Changes in production areas have caused changes in locations of many plants in some industries.

5.2.5. Transportation

Improvements in the transportation system were a key element to many changes in food marketing services. Refrigerated cars and trucks, improved packaging materials and methods, and better highways are among the improvements leading to more wide-

75/ Manchester The Changing Role of the Fruit Auctions (18).
76/ Pedersen, Mitchell, Pritchard Movement of Shell Eggs Into Retail Channels in the Chicago Metropolitan Area (21).
77/ Engelman and Pence Livestock Auction Markets in the United States (13).
78/ Developments in the frozen food industry and possible future trends were discussed in "The Outlook for Frozen Foods," Mktg. Transp. Sit. Nov. 1957 (37).

spread distribution of perishable foods. In general, these products are hauled longer distances and during more months of the year than formerly. Motortrucks with their speedier services and greater flexibility are hauling a larger share of food products particularly the more perishable ones.

5.2.6. Storage

Food products may be stored at several different stages in the marketing process and by different institutions--assemblers, processors, wholesalers, retailers, or public warehouses. In general, storage facilities have improved markedly both in quantity and quality in recent years. The greater ability to store food products makes them available over a longer period of time and thus at a more even rate of supply to consumers. For example, frozen foods could not be sold in large volume until adequate cold storage facilities were available from the processing plant through the retail store.

5.2.7. Assembly

Assemblers are the first link in providing markets to farmers for their food products. The number of assemblers is declining. In part, the reduction was a long delayed adjustment to improvements in transportation facilities. With improved roads and use of motortrucks, large establishments drawing products from a wider area became feasible and more economical than formerly. The functions of assemblers have been integrated into the activities of other marketing firms as direct deliveries to processors and other buyers have become more frequent. The location and type of assemblers also have changed in response to changes in location of production and in marketing practices.

5.3. Changes in Use of Marketing Services, 1929-59

In this section, attention is focused principally on changes in the amounts and kinds of marketing services bought with food; all food value series are considered in chapter 6. A description of historical changes must begin with such key facts as these: The marketing bill for all foods (TFV-14b) in current dollars increased from $11.7 billion in 1929 to $44.5 billion in 1959. Allowing for the change in prices of farm-retail marketing services as in MP-table 3.8, one finds that the total marketing bill for all foods in constant dollars doubled over this period. Stated in other terms, the aggregate quantity of food marketing services bought by U. S. civilians was about twice as large in 1959 as 30 years earlier, whereas per capita use was up by somewhat less than half (PFQ-3).

5.3.1. Components of Changes

The increase in use of food services has been closely related to changes in economic prosperity and to increased reliance on purchased food. To comprehend the major facts of the overall change, one must subdivide the time period and the components of marketing services insofar as possible. 79/ The rate of per capita use of services was practically the same in 1939 as in 1929, and so was average real income.

79/ The following description is based on data for the total marketing bill in 1947-49 dollars (MP-table 3.8), the approximate markup of eating-place meals over the retail value of the food in 1947-49 dollars (difference between market value in MP-table B-2 and retail value in MP-table B-1 divided by index of marketing margin for AMS market basket of farm foods from farm to retail in MP-table 3.8), and the index of total purchased foods (using unpublished data comparable to PFQ-6b in MP-table 3.2 adjusted for the population change given in MP-table 3.1).

Between 1939 and 1959 aggregate use of food marketing services rose 90 percent, compared with the 62 percent rise in total use of purchased foods. Thus, marketing services per unit of foods handled went up about 17 percent. A little of this can be identified as increased commercial meal preparation and serving; other components have not yet been measured separately.

The per capita series on use of food marketing services indicate the periods of most rapid changes were 1939-41, 1944-46, and 1952-56. In 1939-41, the percentage increase in use of services was twice as great as that for volume of food purchases. The proportional increase in services of eating places was about the same as for all other marketing services. The farm-retail marketing margin indicated little change in price of the services.

During World War II, roughly a third of the increase in marketing services was in the eating place sector.

In the period 1944 to 1946 the percentage rise in use of services was half again as great as that for the volume of food purchases. Sharp increases in prices of marketing services began after decontrol of food prices in mid-1946. Since that time the overall use of food marketing services has only kept pace with the increase of about a fourth in the volume of food moving through the marketing system. Prices of farm-retail marketing services increased noticeably in 1950-52 and in 1956-58.

In both the prewar and postwar periods, the use of marketing services varied about a third as much as real disposable income per capita (as measured by regression 5.1 for total income and 5.2 for money income. 80/) The difference in level between the two periods caused the apparent relationship to income for the combined period to double, a rather misleading measurement.

80/ Regression 5.1: X_1 = per capita use of food marketing services (PFQ-3)

X_2 = real total disposable income per capita

1929-41: $\text{Log } X_1' = 1.127 + \underset{(.103)}{.331} \log X_2$; $R^2 = .48$

1948-57: $\text{Log } X_1' = 1.077 + \underset{(.041)}{.375} \log X_2$; $R^2 = .91$

Combined: $\text{Log } X_1' = .128 + \underset{(.046)}{.675} \log X_2$; $R^2 = .91$

Regression 5.2: X_1 = per capita use of food marketing services (PFQ-3)

X_2 = real disposable money income per capita

1929-41: $\text{Log } X_1' = 1.186 + \underset{(.100)}{.314} \log X_2$; $R^2 = .47$

1948-57: $\text{Log } X_1' = 1.100 + \underset{(.039)}{.371} \log X_2$; $R^2 = .92$

Combined: $\text{Log } X_1' = .218 + \underset{(.045)}{.651} \log X_2$; $R^2 = .91$

5.3.2. Changes Related to Shift From Home Production to Purchases

About half of the increase in the average use of marketing services from 1929 to 1959 appears to have come from the shift from home-produced supplies to purchased supplies. 81/ The stages in the shift are demonstrated by two charts. Figure 5.1 shows the relationship between the reduction in the percentage home produced and the rise in the index of marketing services.

Figure 5.2 has three series pertaining to domestic farm foods which depict: 82/ (1) The actual overall changes in food marketing services as measured by the index PFQ-7; (2) changes in actual average use of purchased farm foods which reflect how the use of marketing services would have varied if the amount of marketing services bought per unit of food purchased had not changed; (3) how the use of marketing services would have changed if there had been no change in average consumption of farm foods from the 1925-29 level and only the proportion purchased had varied. The latter assumes no change in services per unit and no increase in average food consumption, just the actual shift from home-produced to purchased supplies. The difference between the line representing the actual change in marketing services and that for purchased farm foods results from increased services per unit of food handled. The difference between the top line and the line for purchased farm foods represents the increase in the volume of services due to larger quantity of these foods consumed. The change in the level of the top line reflects the hypothetical changes in the amount of marketing services bought with a fixed amount of food resulting only from changes in the share of total consumption purchased. Note that this line underestimates the actual increase in marketing services due to the shift from home production to purchases because it does not take into account the relationship of the shift to the increase in average food use which occurred between 1929 and 1959. This shift from home-produced to commercially produced supplies has affected the volume of most marketing services.

5.4. Processing Services: Historical Changes and Variations in Use by Population Groups

Several alternative approaches to study of food processing have been used. These include: (1) The quantities of food processed in various ways, quantities being measured by farm values so as to reflect the farm resources used; (2) retail value of purchased processed foods, including the price and quantity of food, of processing services, and of other marketing services; and (3) the value of processing services added. Processing services are supplied by factories or by all commercial firms, including wholesale and retail processing, or processing by farmers as well. The value of processing services added may exclude material and energy costs, thus considering only the contribution of capital, land, and labor to processing. For other purposes it may be desirable to measure the total value of all processing services.

81/ Calculated by these steps: (1) Applying 1929 proportion of foods purchased (81 percent) to the aggregate 1959 supplier value of civilian food in 1947-49 dollars to estimate purchases in 1959 if 1929 proportion had held. (2) This showed 5.6 percent increase over 1929. (3) Applying this percentage to 1929 marketing bill of $15.3 billion in 1947-49 dollars yielded estimated total value of services (indicating total volume) of $23.9 billion. (4) This estimate is $8 billion less than actual value of services or marketing bill in 1947-49 dollars, a difference related to change in home food production. (5) The total change in the marketing bill from 1929 to 1959 was $17 billion in constant dollars.

82/ The pulling together of the three series in the 1947-49 period on the chart is, of course, the result of basing all three indexes in that period.

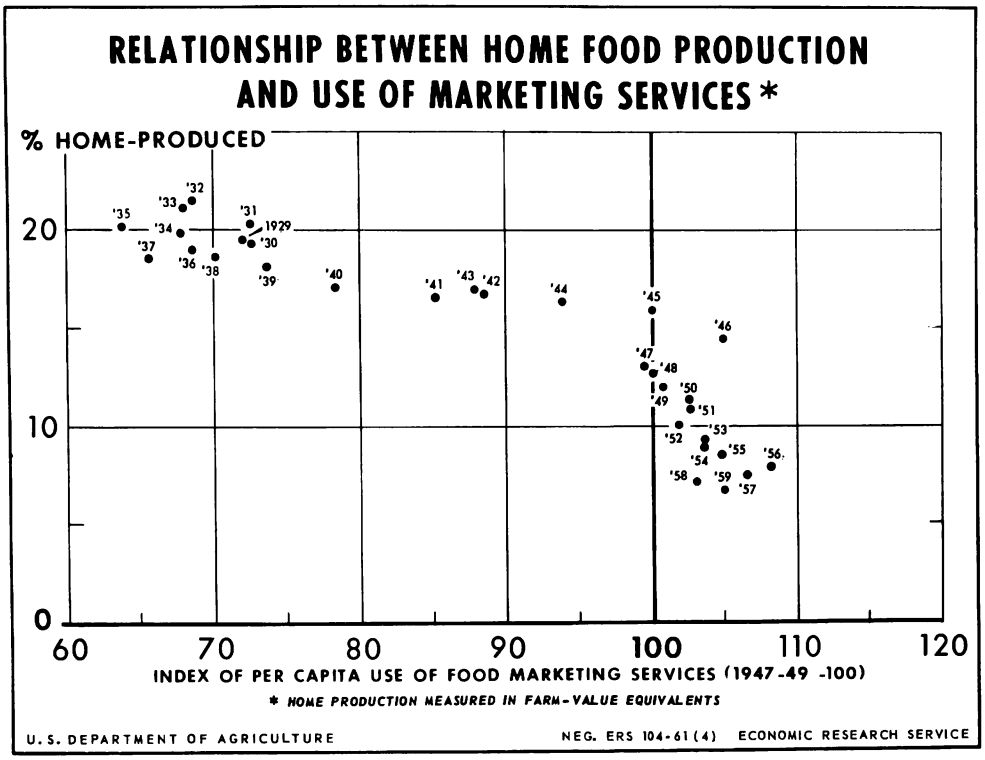

Figure 5.1

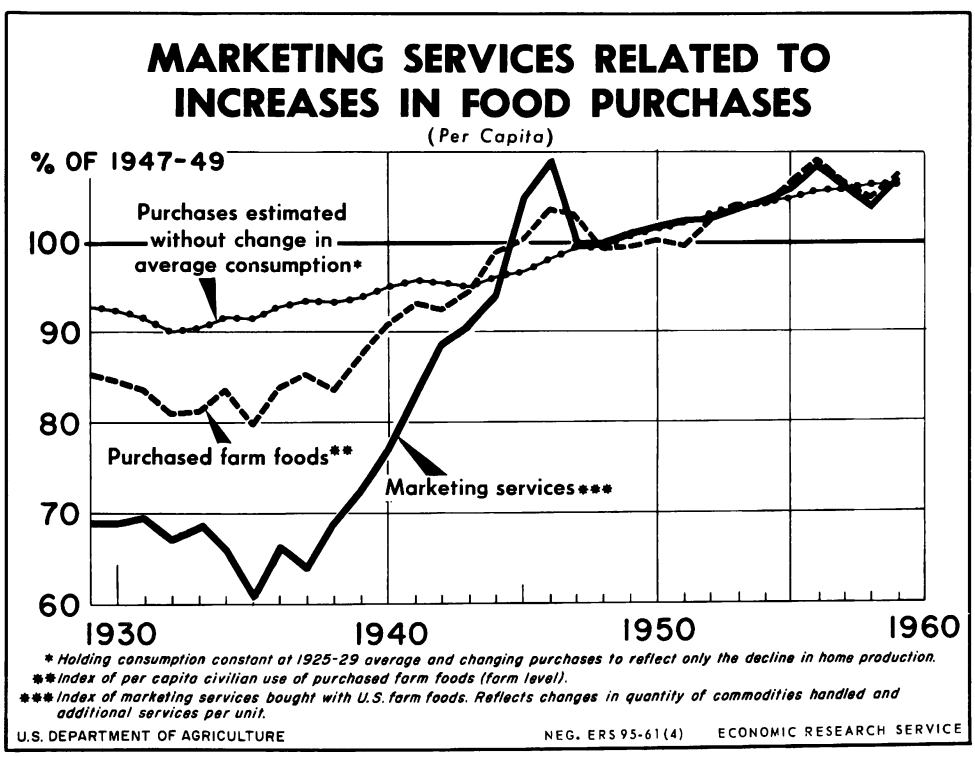

Figure 5.2

(4) Still other approaches to the subject of food processing are those comparing money costs of factory preparation with time costs of home kitchen preparation, as in the path-breaking studies of the Institute of Home Economics, and the detailed research on relative costs of convenience foods now being conducted jointly by that Institute and the Marketing Economics Division, Economic Research Service.

For each of these alternatives there are subsidiary alternatives of (1) commodity coverage and the choice among (2) use of data on production or total civilian consumption, or average civilian consumption, or (3) between domestically produced or all foods regardless of source.

5.4.1. Findings of Research on Quantities of Food Processed

Basic to the study of changes in the use of processing services is the problem of defining such services. One analytical approach has been that of identifying stages or degrees of processing within the overall area. 83/ Practically all foods purchased by consumers pass through some form of processing. The degree of processing varies from trimming, grading, and washing, to complete pre-preparation of elaborate dishes and meals. Also, some foods go through several forms of processing. For this study, four stages of commercial processing are identified and the flows of food through them measured. Operations performed by farmers and by households for their own use are excluded because our objective was to measure changes in volume of food to which are added services supplied by commercial marketing agencies between the farm gate and the kitchen door.

The study of the flow of the food supply into processing was designed to answer the question: How much of U. S. farm food output moves into what stages of processing? The text of Mktg. Res. Rept. 409 (7) describes related changes in civilian use of foods processed to each specified degree so that area of research is not reviewed here.

The share of food output handled commercially rose from 79 percent in 1925 to 91 percent in 1954, increasing at the expense of both home food production and farm processing. 84/ Most of the increase occurred between 1939 and 1947. The quantity of domestic farm foods moving into commercial channels rose 77 percent over the 30-year period.

Although the relative importance of the first stage of processing (which includes foods sold in fresh form or as little processed as consumers can use them--e.g., flour) in total output of farm foods rose slightly, such foods declined relative to all farm foods moving into commercial channels (from 66 percent to 62 percent). Most of this decline occurred between 1947 and 1954 as second stage processing rose in importance.

Whereas the volume of fresh or relatively unprocessed farm foods was 67 percent higher in 1954 than in 1925, the volume of foods processed as single commodities, identified as the second stage, almost doubled. The proportion of farm output of food canned, frozen, dried, or cured, and not mixed with other commodities, went up

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83/ Used in Consumption of Processed Foods in the United States. Mktg. Res. Rept. 409 (7). The historical data for this study were assembled and collated by Leva C. Taylor, Statistical Assistant, Econ. Stat. Anal. Div.

84/ Based on slightly revised data comparable to those in table 8 of Mktg. Res. Rept. 409. Revision made to exclude all nonfood use of meat animals.

from only 22 percent in 1925 to 27 percent in 1954. The most significant changes were the increase in quantity canned from 1939 to 1947, the development of frozen foods in the postwar period, the increase in milk drying, and the decline in butter production.

Mixed foods of the older types such as chili con carne and ice cream, the third stage, accounted for 5 percent of total farm foods output in 1925 and 7 percent in 1947 and 1954. The volume of such food doubled in the 30-year period. Canned mixtures and ice cream were the major growth items up to 1954. It is possible that a small part of the foods classified in this category in 1954 properly belong in the fourth stage, as newer types of mixed foods. Reporting of output of new products often lags several years behind their introduction.

By definition, the fourth stage contains only the newer items. Insofar as we could determine, only 1 percent of farm food output in 1954 went into these mixed foods. Even if our data were underestimated by 50 percent (which we doubt), the importance of these foods as an outlet for farm products was much smaller than popularly assumed. True enough the big increase in frozen prepared foods has come since 1954. 85/

5.4.2 Retail Value of Purchased Processed Foods

No time series of the retail value of purchased processed foods has been constructed, but data on variations in retail value of such foods consumed by groups of households have been assembled from surveys made in spring 1942 and spring 1955. The data and description of variations revealed by them are reported in Mktg. Res. Rept. 409 (7) pages 17-23 and 26-28.

Retail values are significantly more variable with income than are the farm values. This is shown by comparing variations in the retail value of purchased processed foods (second to fourth stages) in spring 1955, with variations in their farm values. The variability revealed by the survey results from the greater amounts of marketing services, including those of processing, bought with food by high-income households than by low-income households. Study of these sets of data indicates also that greater difference exists between the income elasticities of the retail values and farm values for processed foods than for the income elasticities of retail and farm values of the relatively unprocessed foods.

5.4.3. Historical Changes in Factory Processing

Reported in this section are the results of research by William H. Waldorf, reported in Tech. Bul. 1223, Output of Factories Processing Farm Food Products in the United States, 1909-58. (49).86/ The bulletin presents an annual index of factory production of domestic farm foods. This index is an approximate measure of the net physical output of manufacturing establishments engaged in processing domestic farm foods for civilian and noncivilian use. It was designed to measure changes in factory value added in constant prices (net physical output). Factory processing, as used in this report, includes the processing of fluid milk and cream, products that are

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85/ Data for 1954 and 1955 given in Reese Production of Frozen Prepared Foods, 1954-55 (24).

86/ First reported in "Indexes of Factory Production of Domestic Farm Food Products," Mktg. and Trans. Sit. July 1959 (50).

difficult to classify. Waldorf carefully notes that part of the upward trend in the factory production index resulted from the shift from farm and retail and wholesale processing to factory processing. He writes:

"The index of factory production of all processed domestic farm food products rose at an average annual rate of nearly 2.6 percent during the last half century. This long-term rate was substantially affected by the upsurge in production during and immediately after World War II: Between 1939 and 1947, the annual rate was nearly twice as large as the 50-year average. In the postwar period, 1947-58, factory production grew 2.6 percent per year compared with 1.9 percent per year in the prewar period 1909-39.

"Roughly three-fourths of the rise in factory production for the 50-year period as a whole can be directly associated with increased volume of food marketings by American farmers. The remaining fourth reflects shifts from home, on-farm, and wholesale and retail processing to factory processing; increased purchases of processed relative to unprocessed farm products; and changes in the degree of factory processing per unit of farm raw material used in factory production. The picture has been about the same since the end of World War II as for the entire 50-year period."87/

"Factory production of domestic farm foods per person 88/ was 77 percent greater in 1958 than in 1909. The increase was 18 percent during the first decade of this period; 6 percent in the second decade; and 3 percent in the third, depression-marked, decade. Between 1939 and 1947, per capita production rose 30 percent; since 1947 it has increased only 5 percent. Unlike total factory production, per capita output has not risen steadily since 1948." 89/

5.4.4. Foods Processed in Factories and by All Commercial Firms

Waldorf's study of value added by factory processing and this author's study of changes in quantities of food processed raised this question: Has the ratio of factory-processed foods to total foods processed changed in the last 30 years or so?

Deriving an answer to this question required the following clarification: The index of factory processing reflects factory processing at successive stages, e.g., flour milling, then baking of bread. But to avoid double counting, measurement of the quantity of foods processed in factories must count the grain milled into flour but not the flour used in baking bread. Therefore, it was necessary to measure quantities of foods processed in factories and in other commercial establishments in terms of their farm values. Commercial processing of several foods is carried on in factories by definition.

For this comparison, we adopted the definitions of processing used by Waldorf in his research on factory processing. These include slaughtering, milling, refining sugar, grinding oilseeds and peanuts, canning, freezing, processing of dairy products, commercial handling of fluid milks, drying of eggs; canning, dehydrating, freezing, and pickling of vegetables and fruits. Factory processing excludes processing by farmers, wholesalers and retailers--following the classifications of the Census of Manufactures.

87/ Tech. Bul. 1223, page 3 (49).

88/ In computing per capita factory production, the population figures are based on total population including Armed Forces overseas as of July 1.

89/ Tech. Bul. 1223, page 5 (49).

The results of this research, indicate no significant trend in the ratio of quantities factory processed to total commercial processing in the period 1925-54. At first sight this finding may come as a surprise, in view of the often-noted decline in processing by retailers and wholesalers. But much of this processing was in later stages--in baking and candy-making, for example. These stages are not separated in the measurement of flow of domestic farm food commodities into any of the forms of commercial processing. Meat animals constitute the largest commodity group in terms of aggregate farm value. The well-known decline in slaughter by retail butchers would lead one to expect a significant increase in the proportion factory processed. An offsetting factor is the increase in slaughtering operations by locker plants for nonfarm patrons and for wholesale and retail sale. Another element affecting the comparison is the extent of coverage of the meat packing industry by successive Censuses--factory processing data are based directly on the Censuses of Manufactures. We find for example, that the 1947 Census reports the meat packing industry slaughtered 84 percent of the liveweight of all commercial slaughter (as estimated by USDA), whereas the industry reported in 1954 90 percent of all commercial slaughter. Adequate check data are not available to judge whether Census coverage or the relative importance of the industry changed that much or whether both changed.

5.5. Variations in Use of Commercial Meal Preparation and Service

5.5.1.1. Four types of information concerning the eating place business are available for description of variations in the use of these marketing services. Best known are the time-series data on meals and beverages sold and furnished employees, as estimated by the Department of Commerce. Benchmarks for these series developed by the commodity-flow method from the Census of Manufactures are checked with sales data. Extensions from the benchmarks are made on the basis of sales by a sample of eating and drinking places. A series on nonconsumer purchases is estimated by the Department of Commerce, using supplementary information from the Internal Revenue Service. This series is excluded from the Commerce data on food expenditures, but is used by this author as a component of food expenditures, as described in MP-3.4.3.3 and MP-B.1.5. The Department of Commerce also has developed information on the general level of the value of meals furnished travelers and institutional inmates. As described in MP-appendix B, the two major problems in using these data are lack of information on the food-alcoholic beverage breakdown and absolute absence of information on commodities. The data form the basis for the markups used in estimating the market value of all food and the subseries on eating places, described in the MP-appendix B. MP-table B.1 contains data on the value of food handled by eating places in terms of retail-store prices, and MP-table B.2 carries the same basic data in terms of meal or market values.

5.5.1.2. The Censuses of Distribution for 1939 and 1948 provided statistics on sales of all major types of eating places. This was made possible by the tabulation of meals and fountain items sold by department stores and other such combined operations, as well as separate data on meals and beverages sold by restaurants of various types. No commodity line detail was obtained in the 1954 or 1958 Censuses. This author was able to develop a rather complete statistical picture of the distribution of the U. S. food supply from the 1939 and 1948 data. 90/ These data provided valuable check points for the series relating to eating places published in MP-appendix B.

90/ "Distribution of the Food Supply of the United States," Agr. Econ. Res. July 1952 (8).

5.5.1.3. The third type of information on food served by eating places is that obtained by special surveys of particular types of eating places. These include: (1) A pilot study of public eating places in Minneapolis and Fairmont, Minnesota in 1949 and 1950; 91/ (2) case studies of 16 nonfederal institutions; 92/ (3) surveys of eating places' use of processed farm foods 93/ and of fish; 94/ (4) survey of eating facilities in manufacturing plants, often called in-plant feeding establishments; 95/ and (5) surveys of the school milk and school lunch programs described in section 5.5.6.

5.5.1.4. The last type of information comes from household surveys. This type covers the recall of expenditures for meals and beverages away from home, sometimes with subdivisions, and an accounting of who ate meals out, and which meals. Kinds of information obtained from households are illustrated by the description of certain findings given below.

Because interest in the subject is great, we reiterate the fact that existing data supply absolutely no key to the commodity breakdown of food consumed away from home. Apparently, the only way to obtain commodity information is an overall survey of eating places; the surveys described in our third category (5.5.1.3) represent beginnings.

5.5.2. Historical Changes Indicated by Available Time-Series Data

5.5.2.1. Although the time-series estimates of the retail and market value of food eaten away from home may represent an error in level of 10 to 15 percent, they probably are correct as to trends and general relationships. 96/ Accordingly, we may draw certain conclusions about historical changes. The total market value of all food handled by eating places in 1959 was probably about $17 billion out of the $69 billion total for the market value of all food consumed by U. S. civilians (excluding retail taxes and tips). 97/ This $17 billion total represented 25 percent of the $67 billion of civilian expenditures for all foods, excluding both taxes and tips (MP-tables B.2 and 3.5). This relationship is the same as the frequently quoted 25 percent for food "eaten out" but it represents dollar outlays for food and services rather than quantity. 98/ Retail value data are a better measure of the quantitative importance of eating places in the food picture. This subject is treated in section 5.5.2.3.

91/ Sartorius and Burk Eating Places as Marketers of Food Products (25).

92/ Hoofnagle, Dwoskin, and Bayton The Market for Food in Selected Public and Private Institutions (14).

93/ Bitting "The Use of Canned Foods by Restaurants and Cafeterias," speech before National Canners Association convention, Feb. 19, 1955 (5). Also Badger The Use of Frozen Foods by Restaurants. Mktg. Res. Rept. 144 (4).

94/ U. S. Dept. of Interior, Fish and Wildlife Service Fish and Shellfish Consumption in Public Eating and Drinking Places, Vol. I (47).

95/ Lifquist Buying Practices and Food Use of Employee Food Services in Manufacturing Plants. Mktg. Res. Rept. 326 (15).

96/ Data checked with estimates derived independently in article cited in note 90, with alternative estimates of the breakdown of expenditures for food and for alcoholic beverages, and with projections from household survey data.

97/ Eating places include all establishments serving food other than private households.

98/ The 25 percent figure apparently was based on the OPA survey of sales by eating places in December 1942 (a survey made to supply the basis for food rationing) compared with estimates of total food expenditures. The month, the period, and the occasion for the survey all made the accuracy of the figure questionable.

5.5.2.2. The total market value of all meals and food handled by eating places of all kinds apparently has risen year by year since the depression years of the 1930's, when it stood at $2.3 billion. When boarding houses were popular eating establishments some 30 years ago, they accounted for perhaps a sixth of the meals sold. In recent years, as incomes have risen and larger numbers of single people live in apartments, relatively few people are served in boarding houses. Since the late 1930's, eating away from home has shifted away from boarding houses toward public eating places such as restaurants, hotels, lunch counters, and tea rooms. The food business of these establishments amounted to about $13 or $14 billion in 1959.

Two types of large-scale feeding establishments that have become increasingly popular in the last 20 years are school lunchrooms and industrial or in-plant feeding facilities. The share handled by institutions such as hospitals, prisons, and large homes for the aged has apparently remained fairly constant. In addition, some meals and snacks are eaten in clubs, fraternities, on board ship, on airplanes, and so on. Others are furnished by various kinds of eating places to their employees.

5.5.2.3. Appraisal of the relative importance of eating places in the U. S. food picture necessitates measuring the flow of food through eating places in the same terms as those used for purchased and home-produced foods. This has been accomplished by use of the retail-store level as the basis for all series in MP-table B.1. In these terms, eating places currently are handling about 17 percent of the U. S. food supply. But they handle a slightly larger percentage of the food moving through commercial channels. Following the low ebb of the eating place business during the depression of the 1930's, there was a boom during the war, when many people were away from home or working overtime, and when eating out became a popular form of relaxation and a way to avoid rationing problems. But a postwar decline in the relative share of eating places in the total food business appears to have developed, as wartime dislocations were resolved. Since that period, renewed prosperity has apparently again increased the extent of eating out.

5.5.2.4. The difference between the market value of food handled by eating places and its retail value provides a rough measure of the changing cost of meal preparation and serving over and above the extent of services normally supplied through retail stores. This difference amounted to approximately $1.3 billion in 1929, $0.9 billion in 1939, $3.3 billion in 1949, and about $5.2 billion in 1959. The 1959 differential was slightly higher in relation to the 1929 differential than was the increase in retail value. But the measure is so approximate in character that no conclusions can be drawn concerning the relationship between increases in prices of meals and increases in retail food prices.

5.5.3. Notes on Variations Revealed by Minnesota Case Studies

Information about the eating places in Minneapolis and Fairmont, Minnesota, which supplied detailed records for a pilot study conducted in 1949 and 1950, confirms the general impression that small and large cities differ in average size of eating places, types of establishments, and per capita sales.99/ People tend to eat lunches out more regularly in large cities in which schools and places of employment are too far away from home for the extra trip for a home meal. Then, too, larger cities have more nonresident visitors, higher money incomes, and a larger nonhousekeeping population.

99/ Report by Sartorius and Burk cited in note 91 (25).

5.5.4. Indications of Food Use in Institutions

Data from the 16 nonfederal institutions covered by the 1952 pilot study of institutions indicate variations in the quantities of the major groups of food used per capita rather than variations in marketing services. 100/ (By definition, all of the people in such institutions are considered to have benefited from meal preparation and serving.) But these quantities have not been combined by a common denominator of price, nor are data available for measuring the total size of this market.

5.5.5. Use of In-Plant Feeding Facilities

A survey of employee feeding operations in manufacturing plants made by AMS in 1956 provided information on the quantity and value of food used, in total and by commodity, with subdivisions for four regions, size of plant, and type of operation--company-run or contract. 101/ The first report issued in June 1959 contains information on the relative popularity of eating facilities such as lunch rooms, cafeterias, mobile units, and table service. The group of plants surveyed includes 60 percent of the factory employment of the country and uses $20 million of food in four weeks of 1956.

5.5.6. School Lunch and School Milk Programs

5.5.6.1. Participation of Schools and Pupils. According to an AMS survey of March 1957, about 80 percent of the school children of the country were in schools that provide some kind of school lunch service. It varies from a la carte (around 4 percent), to plate lunch outside the school lunch program (10 percent), to participation in the National School Lunch Program (two-thirds). 102/ All in all, about a third of the pupils in elementary and secondary public schools participated daily in school feeding services offering plate lunches.

In 1957 the total value of food used by schools participating in the National School Lunch Program was $534 million. Federal and State contributions for food and service totaled $785 million. In addition, many children paid at least part of the cost of their lunches, for cash receipts in March 1957 amounted to $65 million.

5.5.6.2. Extent of Food Consumption in Public Schools. A survey of the use of foods in public schools was made by AMS covering the period July 1957 to June 1958. 103/ This sample survey indicated that $597 million worth of food, wholesale value, was used by public elementary and secondary schools in this period. Converting this figure to retail value equivalent and comparing it with retail value of all food

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100/ Report by Hoofnagle, Dwoskin, and Bayton cited in note 92 (14).

101/ Highlights of food data given in report cited in note 95 (15) summarized in Lifquist "Some Findings of the Survey of Employee Food Services in Manufacturing Plants." Nat. Food Sit. July 1959 (16).

102/ Anderson School Lunch Programs in Elementary and Secondary Schools of the U. S. Mktg. Res. Rept. 262 (1). This report supplies further information about school and pupil participation, cash receipts from food sales, and how food is acquired for the school feeding program.

103/ Survey findings were summarized in Anderson and Hoofnagle The Market for Food in Public Schools. Mktg. Res. Rept. 377 (3).

moving through eating places, the public school lunch program probably accounted for 7 or 8 percent of the total volume of food consumed outside private homes. The survey obtained detailed information on quantities and values of individual foods used. This information was tabulated with subdivisions according to participation and nonparticipation in the National School Lunch Program, type of school, size, upper and lower family income level, urban and rural, plate lunch and other types of meal service, and use of donated food. Only all-U. S. data are provided.

5.5.6.3. School Milk Program. Administration of the School Milk Program provided the means for some experimentation on the reaction of pupil consumers to certain variations in services offered, though it was primarily aimed at influencing milk consumption through reduction in price of additional quantities. The effect of the School Milk Program on milk consumption in St. Louis and Los Angeles schools has been studied by Kenneth E. Anderson. 104/

5.5.7. Away-From-Home Eating as Reported by Consumers

5.5.7.1. Expenditures for meals and beverages away from home by housekeeping households and nonhousekeeping households are described elsewhere (see 4.1 and 4.4.5.). These data reveal the major patterns of variations in purchases of services in meal preparation according to the income and urbanization category of the family.

5.5.7.2. Additional information of two types are available from household surveys. One of these is the published reports of the 1950 data on expenditures by urban families. They provide subdivisions of expenditures away from home between those in respondents' own community and in other communities 105/ Further subdivisions include board for nonhousekeeping households (see 4.1); meals at work and at school; other meals outside the home; purchases of ice cream, soft drinks and other snacks; and expenditures for alcoholic beverages in restaurants and bars.

5.5.7.3. The other type of data from household surveys is illustrated by table 5.1. These data on meals away from home are from the 1955 Survey of Household Food Consumption. As might be expected, purchased noon meals away from home pertain to a larger proportion of households than those who bought other meals, and more for men than for women and children. More urban than rural families bought and ate meals away from home. In 57 to 58 percent of urban families interviewed in the three regions other than the South at least one member bought a meal outside of the household in the week reported in the survey. The number of meals bought and eaten out by U. S. housekeeping families in a week of spring 1955 averaged 4.4 meals per family, including 0.5 breakfasts, 3.1 lunches, and 0.8 evening meals.

For each of the three meals in the country as a whole, the number eaten out by men averaged higher than that for women and children. In urban families, about half of the meals eaten out were by men, a little less than a fourth by women, and a little over a fourth by children under 21 years of age. Children ate evening meals away from home much less frequently than adults. Perhaps the most striking information in table 5.1 is the relatively high percentage and number of purchased meals for children

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104/ The Special Milk Program: Its Effect on Consumption in St. Louis and Los Angeles Schools. Mktg. Res. Rept. 209 (2).

105/ Data are available in table 2, pages 12 and 13 of volume XII of the Study of Consumer Expenditures, Incomes, and Savings (48).

Table 5.1.--Meals bought and eaten away from home in a week of spring 1955: Proportion of families reporting such meals and average per family, by category and meal 1/

Urbanization, region, item	Unit	Meals bought and eaten away from home by: All members				Men				Women				Children under 21			
		Total	Morning	Noon	Evening	Total	Morning	Noon	Evening	Total	Morning	Noon	Evening	Total	Morning	Noon	Evening
United States																	
Proportion having	Pct.	50	10	44	20	34	8	28	15	23	2	16	12	21	2	18	6
Average meals per family	No.	4.4	.5	3.1	.8	2.0	.3	1.3	.4	.9	.1	.6	.2	1.5	.1	1.2	.2
Urban																	
Proportion having	Pct.	55	12	49	22	40	9	34	17	27	3	19	14	19	2	16	6
Average meals per family	No.	4.8	.6	3.3	.9	2.4	.4	1.6	.4	1.1	.1	.7	.3	1.3	.1	1.0	.2
Rural nonfarm																	
Proportion having	Pct.	45	9	40	17	28	6	23	13	17	1	12	8	24	3	22	5
Average meals per family	No.	4.1	.4	3.0	.7	1.6	.2	1.1	.3	.5	2/	.4	.1	2.0	.1	1.7	.2
Farm																	
Proportion having	Pct.	35	5	32	11	16	3	12	7	12	1	9	5	22	2	21	4
Average meals per family	No.	2.9	.2	2.3	.4	.7	.1	.4	.2	.4	.1	.2	.1	1.8	.1	1.6	.1
Urban																	
Northeast																	
Proportion having	Pct.	57	12	52	20	44	10	40	15	26	3	19	13	16	1	15	5
Average meals per family	No.	5.1	.6	3.7	.8	2.9	.5	2.0	.4	1.2	.1	.8	.3	1.0	.1	.8	.1
North Central																	
Proportion having	Pct.	58	12	51	27	44	10	36	21	31	3	20	17	18	2	15	8
Average meals per family	No.	4.9	.6	3.2	1.1	2.5	.4	1.6	.5	1.1	.1	.7	.3	1.2	.1	.9	.2
South																	
Proportion having	Pct.	48	9	44	16	29	7	25	11	21	2	17	9	23	2	21	5
Average meals per family	No.	4.4	.4	3.4	.6	1.7	.3	1.1	.3	1.0	.1	.7	.2	1.8	.1	1.5	.2
West																	
Proportion having	Pct.	57	15	44	30	40	12	29	23	34	4	22	20	19	2	13	9
Average meals per family	No.	4.5	.7	2.7	1.1	2.3	.5	1.3	.5	1.1	.1	.6	.4	1.0	.1	.7	.2

1/ Data obtained in 1955 Survey of Household Food Consumption.
2/ Less than 0.05 percent.

per urban family in the South. There the average was 1.8 meals compared with 1.0 in the Northeast and West and 1.2 in the North Central Region. This undoubtedly reflects the greater emphasis on the School Lunch Program in the southern States. 106/

5.6. Variations in Use of Marketing Services at One Point in Time

5.6.1. We have, as yet, no direct measure of variations in the use of all marketing services by parts of the U. S. population, but we do have indications from survey data of how housekeeping households grouped in various ways vary in (1) quantities of purchased foods used, necessarily including some marketing services, (2) in expenditures for foods in total and by group and form, (3) in purchases of processed foods (5.4.2), and (4) in meals eaten out. Comparison of the value aggregates for the farm level indexes of the quantity of food used by groups of households in spring 1955, which was obtained from all sources, with values for purchased farm foods only can reveal significant variations among households grouped by region, urbanization, and income in demands on the marketing system.

5.6.2. Approximations of Marketing Costs Paid by Groups of Households

Another approach to the study of cross-section variations in use of marketing services is illustrated by data in table 5.2. Sources of data and procedures used described in the footnotes of the table indicate that estimates must be considered as rough approximations. Even so, they provide apparently reasonable quantification of generally observed variations in use of marketing services among households differing in urbanization category and level of income.

There is a very wide range in marketing costs paid by groups of households. For example, the estimate of average marketing costs paid for food at home by all U. S. households with disposable money incomes over $10,000 in 1954 is three times as high per person as the estimate for those households with less than $1,000 in family income. The range for all food at home and away from home is even greater.

To compare variations in approximate food marketing costs per person with variations in income, several regressions have been run. 107/ They indicate that the income

106/ Other aspects of this subject are discussed in "Family Meals Away From Home" by Ennis C. Blake in Family Economics Review, October 1958 (6).

107/ Regressions 5.3 to 5.6: X_1 = approximate average marketing costs for all food at home and way, per person in 1955 (from table 5.2)
X_2 = average disposable money income per person

Regr. 5.3, all U. S. households: $\text{Log } X_1' = +1.07 + \underset{(.02)}{.42} \log X_2$; $R^2 = .98$

5.4, U. S. urban households: $\text{Log } X_1' = +1.39 + \underset{(.04)}{.33} \log X_2$; $R^2 = .91$

5.5, U. S. rural nonfarm households: $\text{Log } X_1' = +.94 + \underset{(.03)}{.46} \log X_2$; $R^2 = .98$

5.6, U. S. farm households: $\text{Log } X_1' = +1.40 + \underset{(.03)}{.26} \log X_2$; $R^2 = .92$

Regression 5.7: X_1 = approximate average marketing costs for food at home only, per person in 1955 (from table 5.2)
X_2 = average disposable money income per person

All U. S. households: $\text{Log } X_1' = +1.17 + \underset{(.02)}{.37} \log X_2$; $R^2 = .98$

Table 5.2.--Approximations for farm value and marketing costs of purchased farm foods used at home and for marketing costs of food at home and food and beverages away from home, in a week of spring 1955, per person averages on annual basis 1/

Urbanization, household size, 1954 income after income taxes (dollars)	Purchased farm foods consumed at home, all meals, annual basis 2/					Total marketing costs for food at home and food and beverages away from home, annual basis 5/	
	Farm value 3/	Expenditures for these foods	Farm value as percent of expenditures	Marketing costs: Value 4/	Marketing costs: As percent of U. S. average	Value	As percent of U. S. average
	Dollars	Dollars	Percent	Dollars	Percent	Dollars	Percent
All urbanizations							
All households	130	328	40	198	100	238	100
1-person	158	401	39	243	123	289	122
2 or more	130	327	40	197	100	236	99
Under 2,000	89	200	44	111	56	124	52
Under 1,000	76	166	46	90	45	98	41
1-2,000	98	222	44	124	63	140	59
2-3,000	117	275	43	158	80	181	76
3-4,000	126	314	40	188	95	216	91
4-5,000	137	346	40	210	106	245	103
5-6,000	144	368	39	224	113	261	110
6-8,000	150	391	38	240	121	294	124
8-10,000	151	406	37	255	129	316	133
10,000 and over	166	477	35	312	157	424	178
Not classified	133	345	39	211	107	267	112
Urban							
All households	146	374	39	228	115	278	117
1-person	164	427	38	264	133	317	133
2 or more	145	373	39	227	115	277	116
Under 2,000	118	268	44	150	76	172	72
Under 1,000	116	264	44	148	75	166	70
1-2,000	119	269	44	150	76	174	73
2-3,000	130	306	42	177	89	203	85
3-4,000	137	342	40	205	104	238	100
4-5,000	144	367	39	224	113	265	112
5-6,000	153	397	39	244	123	282	119
6-8,000	158	411	38	253	128	313	131
8-10,000	157	426	37	269	136	331	139
10,000 and over	171	497	34	327	165	447	188
Not classified	154	408	38	253	128	330	139
Rural nonfarm							
All households	124	297	42	173	87	200	84
1-person	150	356	42	206	104	230	97
2 or more	123	295	42	172	87	200	84
Under 2,000	89	193	46	104	53	113	48
Under 1,000	77	165	46	88	45	92	39
1-2,000	96	210	46	114	58	126	53
2-3,000	118	268	44	150	75	172	72
3-4,000	121	290	42	169	85	193	81
4-5,000	135	328	41	193	98	219	92
5-6,000	138	336	41	198	100	232	98
6-8,000	145	369	39	224	113	267	112
8-10,000	159	415	38	256	129	324	136
10,000 and over	150	397	38	246	124	327	137
Not classified	131	318	41	187	94	213	90
Farm							
All households	77	184	42	107	54	123	52
1-person	111	263	42	152	77	194	82
2 or more	77	183	42	106	54	122	51
Under 2,000	65	147	44	82	41	90	38
Under 1,000	59	128	46	68	35	76	32
1-2,000	72	168	43	97	49	106	44
2-3,000	79	188	42	108	55	125	53
3-4,000	82	209	39	127	64	145	61
4-5,000	86	211	41	125	63	145	61
5-6,000	95	228	42	134	67	160	67
6-8,000	88	219	40	130	66	151	63
8-10,000	85	215	40	130	66	157	66
10,000 and over	118	315	37	197	99	249	105
Not classified	75	186	41	110	56	126	53

1/ Basic data on quantities and expenditures from 1955 Survey of Household Food Consumption. One week's data times 52.
2/ Assuming all meals eaten at home, i.e. 21-meal equivalent persons.
3/ Approximate farm values derived as follows: (1) quantities of individual foods used at home converted to farm commodity equivalents and valued at 1947-49 average farm prices as part of process of computing cross-section or structural index of per person use of purchased farm foods; (2) farm values in 1947-49 dollars for groups of foods converted to spring 1955 farm prices using price changes indicated by farm value data for AMS, now ERS, market basket.
4/ Difference between approximate farm values and expenditures.
5/ Derived as follows: (1) Estimated marketing costs based on assumption of all meals eaten at home adjusted downward for proportion of meals bought and eaten away from home by family members; plus (2) 72 percent of expenditures per family member for food and beverages away from home in survey week. The 72 percent is an approximation of proportion of marketing costs in total expenditures away from home, derived from time-series data for 1955.

elasticity of these costs is two to three times as high as the income elasticity of food alone (regressions CS-IA in table 4.4). The higher income elasticities for all U. S. and rural nonfarm households reflect in part the nonhomogeneity of the population groups covered. The cross-section income elasticities of marketing costs for all U. S. households are close to those based on postwar time-series data (regressions 5.1 and 5.2).

5.6.3. Farm Value Related to Expenditures

The relationships of the approximate farm values of purchased foods to expenditures for food at home also are measured by data in table 5.2. These percentages are not directly comparable with the farmer's share data of the market basket because of slightly different quantity weights, inclusion of imported foods, and much less precision in the comparison of farm and retail prices. Households in major groupings used different amounts of marketing services and varying qualities of food, and they paid different prices. All of these balance out in the U. S. urban average data of the market basket. Despite these differences, the U. S. urban percentage for "farmer's share" in table 5.2 of 39 percent comes out quite close to the 41 percent share from the market basket data. [Table 47 of Misc. Pub. 741 (33).]

Chapter 6. CHANGES IN THE VALUE OF FOOD CONSUMED

The great changes in the U. S. economic and social structure of the last 30 years have materially affected the values of food consumed by U. S. civilians. Their net effects on the food situation can be studied with the variety of value, quantity, and price data now available. Each value or quantity measure for civilian consumption of food, described in MP-chapter 3, is designed to gauge changes in a particular combination of foods and of food marketing services. 108/ This chapter outlines the major changes in such combinations in the 31-year period, 1929-59.

6.1. Value Measures at the Supplier Level

6.1.1. The total supplier value of food used by U. S. civilians went up from $10.4 billion in 1929 to $25.4 billion in 1959 (TFV-5 in MP-table 3.3). During this period the civilian population increased 43 percent. Over this span of years, both the general price level and farm prices of food commodities rose about two-thirds. 109/ Prices of foods such as coffee and fishery products probably went up more than those for domestic farm foods. After taking the population and changes in general price level into account, it appears that the supplier value of food consumed per capita in constant dollars was practically the same in 1959 as it had been in 1929. In contrast, the more direct measure of change in per capita quantity, PFQ-6a in MP-table 3.2, shows a 9 percent increase.

Next the changes over the 31-year period in the major sectors of the supplier picture are considered.

6.1.2. Food Sold by U. S. Farmers

Food commodities sold by farmers for civilian food (TFV-1 in MP-table 3.3) have made up an increasing proportion of total supplier value as home production has declined. The low point was in 1933 when farm prices were down, and there was probably more emphasis on home production. The proportion was relatively high in the years immediately after World War II, when farm food prices were at their highest ratio to prices of all goods and services in the 31-year period surveyed. The proportion declined slightly in the early 1950's, then rose again.

108/ Exhibit B in appendix A contains a guide to components of total value series given in MP-chapter 3. It is helpful in distinguishing among the several value series. The series are described in MP-sections 3.2-3.5.

109/ The price series used in this chapter and the sources of historical and current data are: (1) Bureau of Labor Statistics series for Consumer Price Index, urban retail prices for food at home, and prices for nonfood goods and services are published in the Monthly Labor Review (43) and also in table 52 of Agr. Handb. 62 (32) (2) The AMS, now ERS, market basket series are published in index form in table 48 of Misc. Pub. 741 (33) and currently in the Marketing and Transportation Situation (34). Part II of Misc. Pub. 741 describes these series. The nomenclature has been changed somewhat for this bulletin. "Farm food prices" here refers to the prices of food at the farm level, measured by the index of the farm value of market basket. The price of food marketing services is measured by the index of the "farm to retail spread" or marketing margin for the market basket with its fixed content of farm food commodities.

Except for 1938 and 1939, the total value of farm commodities sold for food increased steadily from the 1932 low to a peak of $19.3 billion in 1948. In this 16-year period, farm food prices quadrupled, per capita use of purchased U. S. farm foods (PFQ-4b) rose more than a fifth, and the civilian population had increased 16 percent. The total value figure declined in 1949 and early 1950 as postwar export demand slackened. Thereafter, it was affected by the Korean outbreak, which pushed up farm prices, and this value series reached a new peak in 1951. From 1952 to 1955 the farm prices and the annual value of food sold for civilian use declined. After 1955, increases in the population and higher prices raised the total, and a new high was reached in 1958.

In brief, behind the increase of $12.5 billion in the farm value of domestic farm foods sold to civilian consumers from 1929 to 1959 have been these net changes: (1) Population up 43 percent; (2) farm food prices up 56 percent (as measured by the market basket data); (3) per capita use of purchased domestic farm foods up 27 percent as home production decreased and people ate more and better foods.

In per capita terms the farm value of farm foods sold almost doubled from 1929 to 1959. But the averages were lower in 1954-59 than in 1947 and 1948 and in 1951 to 1953 when prices were higher.

A number of regression analyses have been developed for study of interrelationships among the food value, income, price and quantity series. The results are tallied in table 6.1. Regressions 6.1 and 6.2 indicate that changes in per capita values of farm foods have been related more to changes in farm food prices than to changes in average consumer income. As expected, the farm value of domestic farm foods sold has been tied more closely to consumer income than the value series including home-produced supplies. An attempt to separate the relationships of changes in the farm sales of food to (1) changes in home production, (2) quantity of food purchased, (3) income, and (4) prices yielded unsatisfactory results (regression 6.3 in table 6.1). It seems the year-to-year changes in home production are not measured adequately with available data.

The commodity data on farm value of domestically produced farm foods sold which are developed in connection with research on farm-to-retail marketing costs provide a generally satisfactory measure of changes in the commodity makeup of the farm value series. 110/ Because of the detail involved, they are not described in this report.

In 1929, when the farm value of domestic farm foods sold to civilians amounted to $7.2 billion, the total marketing bill for those foods was $9.7 billion including taxes and tips. At the 1932 low of the farm food sales, $3.4 billion, the marketing bill was $7.5 billion. From 1933 to 1959 the total marketing bill increased practically every year, reaching $39.0 billion in 1959 (TFV-15b in MP-table 3.8). In that year the farm value of these foods accounted for only 34 percent of total expenditures by U. S. civilians for domestic farm foods, including taxes and tips. The changing relationships among this series on farm value and those for retail value and consumer expenditures for farm foods are summarized by figure 6.1.

6.1.3. Home Production

The importance of home-produced farm foods in the total supplier value of all food in the late 1950's was only half as important as in 1929-39. The decline in relative importance of home production began during World War II. It accelerated

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110/ Data given in table 33 of Misc. Pub. 741 (33) and republished for handy reference as table 48 of Agr. Handb. 62 (32).

Table 6.1.--Summary of least-squares regressions with time-series of selected value measures for civilian food and major factors or components 1/

Regression number	Value measure for food X_1	X_2	X_3	X_4	X_5	Period	Constant term	Regression coefficient for 2/ X_2	X_3	X_4	X_5	R^2
6.1	Farm value of all domestic farm foods, per capita (PFV-1 + PFV-2) / CPI 3/	Disposable income per capita 4/ / CPI	Farm food prices 5/ / CPI	---	---	1929-41	-.22	+.26 (.08)	+.78 (.08)	---	---	.98
						1948-57	-.05	+.10 (.17)	+.94 (.08)	---	---	.98
						Combined	-.24	+.19 (.03)	+.90 (.04)	---	---	.99
6.2	Farm value of domestic farm foods sold, per capita (PFV-1) / CPI	Disposable income per capita / CPI	Farm food prices / CPI	---	---	1929-41	-.74	+.40 (.08)	+.77 (.08)	---	---	.98
						1948-57	-.38	+.23 (.12)	+.88 (.06)	---	---	.99
						Combined	-1.02	+.44 (.03)	+.87 (.04)	---	---	.99
6.3	Farm value of domestic farm foods sold, per capita (PFV-1) / CPI	Use of home-produced farm foods, per capita	Use of purchased farm foods (domestic), per capita (PFQ-4b)	Disposable income per capita / CPI	Farm food prices / CPI	1929-41	-1.68	+.03 (.26)	+.76 (.34)	+.06 (.19)	+.98 (.12)	.99
						1948-57	-1.32	+.13 (.08)	+.16 (.29)	+.40 (.21)	+.84 (.08)	.99
						Combined	-1.73	+.01 (.04)	+.83 (.15)	+.03 (.08)	+1.01 (.04)	.99
6.4	Retail value of all food, per capita (PFV-9) / CPI	Food consumption per capita (retail, PFQ-2)	Retail food prices / CPI	---	---	1929-41	-1.02	+.67 (.15)	+1.10 (.08)	---	---	.96
						1948-57	+4.35	-1.03 (.36)	+.12 (.10)	---	---	.69
						Combined	-.43	+.66 (.24)	+.81 (.12)	---	---	.73
6.5	Retail value of all food, per capita (PFV-9)	Disposable income per capita	---	---	---	1929-41	+.54	+.61 (.10)	---	---	---	.76
						1948-57	+1.57	+.31 (.08)	---	---	---	.67
						Combined	+.10	+.77 (.03)	---	---	---	.98
6.6	Market value of domestic farm food, per capita (PFV-12a)	Use of all domestic farm foods, per capita (PFQ-4a)	Farm food prices	Use of marketing services with domestic farm food, per capita (PFQ-7)	Farm-retail price spread (index)	1929-41	-1.52	+.60 (.26)	+.42 (.03)	+.44 (.13)	+.52 (.06)	.99
						1948-57	-1.46	+.49 (.33)	+.43 (.06)	+.47 (.34)	+.58 (.07)	.99
						Combined	-1.45	+.33 (.19)	+.41 (.02)	+.64 (.08)	+.58 (.03)	1.00
6.7	Market value of domestic farm foods, per capita (PFV-12a) / CPI	Disposable income per capita / CPI	Market value of all other food, per capita / CPI	Retail food prices / CPI	---	1929-41	-.02	+.40 (.06)	-.06 (.16)	+.65 (.25)	---	.94
						1948-57	+.49	+.20 (.13)	-.37 (.11)	+.98 (.25)	---	.89
						Combined	-1.08	+.45 (.07)	-.20 (.15)	+1.23 (.20)	---	.98
6.8	Market value of all food, per capita (PFV-10b)	Per capita use of all food, measured at supplier level (PFQ-6a)	Use of all food marketing services, per capita (PFQ-3)	Farm food prices	Farm-retail price spread (index)	1929-41	-1.28	+.42 (.28)	+.52 (.11)	+.39 (.03)	+.56 (.05)	.99
						1948-57	-1.39	+.22 (.17)	+.71 (.15)	+.39 (.02)	+.64 (.03)	.99
						Combined	-1.32	+.26 (.17)	+.66 (.06)	+.38 (.01)	+.63 (.02)	1.00
6.9	First differences of above variable (PFV-10b)	First differences of above	First differences of above	First differences of above	First differences of above	1929-41	-.00	+.54 (.24)	+.58 (.11)	+.46 (.05)	+.34 (.12)	.99
						1948-57	+.00	+.43 (.09)	+.23 (.10)	+.46 (.02)	+.33 (.06)	.99
						Combined	+.00	+.45 (.17)	+.58 (.09)	+.42 (.03)	+.47 (.07)	.99
6.10	Market value of all food, per capita (PFV-10a)	Disposable income per capita (includes nonmoney)	---	---	---	1929-41	+.25	+.70 (.08)	---	---	---	.86
						1948-57	+1.34	+.38 (.07)	---	---	---	.77
						Combined	-.25	+.88 (.02)	---	---	---	.98
6.11	Market value of all food, per capita (PFV-10a)	Disposable money income per capita	---	---	---	1929-41	+.32	+.68 (.09)	---	---	---	.84
						1948-57	+1.36	+.38 (.08)	---	---	---	.76
						Combined	-.18	+.87 (.02)	---	---	---	.98
6.12	Total expenditures for all foods (excluding taxes and tips 6/ (TFV-11a)	Total farm value of domestic farm foods sold (TFV-1)	Total value of food imports and fishery products (TFV-3 + TFV-4)	Total value of marketing services for all food (TFV-14a)	---	1929-41	+.36	+.32 (.01)	+.06 (.01)	+.63 (.02)	---	1.00
						1948-57	+.32	+.37 (.01)	+.04 (.00)	+.61 (.00)	---	1.00
						Combined	+.35	+.34 (.01)	+.05 (.01)	+.62 (.01)	---	1.00
6.13	Expenditures for all foods (excluding taxes and tips), per capita (PFV-11a)	Disposable income per capita (includes nonmoney)	---	---	---	1929-41	+.22	+.69 (.07)	---	---	---	.89
						1948-57	+1.00	+.48 (.06)	---	---	---	.89
						Combined	-.40	+.92 (.02)	---	---	---	.99
6.14	Expenditures for all foods (excluding taxes and tips), per capita (PFV-11a)	Disposable money income per capita	---	---	---	1929-41	+.29	+.67 (.08)	---	---	---	.86
						1948-57	+1.02	+.48 (.06)	---	---	---	.88
						Combined	-.33	+.91 (.02)	---	---	---	.98

1/ See MP-text chapter 3 for description of measures of food consumption used. Linear regressions in logarithms. The letter "a" in the code indicates excluding retail sales taxes and tips; "b" indicates including. 2/ Standard errors given in parentheses. 3/ Consumer Price Index, Bureau of Labor Statistics. 4/ Includes nonmoney income except where noted otherwise. 5/ As measured by farm value of AMS farm food market basket. 6/ Series not published but is TFV-11a, i.e. same as food expenditures TFV-11b except for exclusion of taxes and tips.

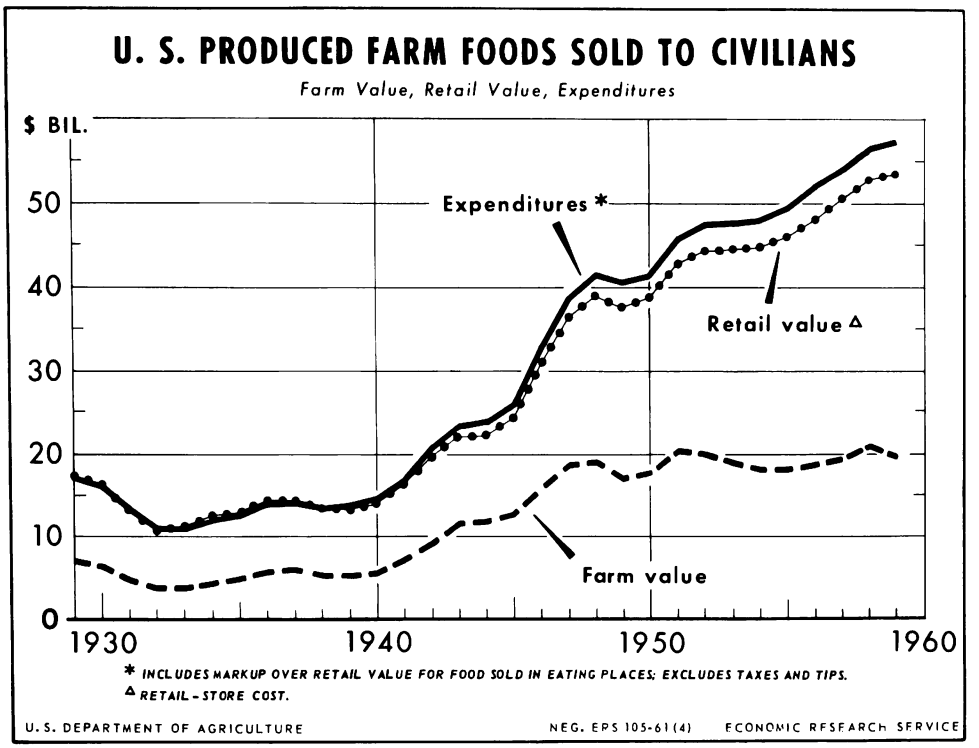

Figure 6.1

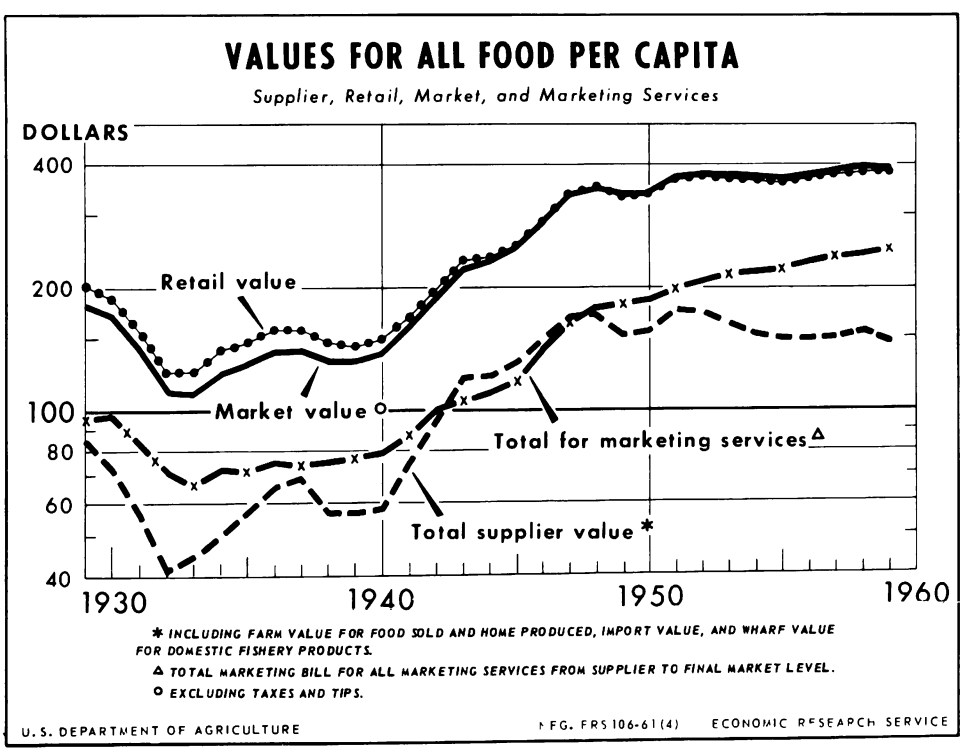

Figure 6.2

after 1945 as (1) real incomes rose; (2) commercial supplies of farm foods increased, and farm food prices declined relative to other prices; and (3) the proportion of the population living on farms decreased sharply.

Although home production in recent years has been valued in current dollars slightly above that of 1929, in terms of constant dollars the value was down 40 to 50 percent. On a per capita basis, the decline in the constant dollar value has been even more.

The commodity makeup of the total value of home-produced foods, including those produced by both farm and nonfarm households, has shifted toward less livestock products (table 6.2). Production of dairy products and poultry and eggs for family use has gone down much more than production of meat animals. Farm-home production of beef and veal in recent years has been more than twice as great as in 1929, partly because of the availability of freezing facilities. Although the total quantity of home-produced vegetables has been significantly lower in recent years than it probably was 30 years earlier, higher prices have raised the total farm value. Reduction in the home production of foods other than beef and veal has increased the relative importance of these meats. 111/

6.1.4. Imported Foods Including Fishery Products

The total value series for imported foods including imported fishery products (TFV-3 in MP-table 3.3) shows that imports tripled between 1929 and 1959. The low points in imports for the 30-year period came in the depression years of the early 1930's and in the war years, 1942 and 1943. Since 1951, the total has been maintained at $3.2 to $3.4 billion each year. On a per capita basis, the current dollar value doubled from 1929 to 1959.

The increases in the value data reflect increases in quantities, in prices, and in changes in the relative importance of major foods imported. The total quantity of farm foods imported rose 65 percent from 1929 to 1959, but imports of fishery products went up somewhat more. There is no satisfactory price index for imported foods only, so the effects of the price rise on total value cannot be separated clearly from the effects of changes in makeup. After subtracting the quantity changes, one finds that 75 to 80 percent of the increase in import value was tied to price and commodity shifts together.

The principal changes in the commodity components of imports in terms of value from 1929 to 1959 were the increases in coffee, tea, and cocoa; the decrease in sugar; and the reduction in imports of oils. Sugar prices have risen less than prices for many other major imported foods. The quantity of coffee consumed per capita increased 30 percent from 1929 to 1959, but the average price per pound rose far more.

6.1.5. Domestic Fishery Products

The value data for domestic fish and shellfish catch covers only commercially caught fishery products for edible use (TFV-4 in MP-table 3.3). When the domestic commercial catch on a wharf value basis is combined with the import value data for imported fish, the total is equal to only 2 to 3 percent of the total supplier value of all foods.

111/ Home production of foods was considered extensively by this author and Gertrude Gronbech in two articles published in the National Food Situation in April and July, 1958.(36 n, o).

Table 6.2.--Value of home-produced food: Total, by farm and nonfarm households, and percentage of total for major commodity groups, 1929-58 1/

Year	Approximate value of all home-produced food (current dollars)			Percentage of each group in total home production						
				Livestock products				Crop items		
	Total TFV-2	Farm households	Nonfarm households	Meat animals 2/	Dairy	Poultry and eggs	Total 3/	All vegetables 4/	Fruits and nuts 2/	Total 5/
	Bil. dol.	Bil. dol.	Bil. dol.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
1929	2.0	1.7	0.3	18	28	25	71	22	4	29
1930	1.8	1.6	.2	18	27	23	69	23	5	31
1931	1.5	1.3	.2	17	28	23	68	24	6	32
1932	1.1	1.0	.2	15	30	23	68	25	5	32
1933	1.2	1.0	.2	14	29	20	63	27	5	37
1934	1.3	1.1	.2	15	31	20	66	25	5	34
1935	1.5	1.3	.2	20	28	23	70	21	5	30
1936	1.6	1.4	.2	21	27	22	70	22	4	30
1937	1.7	1.4	.2	20	27	21	69	23	5	31
1938	1.4	1.2	.2	20	27	24	71	22	5	29
1939	1.4	1.2	.2	18	27	22	67	25	5	33
1940	1.4	1.2	.2	16	28	21	66	27	4	34
1941	1.7	1.4	.3	19	26	22	67	27	4	33
1942	2.2	1.8	.4	21	23	22	67	27	4	33
1943	2.9	2.3	.5	19	20	23	62	32	4	38
1944	2.8	2.2	.6	18	21	21	60	32	5	40
1945	3.1	2.4	.6	18	19	22	60	34	5	40
1946	3.2	2.6	.6	22	22	21	66	26	6	34
1947	3.4	2.8	.7	26	23	21	70	24	4	30
1948	3.4	2.7	.7	25	24	21	70	24	4	30
1949	2.8	2.2	.6	22	23	24	69	25	5	31
1950	2.6	2.1	.5	23	24	21	68	26	5	32
1951	3.0	2.3	.6	23	24	23	70	25	4	30
1952	2.9	2.2	.7	20	25	20	65	29	5	35
1953	2.7	2.0	.7	21	22	23	67	27	5	33
1954	2.4	1.8	.6	23	22	20	65	29	5	35
1955	2.3	1.7	.6	19	22	21	63	31	5	37
1956	2.3	1.7	.6	18	22	21	61	34	4	39
1957	2.2	1.7	.6	21	21	18	60	34	5	40
1958	2.2	1.7	.5	26	20	18	64	31	4	36
1959 6/	2.0	1.5	.5	24	20	15	59	35	5	41

1/ Sources of data described in MP-text sec. 3.2.1.4.
2/ No estimates of nonfarm production made.
3/ Total includes minor items not listed separately.
4/ Including potatoes and sweetpotatoes, dry beans and peas.
5/ Total includes grain products, sugar crops, and minor items.
6/ Preliminary.

In 1929, the imports of fishery products for civilian use were valued at about 15 percent less than the domestic catch. In the late 1950's the value of imported fishery products exceeded the value of the domestic catch, but their tonnage of edible weight varied from half to two-thirds. This change was affected by the price increases, shifts in the kinds of fish imported, and increases in marketing services supplied with imported fishery products, such as filleting and freezing. The share of Alaska in total imports decreased in the last decade because of reduced salmon supplies. 112/

6.1.6. Total Supplier Value

The per capita supplier values of all food are compared in figure 6.2 with per capita retail value, market value, and the value of marketing services. This chart illustrates three well-known facts: (1) Supplier values fluctuate more than the total marketing bill from year to year; 113/ (2) the supplier value of all food per capita has been significantly lower since 1948 except for 1951 and 1952 when the Korean conflict resulted in higher commodity prices; (3) payments for marketing services have continued to increase.

6.2. Value Measures at Retail

The total retail value of all food consumed by U. S. civilians (TFV-9 in MP-table 3.4) covers all foods, including home-produced supplies and fishery products. While the U. S. total increased from $24.5 billion in 1929 to $66.6 billion in 1959, the per capita series a little less than doubled. The low points in both the total and per capita series for the period 1929-59 came in 1932 and 1933. A new high in the per capita rate was reached in 1958.

6.2.1. Quantity and Price Factors in the Changes

Changes in retail value of food per capita result from changes in the quantities of food consumed and their prices at retail. Their prices at retail include the cost of food per se and of farm-retail marketing services.

The quantity of food consumed per capita, as measured by the index of civilian food per capita at retail (PFQ-2 in MP-table 3.1), rose from 91 percent of the 1947-49 base in 1929 to the range of 101-104 in 1955-59. The Bureau of Labor Statistics index of retail prices for food at home shows that urban food prices almost doubled from the beginning to the end of this period. Rural food prices in the 1930's were lower relative to urban prices than in the 1950's. Allowing for this fact and also that urban prices are paid by an increasing proportion of food buyers, it is safe to conclude that food prices doubled from 1929 to 1959. Year-to-year price changes have been much greater than changes in quantity, reflecting the short-run price competition for the available quantities. The price of food is often influenced by changes in purchasing power before the flow of food supplies can be changed to meet increased demand resulting from the rise in disposable income.

The relationships of changes in retail value of all food per capita to the quantity and price measures have been studied by means of regression 6.4 (table 6.1). In the 1929-41 period, retail food prices were more closely related to changes in retail

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112/ The general term "imports" as used here includes inshipments from Alaska and U. S. possessions.

113/ The term "marketing bill" is synonomous with value of marketing services.

value than was the quantity of food consumed. Data for the 1948-57 period yield peculiar results because of the postwar adjustments in price relationships. From 1948 to 1957, the deflated retail value of food per capita declined about 8 percent; deflated retail food prices went down 7 percent; and the quantity of food consumed rose 3 percent or so.

6.2.2. Relationship to Changes in Income

Another regression, 6.5 in table 6.1, shows how the retail value of all food varied with disposable income in the prewar period, the postwar period, and the combination of the two. The income elasticity, indicated by the regression coefficients, decreased significantly from .6 in the prewar period to .3 in the postwar years. The combination of the somewhat different levels for the two periods raised the elasticity for the combined period. The difference between the combined elasticity and the prewar elasticity is not significant below the 15 percent level of probability. 114/

6.2.3. Changes in the Components

Comparison of the several retail value subseries in MP-table 3.4 with the total yields these conclusions: The retail value of farm foods sold went up from 70 percent of total retail value in 1929 to 80 percent in 1959. Home production fell from 18 percent at the beginning of the period to 7 percent at the end, with most of the decline occurring after the war. In 1959 the share of imported foods and fishery products in total retail value was equal to that of 1929. During the war, this combined group dropped in importance from 12 percent to 8 percent because of the effects of the war on shipping and supplies.

The only commodity breakdowns available for any of the sets of value data for time series are those pertaining to farm foods sold. Commodity components of their retail store values can be studied with the data referred to in footnote 110.

Still another aspect of changes in the retail value of food is the change in the relative importance of the several channels through which food reaches consumers. This subject is considered in section 5.4.

6.3. Changes in Market Value of Food

Consideration here of historical changes in the market value of food is divided into two sections--domestic farm foods and all foods. The market value series are compared with price and quantity series which pertain to the same sectors and with other major economic changes. No commodity breakdowns of the market value data can be made because of the lack of information on commodities used outside private homes.

6.3.1. Domestic Farm Foods

The market value of domestic farm foods is measured by series TFV-12a, which excludes taxes and tips, and by TFV-12b, which includes them. (MP-table 3.7.) The aggregate market value of commercial and home-produced farm foods consumed by U. S. civilians tripled between 1929 and 1959, but the per capita value a little more than doubled. The lows of both series were in 1932 and 1933. During the years 1951 to 1959, the per capita series was fairly level in the range of $320 to $345.

114/ The Fisher "t" test was used to test significance of differences.

6.3.1.1. Components of Changes.- The 9 percent increase in the per capita quantity of domestic farm foods used (PFQ-4a in MP-table 3.2) from 1929 to 1959 contributed relatively little to the 125 percent increase in per capita market value of these foods. The prices of farm food commodities at retail, as measured by the farm value in the market basket series, went up 68 percent. The other major element in the increase in market value was the shift from home-produced food valued at farm prices to purchased food valued at retail prices. Superficially, this shift is a price change, but it actually reflects a change in the purchases of marketing services.

From the mid-1930's to 1948 all components of the market value series rose--quantities of farm foods, farm food prices, quantities of marketing services, and prices of marketing services (fig. 6.3). The fall in farm prices in 1949 and early 1950 reduced the market value per capita slightly, but price increases after the Korean outbreak raised the value series again. In 1952-55, the fall in farm prices practically offset the increase in marketing services. Thereafter, average market value rose as farm prices and prices of marketing services went up and consumption fell off slightly due to short-run changes in supplies.

A multiple regression measuring the relationship of changes in average market value of farm foods to these quantity and price components is reported as regression 6.6 in table 6.1. The coefficients for the 4 components turn out to be remarkably close, indicating that their rates of change were related about equally to the changes in market value. However, the standard errors of the coefficient for the food quantity measure in both prewar and postwar periods were quite high, likewise the standard error for the use of marketing services in the later period.

The food and marketing service parts of the total market value of domestic farm foods (including home-produced) changed significantly in relative importance over the 31-year period, 1929-59. In 1929 farm value of food sold and home produced accounted for 49 percent of the total excluding taxes and tips. The proportion declined during the depression of the early 1930's, recovered some, and then fell again in 1938-40. Farm value rose in importance during the war to 54 percent of total market value in 1943 to 1945. With the exceptions of 1951 and 1958 the farm value or food production share of the total has continued to decline since World War II. 115/

6.3.1.2. Relationship to Other Changes.- Comparison of changes in per capita market value of domestic farm foods with disposable income, market value of other food, and the retail food prices (all deflated, regression 6.7 in table 6.1) yielded these findings: (1) Market value appeared to vary more with food price changes than with disposable income. (2) Variations in the value of foods other than domestic farm foods had little relationship to the value of the latter in 1929-41, but seemed to have a converse effect in 1948-57.

6.3.2. Market Value of All Foods

The total market value of all food (TFV-10a in MP-table 3.6) has gone up practically to the same extent as the series for domestic farm foods alone. The principal differences in the movements of the two series were greater declines in the all-food series in the 1930's and greater increases for that series in 1948 and 1949 when the relative shortage of world food supplies raised import prices.

115/ Comparisons of the farmer's share usually are based only on food sold. For discussion of alternative measures, see "The Farmer's Share: Three Measurements" by Kenneth E. Ogren in Agr. Econ. Res. April 1956 (20).

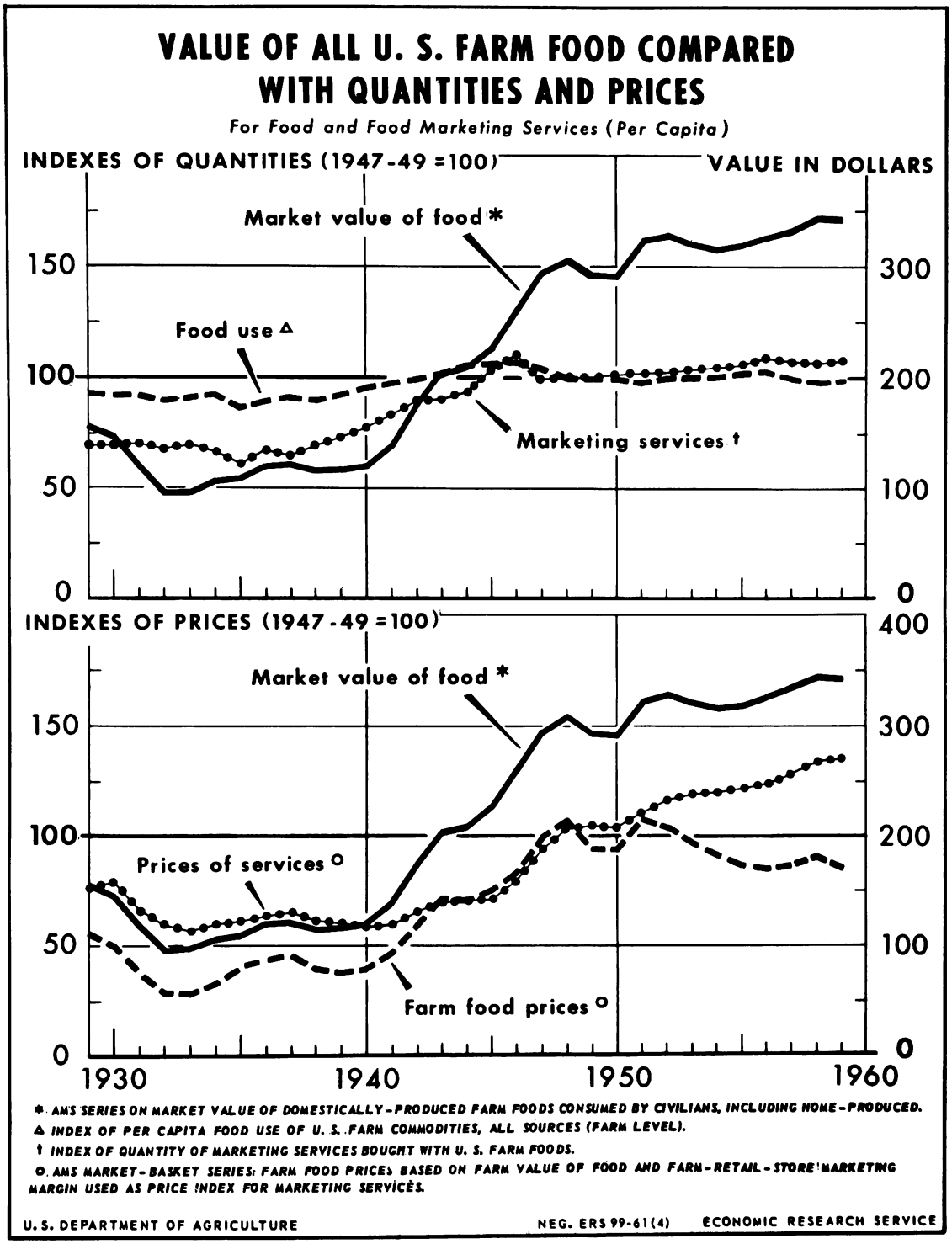
VALUE OF ALL U. S. FARM FOOD COMPARED WITH QUANTITIES AND PRICES
For Food and Food Marketing Services (Per Capita)
INDEXES OF QUANTITIES (1947-49 =100)
VALUE IN DOLLARS
Market value of food *
Food use Δ
Marketing services †
150
100
50
0
300
200
100
0
INDEXES OF PRICES (1947-49 =100)
400
Market value of food *
Prices of services O
Farm food prices O
150
100
50
0
300
200
100
0
1930
1940
1950
1960
* AMS SERIES ON MARKET VALUE OF DOMESTICALLY-PRODUCED FARM FOODS CONSUMED BY CIVILIANS, INCLUDING HOME-PRODUCED.
Δ INDEX OF PER CAPITA FOOD USE OF U. S. FARM COMMODITIES, ALL SOURCES (FARM LEVEL).
† INDEX OF QUANTITY OF MARKETING SERVICES BOUGHT WITH U. S. FARM FOODS.
O AMS MARKET-BASKET SERIES: FARM FOOD PRICES BASED ON FARM VALUE OF FOOD AND FARM-RETAIL-STORE MARKETING MARGIN USED AS PRICE INDEX FOR MARKETING SERVICES.
U. S. DEPARTMENT OF AGRICULTURE
NEG. ERS 99-61(4)
ECONOMIC RESEARCH SERVICE

Figure 6.3

6.3.2.1. Changes in Price and Quantity Components.- Prewar and postwar average relationships of changes in market value per capita to changes in prices and quantities of food per se and of food marketing services are measured in regressions 6.8 and 6.9 of table 6.1. Although at first glance the changes in quantity of all food consumed appear to have had less relation to changes in market value of all food than was the case for domestic farm foods only, the high standard errors prevent substantiation of that inference.

Changes in the market value of all U. S. civilian food from 1941 to 1955 are summarized in table 6.3. 116/ The $2.8 billion increase in supplier value and $5.9 billion increase in payments for marketing services are measured in terms of 1941 dollars. These increases in value tie in with changes in quantities of farm food per se and of food marketing services described earlier in this article. Changes in value ascribed to price rises work out to 94 percent for all foods at the supplier level and 106 percent in marketing services. The value of the price rise for farm foods, imported foods, and fish was computed as a residual. A checking of this 94 percent increase against the 84 percent increase in the USDA index measuring farm food prices 117/ shows greater increases in prices of non-U. S. farm foods and probably also some change in the relative importance of individual foods. The price increase for marketing services was based on the increase in the farm-to-retail price spread of the farm food market basket, the only price measure available for marketing services.

Table 6.3.- Changes in market value of U. S. civilian food from 1941 to 1955

Item	Value		
	1941	1955	Increase
	Bil. dol.	Bil. dol.	Bil. dol.
1. Supplier value	9.7	24.2	14.5
For greater quantity (in 1941 dollars)			2.8
Price increase (on 1941 quantity and for increase in quantity since 1941)			11.7
2. Payments for marketing services	11.5	35.8	24.3
For handling larger volume and for additional services (in 1941 dollars)			5.9
Price increase (on 1941 quantity and for more services since 1941)			18.4
Total market value (excluding taxes, tips)	21.2	60.0	38.8

116/ This period is used because spring 1942 and 1955 household survey data are used in some of the analyses. The procedure used for this analysis is described, and the analysis is carried further, in MP-section 4.5.

117/ Derived from the farm value of the farm food market basket, reported regularly in the Marketing and Transportation Situation (34).

For comparison with these price changes, use of the BLS Consumer Price Index is appropriate. This index of retail prices paid by urban consumers for all goods and services rose 82 percent from 1941 to 1955.

6.3.2.2. Relationship to Income.- The market value of all food accounted for a much smaller proportion of disposable income per capita in 1954-59 than in 1929-33, 22 to 23 percent compared with 27 to 30 percent. The food share was high in the depression years and in 1947 and 1948. In the latter years, food prices were relatively high. But the food share was low during the war years when prices were controlled and in recent years when an increasing share of income has been allocated to nonfood goods and services. These relationships are illustrated in figure 6.4.

Compared with prices in the 1947-49 base period, retail food prices in Consumer Price Index were lower relative to the prices of nonfood goods and services in the 1930's. In 1952 to 1956 retail food prices dipped, but they rose sharply in 1958. The price of nonfood goods and services in the CPI have continued to rise without interruption since 1940. After allowing for price changes indicated by these two subseries of the CPI, one finds that the market value of all food per capita in constant dollars has changed little since 1947, but purchases of other goods and services in constant dollars have increased a fourth.

The per capita market value series in current dollars was compared with disposable total income in regression 6.10 and with disposable money income in regression 6.11 (table 6.1). The exclusion of income in kind had practically no effect on the relationship between income and market value. The relationship of market value to income declined significantly from prewar to postwar, as was the case for retail value. The higher income elasticity for the combined periods reflects the higher level of use of marketing services after the war.

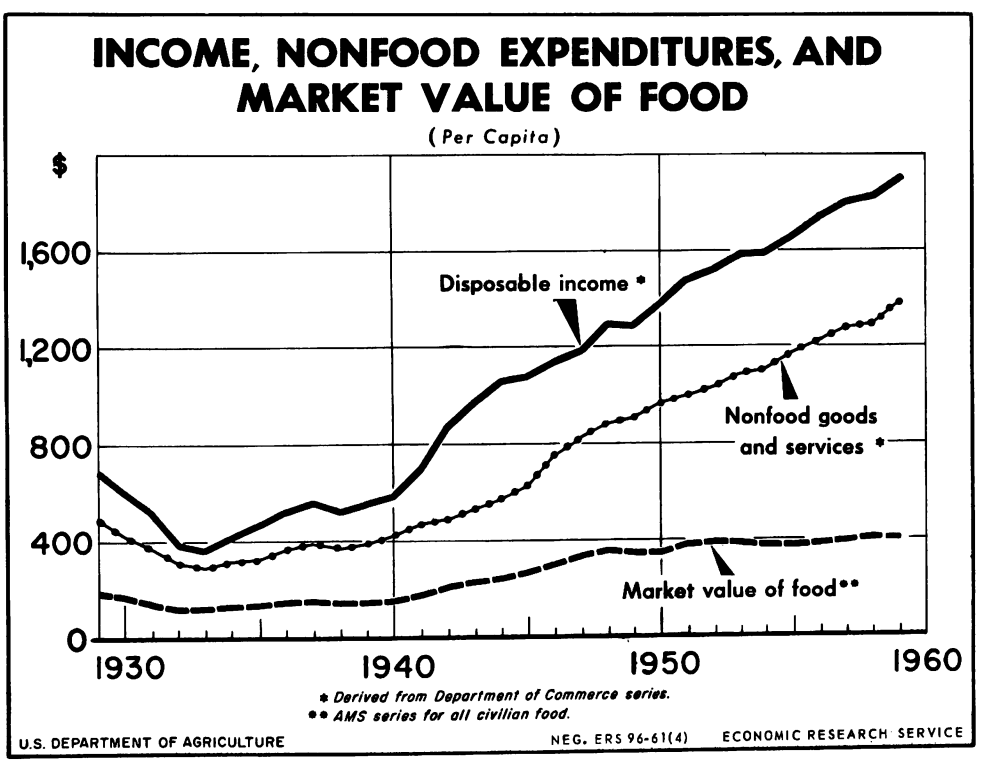

Figure 6.4

6.4. Expenditures for Food and Food Marketing Services

Expenditures for food and food marketing services differ from total market value by the value of home-produced food. For lack of data on the game catch of fish (the home-produced, so to speak) the only home-produced foods used in these series are the farm food commodities. With the decline in home production, expenditures for farm foods have increased more than expenditures for all foods. For the following discussion of expenditures for foods the ERS series including taxes and tips are used. (TFV-11b for all foods in MP-table 3.6 and TFV-13b for domestic farm foods in MP-table 3.7.)

6.4.1. Expenditures for U. S. Farm Foods

The expenditures or dollar outlays by U. S. civilians for foods produced by U. S. farmers totaled $58.7 billion in 1959 compared with $16.9 billion in 1929. Expenditures declined in the 1930's as far as $10.9 billion in 1932 and 1933 because of the depression. Wartime and postwar economic prosperity raised prices and increased the quantities of farm foods and marketing services used by U. S. civilians. Also, the civilian population increased 32 percent from 1941 to 1959.

On a per capita basis, expenditures for U. S. farm foods were 142 percent higher in 1959 than in 1929. The change in the retail price of the market basket of farm foods from 1929 to 1959 was approximately the same as the change in the CPI. Adjustment for price change brings the increase in expenditures for farm foods per capita down to 33 percent, in constant dollars. The per capita quantity of domestic farm foods purchased by civilians (PFQ-4b) increased a little over a fourth from the beginning to the end of this 31-year period and use of marketing services per capita bought with farm foods (PFQ-7) went up about a half.

Changes in the farm food expenditure series were compared with those of the series on retail-store value of farm foods (described in MP-3.3.2) for the 1938-57 period in a 1958 article in the Marketing and Transportation Situation. 118/

The relative importance of the farm value of farm foods sold and of their marketing bill in market value of these foods has already been discussed in connection with the farm value series (6.1.2).

In the 10-year period 1929-38, when expenditures for farm foods per capita in 1947-49 dollars varied only from $190 to $210, the farm population made up 24 to 26 percent of the total civilian population. Since then, expenditures in constant dollars have increased by a half while the farm population has dropped from 24 to 12 percent. This decline in the farm population combined with (1) the decrease in average home production by farm households and nonfarm households and (2) the general increase in the demand for food and food marketing services to bring about the increase of 30 percent in purchases of domestic farm foods from 1938 to 1959 and the increase of 55 percent in the purchases of marketing services with those foods.

6.4.2. Expenditures for All Food

6.4.2.1. The ERS series used here, "civilian expenditures for all food," differs conceptually from the Commerce series, "consumption expenditures for food," by the exclusion of home-produced foods and military food and by the inclusion of the value

118/ Burk and Scott "Consumer Expenditures for Food" (11).

of meals served institutional inmates and travelers. 119/ These elements have been practically offsetting in recent years. During the depression years 1930-36, the Agriculture series ran somewhat higher than the Commerce series of estimates.

Series TFV-11b in MP-table 3.6 shows an increase in the aggregate from $20.1 billion in 1929 to $67.9 billion in 1959 while the per capita series went from $165 to $389. The low point of the series was in 1933. In 1951 to 1957 the per capita series stayed in the general range of $360 to $380. The quantity index for farm foods and fishery products purchased by consumers, measured at the supplier level (PFQ-6b in MP-table 3.2), varied from 80 in 1935 to 109 in 1956 (1947-49 average equals 100). The quantity of marketing services (measured by PFQ-3) went up from an index of 64 in 1935 to 108 in 1956, significantly more than the increase in the quantity of food. The variations in the two quantity series for food and for services in the period 1948 to 1959 were quite close, but the price of marketing services rose about a third and the food price series declined a fifth.

6.4.2.2. Changes in Components.- The major components of expenditures for all foods are the farm value of farm foods sold by American farmers, the supplier value of imported foods and domestic fishery products, and the value of marketing services for all food. The changes in these series are summarized by figure 6.5 and by regression 6.12 (in table 6.1). 120/ Depressed farm prices resulted in low shares for

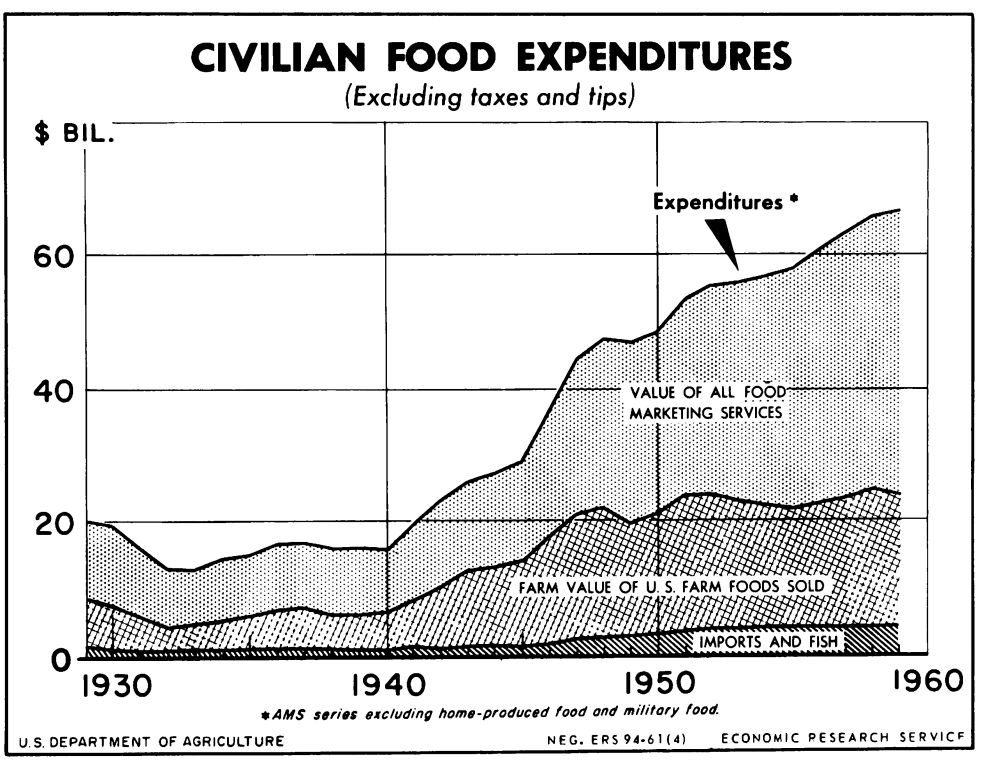

Figure 6.5

119/ The Agriculture series (TFV-11b) is described in MP-sec. 3.4.3.3 and the Commerce series in MP-3.6.2.

120/ These analyses were for an unpublished food expenditure series, excluding taxes and tips. The use of this series reflects the author's question about including retail sales taxes as a part of payments for, or costs of, marketing services.

farmers in the 1930's, while the upsurge in farm prices raised the farm values to 43 percent of the total in 1943. Since then, the domestic farm share has represented a decreasing percentage each year--except for a small increase in 1951 and 1958. The proportion reached 29 percent in 1959. The lowest proportion of expenditures going to marketing services was in 1943-45, with a steady rise since then.

Regression 6.12 indicates that for the period 1948-57 as a whole, total expenditures for food varied a little more with farm value of farm food sold than in 1929-41. In both periods, the marketing bill was more important in total expenditures than the farm value.

There are no time series data on expenditures for individual commodities or commodity groups.

6.4.2.3. Relationship to Changes in Income.- Expenditures or dollar outlays for all foods may be compared with disposable money income to see the changing significance of food. The proportion has varied considerably over the years. It ranged from 26 to 30 percent in 1929-35, with a high of 30 percent in 1933. From 1935 to 1945, income went up faster than food expenditures which were affected by price controls on food and by limitations on marketing services during the war years. After decontrol in 1946 retail food prices rose 47 percent within 2 years, and consumption, as measured by disappearance into distribution channels, increased too. From 1947 to 1955 the percentage of disposable money income allocated to food decreased each year except in 1951. In 1955-58 the proportion was fairly stable at 22 to 23 percent. It moved down to 21 percent in 1959.

Regressions 6.13 and 6.14 show that the income elasticity of food expenditures also declined from prewar (.67 to .69) to postwar (.48). Gradual increases in average use of marketing services, not directly related to income, apparently resulted in the reduction in income elasticity. Here, too, the income elasticity for the combined periods was significantly higher than for the prewar period, reflecting the higher level of marketing services bought with food since World War II.

APPENDIX A. Guides to USDA Food Quantity and Value Series

Exhibit A.--Guide to USDA per capita food quantity and value series 1/

Item	Per capita quantity (Indexes: 1947-49=100)		Per capita value data 2/						
			Supplier level	Retail value		Market level 3/		Expenditures 3/	
	Code	1955	Code	Code	1955	Code	1955	Code	1955
					Dol.		Dol.		Dol.
Food -- supplier level									
Domestic farm food commodities									
Sold	PFQ-4b	107	(TFV-1)	PFV-6	285			PFV-13b	311
Home produced			(TFV-2)	(TFV-7)		(TFV-2)			
All sources	PFQ-4a	101				PFV-12b	325		
Imported									
Farm			(TFV-3)						
Fishery products									
Total	PFQ-5	101		(TFV-8)					
Fishery products									
U. S.			(TFV-4)						
Total									
Domestic and imported									
Farm foods									
Sold	PFQ-1b	106							
All sources	PFQ-1a	101							
Farm foods and fishery products									
Sold	PFQ-6b	106						PFV-11b	363
All sources	PFQ-6a	101	(TFV-5)			PFV-10b	377		
All food at retail level 4/	PFQ-2	102		PFV-9	362				
Marketing services 5/									
With domestic farm foods	PFQ-7	106				(TFV-15a)			
With all food	PFQ-3	104				(TFV-14a)			
Composite quantity index of all foods used plus all marketing services	PFQ-8	103				PFQ-10b	377		

In this table the following initials are used: F for food; T for total; P for per capita; Q for quantity; and V for value.

1/ References to MP-tables for data in other years and to MP-text sections for description of series:

Code	Table	Section
PFQ-1a	3.1	3.1.2.2
PFQ-1b	3.1	3.1.2.2
PFQ-2	3.1	3.1.2.3
PFQ-3	3.1	3.5.2
PFQ-4a	3.2	
PFQ-4b	3.2	
PFQ-5	3.2	3.1.2.2
PFQ-6a	3.2	
PFQ-6b	3.2	
PFQ-7	3.2	3.5.2
PFQ-8	3.2	3.1.2.4
TFV-1	3.3	3.2.1.3
TFV-2	3.3	3.2.1.4
TFV-3	3.3	3.2.2
TFV-4	3.3	3.2.3
TFV-5	3.3	3.2.4
TFV-6	3.4	3.3.2
PFV-6	3.4	3.3.2
TFV-7	3.4	3.3.3

Code	Table	Section
TFV-8	3.4	3.3.3
TFV-9	3.4	3.3.3
PFV-9	3.4	3.3.3
TFV-10a	3.5, 3.6	3.4.3.1
TFV-10b	3.6	3.4.3.1
PFV-10b	3.6	3.4.3.1
TFV-11b	3.6	3.4.3.3
PFV-11b	3.6	
TFV-12a	3.7	
TFV-12b	3.7	3.4.3.2
PFV-12b	3.7	
TFV-13b	3.7	3.4.3.4
PFV-13b	3.7	
TFV-14a	3.8	3.5.1.1
TFV-14d	3.8	3.5.2
PFV-14d	3.8	
TFV-15a	3.8	3.5.1.2
TFV-15d	3.8	3.5.2
PFV-15d	3.8	

2/ Code for total value data given for those series for which per capita data are not published. 3/ Subseries a excludes retail sales taxes and tips, b includes them. 4/ Includes all food and those marketing services between farm and retail level. 5/ Including services of eating places along with others to final market level.

Exhibit B.--Guide to components of USDA total food value series 1/

Item	Supplier level		Marketing services from supplier to retail level		Retail level		Marketing services from supplier to final market level		Value at final market level 2/		Retail sales taxes and tips	Expenditures for purchased foods 2/	
	Code	Value	Code	Value	Code	Value	Code	Value	Code	Value		Code	Value
		Bil. dol.		Bil. dol.		Bil. dol.		Bil. dol.		Bil. dol.	Bil. dol.		Bil. dol.
Food per se													
Domestic farm food commodities													
Sold to U. S. civilians	TFV-1	18.3			TFV-6	46.3							
Home produced (farm and nonfarm)	TFV-2	2.3			TFV-7	4.8							
Total		20.6				51.1			TFV-12a TFV-12b	51.8 52.8	1.0	TFV-13b	50.5
Imported foods	TFV-3	3.3			TFV-8	7.6							
U. S. fishery products	TFV-4	.3											
Total	TFV-5	24.2			TFV-9	58.7			TFV-10a TFV-10b	60.0 61.2	1.2	TFV-11b	58.9
Marketing services													
With domestic farm food commodities			3/	28.0					TFV-15a	31.2	1.0	TFV-15b	32.2
With all foods							TFV-14a	35.7	TFV-14a	35.8	1.2	TFV-14b	37.0

1/ References to MP-tables for other data and to MP-text sections for description of series:

Code	Table	Section	Code	Table	Section	Code	Table	Section
TFV-1	3.3	3.2.1.3	TFV-8	3.4	3.3.3	TFV-13b	3.7	3.4.3.4
TFV-2	3.3	3.2.1.4	TFV-9	3.4	3.3.3	TFV-14a	3.8	3.5.1.1
TFV-3	3.3	3.2.2	TFV-10a	3.5	3.4.3.1	TFV-14b	3.8	3.5.1.1
TFV-4	3.3	3.2.3	TFV-10b	3.6	3.4.3.1	TFV-15a	3.8	3.5.1.2
TFV-5	3.3	3.2.4	TFV-11b	3.6	3.4.3.3	TFV-15b	3.8	3.5.1.2
TFV-6	3.4	3.3.2	TFV-12a	3.7	3.4.3.2			
TFV-7	3.4	3.3.3	TFV-12b	3.7	3.4.3.2			

2/ Subseries a excludes taxes and tips, subseries b includes them.
3/ From table 33 of Misc. Pub. 741 Farm-Retail Spreads for Food Products (33). Mentioned in MP-section 3.5.1.2.

APPENDIX B. Regional Quantity Indexes and Value Data

Table B. 1 .--NORTHEAST: Cross-section indexes of per person food consumption (retail level) for major commodity groups, by urbanization and family income, 1955 1/

(Index: U. S. all household average = 100)

Urbanization and income groups (dollars)	All food 2/	Livestock: Meat 3/	Livestock: Poultry	Livestock: Eggs	Livestock: Dairy products 4/	Livestock: All livestock	Crops: Grain products 5/	Crops: Fats and oils 6/	Crops: Sugar and sirups	Crops: Fruits 7/	Crops: Vegetables	Crops: Potatoes and sweetpotatoes	Crops: All crops 8/
ALL URBANIZATIONS													
All households	101	102	117	93	102	103	91	97	91	106	104	103	99
Households of 2 or more persons	101	102	116	93	102	103	91	97	92	106	103	103	99
Under 2,000	88	74	102	93	95	87	96	98	85	93	82	124	90
2 - 3,000	97	101	85	93	101	98	101	91	93	93	94	117	95
3 - 4,000	96	96	99	86	98	96	90	96	94	96	101	112	96
4 - 5,000	100	102	118	88	104	102	89	89	87	102	103	97	96
5 - 6,000	104	105	123	99	105	106	98	99	96	109	106	96	103
6 - 8,000	108	112	140	97	103	110	92	99	98	117	103	98	102
8 - 10,000	106	95	147	106	101	106	85	110	101	127	112	89	106
10,000 and over	108	105	134	112	104	110	80	111	93	116	121	92	106
URBAN													
All households	102	104	131	93	99	104	87	95	86	106	106	94	98
Households of 2 or more persons	101	104	130	92	98	104	87	95	86	104	105	93	97
Under 2,000	78	67	114	81	73	76	78	76	62	87	77	87	78
2 - 3,000	93	97	106	87	92	95	90	84	88	85	96	96	90
3 - 4,000	98	98	111	88	96	98	89	97	89	95	103	108	95
4 - 5,000	100	104	128	85	104	104	88	89	83	101	106	89	95
5 - 6,000	106	109	133	99	106	110	94	98	88	107	108	86	101
6 - 8,000	109	114	161	100	99	113	92	101	97	114	102	92	102
8 - 10,000	101	89	144	107	94	100	82	103	95	124	108	80	102
10,000 and over	107	102	142	112	100	109	78	114	92	111	118	90	103
RURAL NONFARM													
All households	98	96	85	89	106	96	97	100	101	107	96	120	102
Households of 2 or more persons	98	96	85	89	105	96	97	99	100	106	96	120	101
Under 2,000	90	68	96	81	108	86	110	116	95	87	90	147	97
2 - 3,000	100	107	53	98	108	98	118	97	95	99	94	135	103
3 - 4,000	88	85	71	78	93	84	89	89	100	94	96	111	96
4 - 5,000	96	94	92	93	106	96	90	90	98	102	90	119	97
5 - 6,000	100	97	101	94	104	98	106	100	110	113	97	113	106
6,000 and over	108	115	91	92	115	109	90	102	103	125	108	115	108
FARM													
All households	113	109	83	125	133	116	108	111	128	116	103	165	110
Households of 2 or more persons	113	109	82	122	135	116	108	109	127	117	104	165	110
Under 2,000	117	110	83	154	132	119	119	129	134	119	109	189	118
2 - 3,000	115	120	70	128	137	122	111	122	124	119	94	197	110
3 - 4,000	105	105	63	99	149	113	98	97	117	103	87	154	96
4 - 5,000	111	127	72	112	101	111	102	98	140	117	110	161	113
5 - 6,000	120	111	171	148	117	124	109	97	133	114	96	137	108
6,000 and over	116	95	132	117	152	118	103	106	113	139	114	131	114

1/ Derived from 1955 Household Food Consumption Survey data on household use of individual foods, using average retail prices in 1947-49. Family money income in 1954 measured after income taxes.
2/ Includes fish.
3/ Excludes lard.
4/ Includes all ingredients in ice cream and condensed milk, excludes butter.
5/ Excludes corn sugar and sirup.
6/ Excludes peanuts and peanut butter.
7/ Includes melons.
8/ Includes some commodity groups (dry beans and peas, coffee, tea, and cocoa, etc.) not shown separately.

Table B. 2.--NORTH CENTRAL REGION: Cross-section indexes of per person food consumption (retail level) for major commodity groups, by urbanization and family income, 1955 1/

(Index: U. S. all household average = 100)

Urbanization and income groups (dollars)	All food 2/	Livestock: Meat 3/	Livestock: Poultry	Livestock: Eggs	Livestock: Dairy products 4/	Livestock: All livestock	Crops: Grain products 5/	Crops: Fats and oils 6/	Crops: Sugar and sirups	Crops: Fruits 7/	Crops: Vegetables	Crops: Potatoes and sweetpotatoes	Crops: All crops 8/
ALL URBANIZATIONS													
All households	107	111	95	104	111	110	99	105	110	114	103	118	105
Households of 2 or more persons	107	111	95	103	115	109	99	105	110	113	102	119	105
Under 2,000	100	96	104	119	109	104	99	98	117	103	85	118	98
2 - 3,000	102	108	69	103	117	106	99	102	104	98	92	124	97
3 - 4,000	101	104	80	98	108	102	105	102	111	100	92	133	102
4 - 5,000	104	109	89	98	113	106	99	104	108	104	98	119	102
5 - 6,000	110	117	112	101	114	113	101	103	106	116	103	113	106
6 - 8,000	112	115	104	104	116	113	98	106	112	117	110	120	110
8 - 10,000	112	113	85	99	118	111	91	118	124	141	114	117	116
10,000 and over	120	114	126	111	129	122	93	123	113	149	138	92	120
URBAN													
All households	109	113	106	99	111	110	96	104	105	117	112	108	108
Households of 2 or more persons	108	113	104	98	111	109	96	104	106	116	112	109	107
Under 2,000	100	108	107	118	87	101	92	96	106	109	102	101	103
2 - 3,000	96	110	69	83	102	100	86	93	85	88	100	107	91
3 - 4,000	103	106	98	90	106	103	102	102	107	102	105	125	105
4 - 5,000	103	107	106	94	109	105	99	97	104	105	102	114	103
5 - 6,000	110	118	130	102	109	114	94	103	105	114	105	103	105
6 - 8,000	112	116	99	102	117	112	98	105	112	118	116	112	111
8 - 10,000	113	114	91	102	115	111	88	118	122	147	120	104	119
10,000 and over	122	120	119	115	125	123	92	125	114	155	146	84	123
RURAL NONFARM													
All households	102	105	81	101	109	103	103	103	108	107	91	123	102
Households of 2 or more persons	101	105	80	100	110	103	103	102	107	104	90	123	101
Under 2,000	87	81	95	103	91	88	107	89	99	84	72	114	89
2 - 3,000	103	104	59	110	114	102	111	106	110	99	96	131	105
3 - 4,000	93	97	58	97	98	92	109	94	110	92	77	141	97
4 - 5,000	101	106	59	96	111	102	98	112	111	97	93	117	99
5 - 6,000	109	116	91	94	115	109	114	98	101	123	102	117	108
6,000 and over	108	103	119	98	120	110	97	110	114	127	97	124	108
FARM													
All households	111	113	82	125	137	120	105	112	128	110	87	147	101
Households of 2 or more persons	111	112	83	125	137	120	105	112	128	110	88	147	101
Under 2,000	112	100	104	133	139	118	108	107	138	112	96	133	106
2 - 3,000	112	110	76	129	148	122	109	113	131	111	79	143	100
3 - 4,000	111	109	68	137	142	120	107	117	136	110	84	142	102
4 - 5,000	113	123	71	121	136	123	102	119	123	111	90	148	101
5 - 6,000	110	113	70	113	140	118	107	112	120	104	89	158	100
6,000 and over	112	123	112	112	129	125	101	113	124	108	79	164	98

1/ Derived from 1955 Household Food Consumption Survey data on household use of individual foods, using average retail prices in 1947-49. Family money income in 1954 measured after income taxes.
2/ Includes fish.
3/ Excludes lard.
4/ Includes all ingredients in ice cream and condensed milk, excludes butter.
5/ Excludes corn sugar and sirup.
6/ Excludes peanuts and peanut butter.
7/ Includes melons.
8/ Includes some commodity groups (dry beans and peas, coffee, tea, and cocoa, etc.) not shown separately.

Table B. 3 .--SOUTH: Cross-section indexes of per person food consumption (retail level) for major commodity groups, by urbanization and family income, 1955 1/

(Index: U. S. all household average = 100)

Urbanization and income groups (dollars)	All food 2/	Livestock: Meat 3/	Livestock: Poultry	Livestock: Eggs	Livestock: Dairy products 4/	Livestock: All livestock	Crops: Grain products 5/	Crops: Fats and oils 6/	Crops: Sugar and sirups	Crops: Fruits 7/	Crops: Vegetables	Crops: Potatoes and sweet-potatoes	Crops: All crops 8/
ALL URBANIZATIONS													
All households	89	83	93	97	81	86	109	97	98	77	89	83	93
Households of 2 or more persons	88	83	91	96	81	85	109	95	97	76	88	83	92
Under 2,000	74	66	82	82	65	72	114	95	81	51	66	76	75
2 - 3,000	86	83	103	88	72	83	108	86	92	72	82	85	88
3 - 4,000	90	83	94	103	84	86	108	93	103	78	91	86	94
4 - 5,000	98	97	78	113	94	94	107	99	108	94	103	93	104
5 - 6,000	99	96	97	108	92	95	104	102	113	90	110	89	106
6 - 8,000	106	100	100	113	108	102	102	102	113	113	118	77	112
8 - 10,000	107	108	99	119	111	107	98	106	112	114	114	76	111
10,000 and over	120	114	114	137	106	112	106	125	121	158	138	88	133
URBAN													
All households	93	96	110	95	81	91	99	91	93	86	94	77	94
Households of 2 or more persons	92	95	107	95	81	91	98	90	93	84	93	77	93
Under 2,000	78	92	104	71	50	78	100	78	72	59	69	70	75
2 - 3,000	86	92	116	86	66	85	102	83	82	67	82	77	85
3 - 4,000	88	86	106	95	83	87	96	86	92	77	85	75	88
4 - 5,000	97	102	87	102	90	94	98	92	99	91	107	85	102
5 - 6,000	100	96	102	106	96	96	95	101	110	96	109	80	105
6 - 8,000	110	105	115	111	112	106	95	103	110	119	117	78	113
8 - 10,000	106	109	104	112	111	107	102	106	114	117	107	81	111
10,000 and over	126	116	142	152	104	118	105	131	124	184	138	81	139
RURAL NONFARM													
All households	85	74	80	98	74	78	117	96	101	74	87	91	94
Households of 2 or more persons	84	74	78	97	74	78	116	95	100	74	85	92	93
Under 2,000	69	53	67	82	58	63	117	95	79	51	61	83	76
2 - 3,000	83	73	102	84	67	76	111	84	95	75	80	91	90
3 - 4,000	90	80	76	110	83	83	124	96	114	80	94	104	102
4 - 5,000	99	93	69	120	98	95	118	105	120	96	96	100	107
5 - 6,000	97	95	87	116	81	92	117	104	117	79	110	104	108
6,000 and over	106	98	78	118	105	98	110	102	117	113	127	76	117
FARM													
All households	86	70	77	102	93	85	119	109	102	61	83	84	86
Households of 2 or more persons	86	70	76	101	92	85	119	109	102	61	83	84	86
Under 2,000	77	59	73	91	83	77	122	107	90	44	72	74	76
2 - 3,000	92	81	65	105	101	90	117	102	113	77	88	97	93
3 - 4,000	95	80	96	122	98	95	114	115	115	73	91	103	94
4 - 5,000	101	81	74	143	102	95	113	110	114	95	104	105	105
5 - 6,000	104	97	104	93	109	102	116	107	123	89	106	94	105
6,000 and over	97	88	74	123	102	96	105	107	114	83	104	77	98

1/ Derived from 1955 Household Food Consumption Survey data on household use of individual foods, using average retail prices in 1947-49. Family money income in 1954 measured after income taxes.
2/ Includes fish.
3/ Excludes lard.
4/ Includes all ingredients in ice cream and condensed milk, excludes butter.
5/ Excludes corn sugar and sirup.
6/ Excludes peanuts and peanut butter.
7/ Includes melons.
8/ Includes some commodity groups (dry beans and peas, coffee, tea, and cocoa, etc.) not shown separately.

Table B. 4.--WEST: Cross-section indexes of per person food consumption (retail level) for major commodity groups, by urbanization and family income, 1955 1/

(Index: U. S. all household average = 100)

Urbanization and income groups (dollars)	All food 2/	Livestock: Meat 3/	Livestock: Poultry	Livestock: Eggs	Livestock: Dairy products 4/	Livestock: All livestock	Crops: Grain products 5/	Crops: Fats and oils 6/	Crops: Sugar and sirups	Crops: Fruits 7/	Crops: Vegetables	Crops: Potatoes and sweet-potatoes	Crops: All crops 8/
ALL URBANIZATIONS													
All households	109	113	92	113	111	109	98	104	101	114	114	90	110
Households of 2 or more persons	109	113	92	113	112	109	99	105	101	113	113	91	109
Under 2,000	97	95	70	105	104	96	101	102	94	100	98	102	100
2 - 3,000	98	95	78	113	102	96	103	100	89	89	110	94	104
3 - 4,000	102	110	63	115	104	101	103	94	99	92	103	92	103
4 - 5,000	107	107	94	107	112	104	100	104	105	113	113	88	112
5 - 6,000	106	115	92	106	115	109	96	93	101	117	102	76	105
6 - 8,000	114	112	90	119	111	109	101	109	102	137	125	94	120
8 - 10,000	123	134	124	128	114	126	93	128	103	142	133	67	119
10,000 and over	136	152	154	127	129	143	90	125	122	153	135	159	127
URBAN													
All households	107	110	90	106	108	106	95	102	98	117	114	80	109
Households of 2 or more persons	107	111	90	107	109	106	95	102	99	116	113	82	108
Under 2,000	91	88	56	105	98	89	88	102	88	101	103	84	97
2 - 3,000	87	85	49	105	87	82	97	84	76	85	104	83	97
3 - 4,000	99	111	59	101	103	99	102	91	95	89	103	85	101
4 - 5,000	104	102	78	99	113	99	97	99	100	110	113	164	113
5 - 6,000	107	117	109	101	111	110	94	93	98	120	103	76	105
6 - 8,000	111	100	77	114	114	103	102	109	102	142	122	85	120
8 - 10,000	122	129	143	124	109	125	82	130	101	143	129	152	119
10,000 and over	132	147	155	127	125	139	90	122	125	154	131	94	123
RURAL NONFARM													
All households	113	122	95	122	111	114	106	107	104	102	120	107	114
Households of 2 or more persons	113	121	97	123	112	113	108	109	105	102	119	106	114
Under 2,000	87	83	82	76	80	83	113	99	81	75	92	101	94
2 - 4,000	110	113	82	128	114	109	106	106	100	95	117	107	111
4 - 6,000	112	119	109	123	114	114	105	108	112	103	109	99	113
6,000 and over	140	170	131	139	115	143	111	122	104	138	164	117	138
FARM													
All households	113	111	100	139	134	119	107	112	115	108	95	123	105
Households of 2 or more persons	113	111	101	137	134	119	107	112	115	107	94	122	104
Under 2,000	116	119	81	139	140	122	108	105	117	121	98	132	111
2 - 4,000	108	102	109	146	108	110	114	114	117	100	86	106	101
4 - 6,000	108	107	72	131	135	112	107	102	111	103	96	107	104
6,000 and over	116	123	100	140	127	124	101	124	126	108	108	133	108

1/ Derived from 1955 Household Food Consumption Survey data on household use of individual foods, using average retail prices in 1947-49. Family money income in 1954 measured after income taxes.
2/ Includes fish.
3/ Excludes lard.
4/ Includes all ingredients in ice cream and condensed milk, excludes butter.
5/ Excludes corn sugar and sirup.
6/ Excludes peanuts and peanut butter.
7/ Includes melons.
8/ Includes some commodity groups (dry beans and peas, coffee, tea, and cocoa, etc.) not shown separately.

Table B. 5.—NORTHEAST: Cross-section indexes of per person food use (farm level, all sources) for major commodity groups, by urbanization and family income, 1955 1/

(Index: U. S. all household average = 100)

Urbanization and income groups (dollars)	All food 2/	Livestock: Meat animals 3/	Livestock: Poultry	Livestock: Eggs	Livestock: Dairy products 4/	Livestock: All livestock	Crops: Grains 5/	Crops: Oil crops 6/	Crops: Sugar crops	Crops: Fruits	Crops: Vegetables 7/	Crops: Potatoes and sweetpotatoes	Crops: All crops 8/
ALL URBANIZATIONS													
All households	100	100	119	93	104	102	80	95	87	100	102	105	96
Households of 2 or more persons	100	100	118	93	104	102	80	96	88	99	101	106	96
Under 2,000	87	74	102	92	100	85	93	90	89	90	86	125	91
2 - 3,000	97	100	86	93	103	98	89	100	89	96	91	120	95
3 - 4,000	94	94	100	86	99	95	81	99	89	96	95	111	93
4 - 5,000	98	99	119	87	105	101	76	97	83	92	100	101	92
5 - 6,000	104	102	126	99	106	106	84	104	90	105	101	99	100
6 - 8,000	107	110	144	97	102	110	80	102	93	109	106	103	101
8 - 10,000	104	94	151	106	104	104	74	94	96	116	108	88	102
10,000 and over	106	100	139	112	107	108	69	98	86	93	123	96	100
URBAN													
All households	101	100	136	93	103	104	76	89	80	93	108	98	94
Households of 2 or more persons	101	100	136	92	103	104	75	91	80	92	107	96	93
Under 2,000	76	65	116	80	82	77	68	70	65	76	76	89	76
2 - 3,000	93	94	110	87	99	96	76	90	80	79	94	103	86
3 - 4,000	96	96	116	88	99	98	79	96	84	90	102	108	92
4 - 5,000	99	100	133	85	106	103	74	91	78	85	106	93	90
5 - 6,000	106	105	139	99	108	109	80	95	80	96	110	91	97
6 - 8,000	110	111	170	100	101	114	81	99	90	101	114	99	100
8 - 10,000	100	87	152	107	100	100	72	94	87	113	105	81	98
10,000 and over	105	97	152	111	107	108	68	91	84	92	124	95	99
RURAL NONFARM													
All households	96	96	82	89	102	95	88	114	100	114	85	120	101
Households of 2 or more persons	96	96	82	89	102	95	89	115	100	114	85	120	100
Under 2,000	87	68	93	81	111	82	113	103	102	94	85	149	98
2 - 3,000	100	106	50	98	105	98	107	120	98	117	82	133	105
3 - 4,000	87	85	68	78	92	84	81	113	96	108	78	110	94
4 - 5,000	94	92	87	93	102	94	81	116	93	107	81	120	96
5 - 6,000	100	97	100	94	103	98	95	122	109	122	82	115	104
6,000 and over	106	113	87	92	103	105	79	110	105	125	101	112	106
FARM													
All households	112	110	78	125	127	112	106	98	133	134	93	164	113
Households of 2 or more persons	112	110	77	122	127	112	107	98	133	134	94	164	113
Under 2,000	117	112	77	154	132	118	124	124	138	127	94	187	117
2 - 3,000	116	121	64	127	130	117	108	99	131	139	90	194	115
3 - 4,000	105	106	59	99	134	106	97	86	120	127	80	152	102
4 - 5,000	117	128	67	112	106	114	100	94	146	145	113	159	124
5 - 6,000	118	110	173	148	105	121	103	91	134	133	84	134	111
6,000 and over	113	94	125	117	145	112	96	98	134	158	94	128	117

1/ Derived from 1955 Household Food Consumption Survey data on household use of individual foods, measured in terms of farm commodities valued at average 1947-49 farm prices. Family money income in 1954 measured after income taxes. Food from all sources differs from purchased food by the amount of food received without direct expense, mainly home-produced food.

2/ Farm foods only, excludes fish.

3/ Includes lard.

4/ Includes butter.

5/ Includes corn used for sugar and sirup.

6/ Includes all peanuts.

7/ Includes melons.

8/ Includes some commodity groups (dry beans and peas, coffee, tea, and cocoa, etc.) not shown separately.

Table B.6.--NORTH CENTRAL REGION: Cross-section indexes of per person food use (farm level, all sources) for major commodity groups, by urbanization and family income, 1955 1/

(Index: U. S. all household average = 100)

Urbanization and income groups (dollars)	All food 2/	Livestock: Meat animals 3/	Livestock: Poultry	Livestock: Eggs	Livestock: Dairy products 4/	Livestock: All livestock	Crops: Grains 5/	Crops: Oil crops 6/	Crops: Sugar crops	Crops: Fruits	Crops: Vegetables 7/	Crops: Potatoes and sweetpotatoes	Crops: All crops 8/
ALL URBANIZATIONS													
All households	107	111	92	104	112	108	93	101	106	120	94	117	105
Households of 2 or more persons	107	111	92	103	113	108	93	101	105	119	93	117	104
Under 2,000	104	98	100	119	109	104	103	84	122	123	88	118	106
2 - 3,000	104	109	66	103	116	105	95	95	106	112	88	122	100
3 - 4,000	101	104	77	98	104	100	100	106	108	108	85	130	102
4 - 5,000	103	109	86	98	110	105	91	105	104	106	84	115	98
5 - 6,000	110	116	109	101	112	112	92	102	101	120	92	110	104
6 - 8,000	110	115	100	104	114	112	88	110	105	122	95	119	107
8 - 10,000	109	112	81	99	118	108	84	112	112	133	106	112	112
10,000 and over	116	111	124	111	131	117	81	96	95	141	125	96	113
URBAN													
All households	107	112	101	98	109	108	85	107	99	112	104	107	104
Households of 2 or more persons	107	112	100	98	109	108	85	106	99	110	103	108	103
Under 2,000	104	108	101	117	93	105	82	106	111	114	101	104	103
2 - 3,000	97	110	67	83	104	100	80	90	89	92	94	105	90
3 - 4,000	102	106	93	90	104	102	93	114	104	103	98	123	102
4 - 5,000	102	107	102	94	104	104	89	108	98	100	89	109	97
5 - 6,000	111	117	125	102	109	114	87	105	98	109	97	101	102
6 - 8,000	109	115	95	101	115	111	86	114	102	111	101	112	105
8 - 10,000	110	112	87	102	113	108	79	109	108	135	118	101	116
10,000 and over	117	116	114	115	129	118	78	99	92	136	140	90	115
RURAL NONFARM													
All households	103	106	78	101	107	102	97	106	106	125	82	121	105
Households of 2 or more persons	102	105	78	100	107	102	96	108	104	122	80	121	103
Under 2,000	90	84	90	103	91	89	98	84	109	99	71	112	92
2 - 3,000	103	105	55	110	111	102	101	127	109	116	90	132	108
3 - 4,000	94	98	57	97	95	93	107	105	104	107	68	137	99
4 - 5,000	100	106	57	96	114	101	90	109	107	110	77	115	98
5 - 6,000	107	113	88	94	110	107	98	107	93	138	87	111	107
6,000 and over	109	104	116	98	119	108	89	114	108	154	86	122	112
FARM													
All households	114	116	79	125	131	116	110	71	131	141	77	145	109
Households of 2 or more persons	114	115	79	125	131	116	110	72	131	141	77	145	109
Under 2,000	115	104	101	133	134	114	122	69	140	150	88	131	116
2 - 3,000	114	113	73	129	142	117	116	70	133	143	69	141	108
3 - 4,000	113	112	65	137	131	114	115	73	140	136	73	142	109
4 - 5,000	115	125	68	121	132	119	105	79	124	131	77	145	105
5 - 6,000	112	116	67	113	133	114	106	77	130	141	76	156	108
6,000 and over	116	126	108	112	124	121	105	73	124	125	70	160	103

1/ Derived from 1955 Household Food Consumption Survey data on household use of individual foods, measured in terms of farm commodities valued at average 1947-49 farm prices. Family money income in 1954 measured after income taxes. Food from all sources differs from purchased food by the amount of food received without direct expense, mainly home-produced food.
2/ Farm foods only, excludes fish.
3/ Includes lard.
4/ Includes butter.
5/ Includes corn used for sugar and sirup.
6/ Includes all peanuts.
7/ Includes melons.
8/ Includes some commodity groups (dry beans and peas, coffee, tea, and cocoa, etc.) not shown separately.

Table B. 7 .--SOUTH: Cross-section indexes of per person food use (farm level, all sources) for major commodity groups, by urbanization and family income, 1955 1/

(Index: U. S. all household average = 100)

Urbanization and income groups (dollars)	All food 2/	Livestock: Meat animals 3/	Livestock: Poultry	Livestock: Eggs	Livestock: Dairy products 4/	Livestock: All livestock	Crops: Grains 5/	Crops: Oil crops 6/	Crops: Sugar crops	Crops: Fruits	Crops: Vegetables 7/	Crops: Potatoes and sweetpotatoes	Crops: All crops 8/
ALL URBANIZATIONS													
All households	91	87	96	97	83	88	126	98	108	80	102	84	97
Households of 2 or more persons	90	86	94	96	83	88	125	97	107	79	100	84	96
Under 2,000	77	72	84	82	74	75	149	63	99	52	76	77	82
2 - 3,000	88	87	106	88	73	86	128	90	105	76	92	86	93
3 - 4,000	91	86	96	103	83	89	115	109	109	81	101	88	95
4 - 5,000	101	100	80	113	93	98	113	124	115	99	112	94	107
5 - 6,000	100	97	100	108	89	97	109	132	114	95	120	90	107
6 - 8,000	106	102	102	113	102	103	99	130	114	115	130	77	113
8 - 10,000	107	106	102	119	102	106	87	138	106	113	113	76	107
10,000 and over	116	113	117	137	97	113	104	159	121	118	149	84	123
URBAN													
All households	94	97	110	95	77	94	104	111	103	80	110	77	96
Households of 2 or more persons	94	97	108	94	77	93	103	111	102	79	107	77	94
Under 2,000	81	94	104	71	52	83	118	74	87	52	86	70	77
2 - 3,000	88	94	117	86	64	89	112	97	98	63	93	76	86
3 - 4,000	88	88	107	95	77	89	101	107	103	74	95	74	88
4 - 5,000	99	103	86	102	84	97	97	127	109	94	118	88	104
5 - 6,000	99	96	103	106	89	97	95	144	108	98	126	81	106
6 - 8,000	108	105	116	111	102	107	88	139	111	109	134	77	112
8 - 10,000	106	108	104	112	99	106	85	142	105	114	113	78	107
10,000 and over	123	115	141	152	98	119	103	164	125	134	170	79	132
RURAL NONFARM													
All households	87	79	84	98	80	82	135	99	104	85	94	92	99
Households of 2 or more persons	87	79	82	97	80	82	134	97	103	85	92	92	98
Under 2,000	71	59	71	82	69	66	151	66	90	56	73	84	83
2 - 3,000	86	79	109	84	70	81	138	87	101	85	87	92	97
3 - 4,000	92	83	79	110	86	87	127	122	111	93	108	103	105
4 - 5,000	102	100	72	119	102	99	129	124	119	104	101	101	110
5 - 6,000	99	96	91	116	83	95	127	123	116	87	112	106	109
6,000 and over	106	100	82	118	104	101	109	134	110	130	126	78	118
FARM													
All households	89	78	81	102	101	86	157	66	127	69	96	84	94
Households of 2 or more persons	88	77	81	101	101	86	157	66	127	68	96	84	94
Under 2,000	80	68	77	91	95	78	168	50	119	50	85	74	85
2 - 3,000	95	87	68	105	106	92	148	73	134	89	100	98	102
3 - 4,000	97	87	100	122	103	97	142	82	134	74	108	104	99
4 - 5,000	103	87	78	143	108	98	132	105	130	105	123	104	113
5 - 6,000	106	103	109	93	111	104	139	83	128	108	121	95	112
6,000 and over	98	93	79	123	100	97	120	89	129	87	114	78	101

1/ Derived from 1955 Household Food Consumption Survey data on household use of individual foods, measured in terms of farm commodities valued at average 1947-49 farm prices. Family money income in 1954 measured after income taxes. Food from all sources differs from purchased food by the amount of food received without direct expense, mainly home-produced food.
2/ Farm foods only, excludes fish.
3/ Includes lard.
4/ Includes butter.
5/ Includes corn used for sugar and sirup.
6/ Includes all peanuts.
7/ Includes melons.
8/ Includes some commodity groups (dry beans and peas, coffee, tea, and cocoa, etc.) not shown separately.

Table B.8 --WEST: Cross-section indexes of per person food use (farm level, all sources) for major commodity groups, by urbanization and family income, 1955 1/

(Index: U. S. all household average = 100)

Urbanization and income groups (dollars)	All food 2/	Livestock: Meat animals 3/	Livestock: Poultry	Livestock: Eggs	Livestock: Dairy products 4/	Livestock: All livestock	Crops: Grains 5/	Crops: Oil crops 6/	Crops: Sugar crops	Crops: Fruits	Crops: Vegetables 7/	Crops: Potatoes and sweetpotatoes	Crops: All crops 8/
ALL URBANIZATIONS													
All households	107	110	88	113	108	108	93	122	98	108	108	91	107
Households of 2 or more persons	107	110	88	112	109	108	93	124	98	107	106	92	106
Under 2,000	97	93	67	105	107	95	102	98	92	101	97	100	102
2 - 3,000	97	93	74	112	96	94	102	116	91	88	106	94	103
3 - 4,000	101	107	60	115	101	102	97	127	99	92	92	90	100
4 - 5,000	104	104	92	107	104	103	92	147	102	106	100	89	107
5 - 6,000	105	112	88	106	110	108	91	125	100	106	94	77	99
6 - 8,000	111	108	87	118	111	108	90	124	99	124	125	96	118
8 - 10,000	122	130	116	128	118	126	84	117	91	131	126	75	113
10,000 and over	136	148	148	127	125	140	82	109	111	144	137	99	124
URBAN													
All households	105	107	87	106	104	104	87	121	95	110	111	81	105
Households of 2 or more persons	105	108	88	106	104	105	87	123	96	109	109	82	105
Under 2,000	90	86	54	105	94	87	81	111	84	101	110	84	97
2 - 3,000	85	82	48	105	80	81	96	103	80	82	104	83	95
3 - 4,000	98	107	58	101	97	99	96	125	97	86	89	84	97
4 - 5,000	100	100	76	99	104	98	89	145	97	109	102	77	104
5 - 6,000	107	115	107	101	105	110	84	124	99	111	99	78	101
6 - 8,000	108	103	77	112	113	103	90	127	100	129	128	86	120
8 - 10,000	120	126	137	124	113	124	73	113	86	129	129	59	109
10,000 and over	133	143	152	127	122	137	81	110	111	144	136	94	121
RURAL NONFARM													
All households	114	120	88	123	110	115	103	135	101	101	108	110	112
Households of 2 or more persons	114	119	91	123	111	114	104	138	101	102	106	108	112
Under 2,000	88	82	75	76	97	84	127	79	84	79	85	98	96
2 - 4,000	110	112	73	128	112	110	100	141	98	101	110	104	111
4 - 6,000	112	116	106	122	110	114	104	154	110	96	90	99	107
6,000 and over	143	166	117	139	115	145	98	121	92	130	139	145	136
FARM													
All households	112	108	93	139	132	116	107	106	114	108	87	121	104
Households of 2 or more persons	112	108	94	137	132	116	107	104	115	108	86	119	103
Under 2,000	114	116	74	139	113	114	109	101	116	127	90	128	115
2 - 4,000	106	100	104	146	111	110	112	98	118	98	76	106	98
4 - 6,000	105	99	66	131	130	107	107	122	111	104	87	104	101
6,000 and over	116	120	92	140	128	121	95	108	119	112	102	130	104

1/ Derived from 1955 Household Food Consumption Survey data on household use of individual foods, measured in terms of farm commodities valued at average 1947-49 farm prices. Family money income in 1954 measured after income taxes. Food from all sources differs from purchased food by the amount of food received without direct expense, mainly home-produced food.

2/ Farm foods only, excludes fish.

3/ Includes lard.

4/ Includes butter.

5/ Includes corn used for sugar and sirup.

6/ Includes all peanuts.

7/ Includes melons.

8/ Includes some commodity groups (dry beans and peas, coffee, tea, and cocoa, etc.) not shown separately.

Table B. 9 .--NORTHEAST: Cross-section indexes of per person food use (farm level, purchased) for major commodity groups, by urbanization and family income, 1955 1/

(Index: U. S. all household average = 100)

Urbanization and income groups (dollars)	All food 2/	Livestock: Meat animals 3/	Livestock: Poultry	Livestock: Eggs	Livestock: Dairy products 4/	Livestock: All livestock	Crops: Grains 5/	Crops: Oil crops 6/	Crops: Sugar crops	Crops: Fruits	Crops: Vegetables 7/	Crops: Potatoes and sweetpotatoes	Crops: All crops 8/
ALL URBANIZATIONS													
All households	108	107	133	106	114	111	81	95	87	106	111	110	100
Households of 2 or more persons	108	107	132	106	114	111	81	96	87	106	110	110	100
Under 2,000	79	71	96	80	85	78	94	85	89	78	63	111	82
2 - 3,000	99	103	88	96	107	101	90	100	89	98	90	118	95
3 - 4,000	102	100	115	102	110	104	82	99	88	102	103	115	96
4 - 5,000	108	107	140	104	118	113	77	98	83	100	113	107	97
5 - 6,000	114	111	139	116	123	117	85	104	90	114	114	107	105
6 - 8,000	118	120	162	114	116	123	82	103	93	117	118	109	105
8 - 10,000	114	103	157	129	118	115	76	95	96	130	124	98	110
10,000 and over	117	109	164	134	124	121	69	98	86	107	142	106	109
URBAN													
All households	114	111	158	115	120	118	77	90	80	109	126	106	102
Households of 2 or more persons	113	111	158	114	119	118	76	91	80	108	125	105	102
Under 2,000	86	72	137	101	94	88	70	71	65	89	88	93	82
2 - 3,000	103	104	124	103	112	108	77	91	80	92	110	112	93
3 - 4,000	108	106	137	110	115	112	80	96	84	104	119	118	99
4 - 5,000	112	110	157	105	122	118	75	92	78	102	125	103	98
5 - 6,000	119	117	160	123	127	124	81	95	80	115	129	101	107
6 - 8,000	124	123	202	121	118	130	82	101	89	120	131	107	109
8 - 10,000	111	97	154	134	117	112	73	95	87	135	125	89	108
10,000 and over	118	107	180	138	125	123	68	90	83	105	145	106	107
RURAL NONFARM													
All households	100	102	84	97	110	101	90	112	100	101	78	119	96
Households of 2 or more persons	100	103	85	98	110	102	90	113	99	101	78	120	96
Under 2,000	75	73	72	74	82	75	114	85	102	58	34	122	75
2 - 3,000	101	111	42	94	111	101	108	120	97	111	65	131	100
3 - 4,000	91	91	79	89	102	92	82	114	95	99	68	103	89
4 - 5,000	99	100	101	104	109	102	83	116	92	92	80	123	92
5 - 6,000	105	101	108	107	120	106	96	122	108	114	87	123	104
6,000 and over	112	123	83	106	121	116	81	111	105	113	101	119	104
FARM													
All households	68	65	30	41	62	58	107	99	132	88	53	119	91
Households of 2 or more persons	68	65	31	41	62	58	107	99	132	90	53	119	91
Under 2,000	68	66	30	31	62	57	120	125	135	88	52	143	95
2 - 3,000	64	60	20	43	57	53	109	97	131	95	42	102	89
3 - 4,000	59	52	17	43	64	50	99	87	118	74	47	124	80
4 - 5,000	78	74	44	64	66	68	102	94	143	114	67	101	102
5 - 6,000	70	83	4	35	51	61	104	92	134	91	46	88	90
6,000 and over	79	69	99	49	77	72	97	99	133	97	70	119	95

1/ Derived from 1955 Household Food Consumption Survey data on household use of individual foods, measured in terms of farm commodities valued at average 1947-49 farm prices. Family money income in 1954 measured after income taxes. Food from all sources differs from purchased food by the amount of food received without direct expense, mainly home-produced food.

2/ Farm foods only, excludes fish.

3/ Includes lard.

4/ Includes butter.

5/ Includes corn used for sugar and sirup.

6/ Includes all peanuts.

7/ Includes melons.

8/ Includes some commodity groups (dry beans and peas, coffee, tea, and cocoa, etc.) not shown separately.

Table B. 10.--NORTH CENTRAL REGION: Cross-section indexes of per person food use (farm level, purchased) for major commodity groups, by urbanization and family income, 1955 1/

(Index: U. S. all household average = 100)

Urbanization and income groups (dollars)	All food 2/	Livestock: Meat animals 3/	Livestock: Poultry	Livestock: Eggs	Livestock: Dairy products 4/	Livestock: All livestock	Crops: Grains 5/	Crops: Oil crops 6/	Crops: Sugar crops	Crops: Fruits	Crops: Vegetables 7/	Crops: Potatoes and sweet-potatoes	Crops: All crops 8/
ALL URBANIZATIONS													
All households	106	108	91	103	115	107	94	102	106	115	95	117	104
Households of 2 or more persons	105	107	91	102	115	106	94	102	105	113	94	118	103
Under 2,000	81	79	63	77	79	77	105	85	121	89	57	107	90
2 - 3,000	95	99	58	92	107	95	97	95	106	96	84	122	96
3 - 4,000	99	100	77	91	108	98	102	108	108	99	83	129	100
4 - 5,000	105	107	89	104	119	107	93	107	103	105	88	114	99
5 - 6,000	116	119	122	111	121	119	94	103	101	127	98	114	108
6 - 8,000	115	118	104	118	126	118	90	111	105	119	106	124	109
8 - 10,000	112	110	90	109	125	111	86	114	112	141	117	112	117
10,000 and over	124	115	127	128	150	126	81	96	95	156	147	102	120
URBAN													
All households	119	123	118	120	127	123	87	106	98	128	118	115	111
Households of 2 or more persons	119	123	116	120	127	123	87	108	99	126	117	116	110
Under 2,000	116	117	119	143	109	119	84	108	111	125	106	112	108
2 - 3,000	109	121	78	103	120	114	82	91	89	105	107	111	96
3 - 4,000	113	116	108	107	121	115	95	115	104	114	108	135	108
4 - 5,000	113	117	116	115	121	117	91	109	98	112	102	115	103
5 - 6,000	124	128	147	125	127	130	88	105	98	126	109	112	110
6 - 8,000	122	126	112	124	133	126	88	115	102	129	118	121	114
8 - 10,000	124	124	103	127	133	124	80	111	108	159	137	110	126
10,000 and over	131	126	134	140	149	134	78	99	91	161	165	98	125
RURAL NONFARM													
All households	103	106	77	106	120	106	98	107	105	103	74	120	98
Households of 2 or more persons	103	105	78	105	120	105	98	109	104	101	73	121	97
Under 2,000	82	78	73	91	94	83	99	85	109	78	45	98	81
2 - 3,000	108	110	60	123	126	109	104	126	109	99	90	141	105
3 - 4,000	89	93	49	85	99	88	108	106	103	83	58	124	91
4 - 5,000	104	108	58	106	132	107	91	110	107	100	73	120	95
5 - 6,000	116	122	100	108	129	119	101	109	93	139	90	109	108
6,000 and over	110	103	118	120	136	114	90	115	107	112	86	132	102
FARM													
All households	61	55	21	35	66	51	112	72	130	84	45	118	87
Households of 2 or more persons	61	54	21	34	66	50	112	73	131	84	45	118	87
Under 2,000	58	56	18	26	47	46	124	69	139	76	37	111	86
2 - 3,000	60	51	22	43	63	49	117	70	133	78	39	120	84
3 - 4,000	63	51	22	40	73	52	117	74	140	83	46	121	89
4 - 5,000	63	54	20	37	78	53	108	80	122	88	53	103	87
5 - 6,000	73	67	44	43	75	63	108	78	130	107	57	137	95
6,000 and over	64	58	19	26	78	54	107	75	125	87	51	108	88

1/ Derived from 1955 Household Food Consumption Survey data on household use of individual foods, measured in terms of farm commodities valued at average 1947-49 farm prices. Family money income in 1954 measured after income taxes. Food from all sources differs from purchased food by the amount of food received without direct expense, mainly home-produced food.

2/ Farm foods only, excludes fish.

3/ Includes lard.

4/ Includes butter.

5/ Includes corn used for sugar and sirup.

6/ Includes all peanuts.

7/ Includes melons.

8/ Includes some commodity groups (dry beans and peas, coffee, tea, and cocoa, etc.) not shown separately.

Table B. 11.--SOUTH: Cross-section indexes of per person food use (farm level, purchased) for major commodity groups, by urbanization and family income, 1955 1/

(Index: U. S. all household average = 100)

Urbanization and income groups (dollars)	All food 2/	Livestock: Meat animals 3/	Livestock: Poultry	Livestock: Eggs	Livestock: Dairy products 4/	Livestock: All livestock	Crops: Grains 5/	Crops: Oil crops 6/	Crops: Sugar crops	Crops: Fruits	Crops: Vegetables 7/	Crops: Potatoes and sweetpotatoes	Crops: All crops 8/
ALL URBANIZATIONS													
All households	85	84	86	84	68	81	123	98	107	77	88	78	94
Households of 2 or more persons	84	84	84	83	68	80	122	96	107	76	87	78	92
Under 2,000	61	64	55	48	37	55	140	60	98	43	51	65	73
2 - 3,000	82	83	96	73	60	78	127	90	105	72	81	77	91
3 - 4,000	90	87	96	103	79	88	115	110	109	81	96	86	95
4 - 5,000	101	99	86	118	93	99	114	126	114	99	109	90	107
5 - 6,000	101	99	90	111	88	97	110	133	114	103	119	91	110
6 - 8,000	110	105	105	111	111	107	101	132	114	127	132	81	117
8 - 10,000	115	116	110	129	111	116	88	140	106	129	123	81	114
10,000 and over	124	118	124	148	111	120	106	161	121	136	162	93	131
URBAN													
All households	102	104	120	109	87	102	105	112	102	90	117	82	101
Households of 2 or more persons	101	103	118	109	87	102	104	112	102	90	115	82	100
Under 2,000	86	100	106	76	57	89	117	73	86	56	90	76	80
2 - 3,000	96	101	131	97	73	98	114	98	98	71	101	84	92
3 - 4,000	96	93	117	111	89	97	103	109	103	81	103	78	93
4 - 5,000	109	112	97	123	96	108	99	129	108	107	130	95	110
5 - 6,000	107	104	102	127	104	106	97	146	108	111	128	83	110
6 - 8,000	118	114	127	124	119	118	90	141	111	126	145	85	119
8 - 10,000	120	120	123	140	114	121	87	145	105	139	125	85	117
10,000 and over	131	121	150	161	115	128	105	166	125	156	179	87	140
RURAL NONFARM													
All households	82	79	75	85	68	77	135	99	104	78	79	85	95
Households of 2 or more persons	82	79	74	84	67	77	134	97	103	77	78	85	94
Under 2,000	61	59	54	59	43	55	149	63	89	46	46	76	75
2 - 3,000	76	73	85	61	57	69	138	86	101	79	70	74	92
3 - 4,000	92	88	83	107	77	88	127	123	111	85	96	101	101
4 - 5,000	101	95	85	128	100	99	132	125	119	92	94	88	106
5 - 6,000	97	100	76	99	70	90	126	120	116	93	113	114	113
6,000 and over	112	107	90	115	119	108	111	136	111	140	132	87	122
FARM													
All households	49	48	25	26	27	38	142	64	124	47	40	53	74
Households of 2 or more persons	49	48	25	26	27	38	141	63	123	47	40	53	74
Under 2,000	42	43	19	16	18	32	147	48	115	31	29	46	65
2 - 3,000	56	56	26	31	32	45	140	73	132	58	47	65	81
3 - 4,000	57	51	39	41	37	46	134	82	130	60	55	63	82
4 - 5,000	59	49	36	44	49	47	125	105	128	84	52	69	89
5 - 6,000	68	66	60	41	42	57	139	80	128	82	77	54	93
6,000 and over	63	65	23	41	48	53	115	90	129	74	61	54	85

1/ Derived from 1955 Household Food Consumption Survey data on household use of individual foods, measured in terms of farm commodities valued at average 1947-49 farm prices. Family money income in 1954 measured after income taxes. Food from all sources differs from purchased food by the amount of food received without direct expense, mainly home-produced food.

2/ Farm foods only, excludes fish.

3/ Includes lard.

4/ Includes butter.

5/ Includes corn used for sugar and sirup.

6/ Includes all peanuts.

7/ Includes melons.

8/ Includes some commodity groups (dry beans and peas, coffee, tea, and cocoa, etc.) not shown separately.

Table B.12.--WEST: Cross-section indexes of per person food use (farm level, purchased) for major commodity groups, by urbanization and family income, 1955 1/

(Index: U. S. all household average = 100)

Urbanization and income groups (dollars)	All food 2/	Livestock: Meat animals 3/	Livestock: Poultry	Livestock: Eggs	Livestock: Dairy products 4/	Livestock: All livestock	Crops: Grains 5/	Crops: Oil crops 6/	Crops: Sugar crops	Crops: Fruits	Crops: Vegetables 7/	Crops: Potatoes and sweetpotatoes	Crops: All crops 8/
ALL URBANIZATIONS													
All households	112	113	88	123	116	112	93	124	97	114	122	97	111
Households of 2 or more persons	112	114	88	123	116	112	93	125	98	113	121	97	111
Under 2,000	88	84	50	95	92	83	96	96	89	96	98	96	99
2 - 3,000	99	96	66	116	98	96	103	117	90	92	119	99	107
3 - 4,000	105	111	54	119	108	105	97	129	99	96	105	99	104
4 - 5,000	110	110	87	121	114	110	94	148	102	107	112	95	110
5 - 6,000	110	114	91	121	123	114	92	127	100	109	104	79	102
6 - 8,000	119	112	98	129	127	116	92	124	99	140	146	105	127
8 - 10,000	130	133	133	150	128	134	82	117	91	150	145	78	121
10,000 and over	150	162	165	151	144	157	84	111	111	163	164	107	134
URBAN													
All households	116	117	99	129	122	117	88	122	95	121	128	88	112
Households of 2 or more persons	116	117	99	129	122	118	88	123	95	120	127	90	112
Under 2,000	99	95	57	120	110	97	79	111	82	113	132	93	104
2 - 3,000	95	91	57	132	93	92	98	105	80	94	118	92	103
3 - 4,000	109	117	65	125	114	112	98	127	97	93	105	92	104
4 - 5,000	110	110	85	121	120	110	90	145	97	112	115	83	108
5 - 6,000	116	122	113	119	122	121	86	126	98	120	111	84	106
6 - 8,000	120	111	91	133	132	116	92	127	100	146	149	94	129
8 - 10,000	135	139	163	154	132	142	70	113	86	156	150	65	118
10,000 and over	148	157	170	154	143	155	83	111	111	164	162	102	131
RURAL NONFARM													
All households	118	124	80	132	122	120	102	136	100	102	120	117	115
Households of 2 or more persons	118	123	82	132	123	119	103	140	100	101	117	115	114
Under 2,000	86	82	57	93	107	86	108	74	76	77	65	93	87
2 - 4,000	112	115	63	125	117	111	100	145	98	106	121	115	113
4 - 6,000	118	121	89	142	126	121	106	155	109	94	104	109	112
6,000 and over	149	166	135	136	128	150	98	119	89	143	164	153	145
FARM													
All households	70	62	34	60	63	59	109	106	114	87	85	109	97
Households of 2 or more persons	70	62	33	59	62	59	108	104	114	87	84	108	97
Under 2,000	73	70	32	58	48	60	112	101	116	89	82	104	104
2 - 4,000	67	66	23	41	55	56	112	97	117	86	76	95	94
4 - 6,000	66	53	22	64	66	54	109	123	111	82	82	84	93
6,000 and over	84	74	61	82	95	78	97	109	117	93	104	126	99

1/ Derived from 1955 Household Food Consumption Survey data on household use of individual foods, measured in terms of farm commodities valued at average 1947-49 farm prices. Family money income in 1954 measured after income taxes. Food from all sources differs from purchased food by the amount of food received without direct expense, mainly home-produced food.

2/ Farm foods only, excludes fish.

3/ Includes lard.

4/ Includes butter.

5/ Includes corn used for sugar and sirup.

6/ Includes all peanuts.

7/ Includes melons.

8/ Includes some commodity groups (dry beans and peas, coffee, tea, and cocoa, etc.) not shown separately.

Table B.13.--Northeast: Market value and expenditure data for food per person in a week, average income per person, and percentage distribution of family members, housekeeping families, by urbanization and income group, spring 1955 1/

Disposable money income of family in 1954	Disposable money income per person	Distribution of members of families of 2 or more persons 2/	Market value of all food at home and away: Total 3/	All food at home: Total 3/	All food at home: Home produced	All food at home: Expenditures for food	Expenditures for food and beverages away from home	Total expenditures for food at home and food and beverages away from home
	Dollars	Percent	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
				a. All urbanizations				
Under $1,000	137	2.1	6.54	6.28	1.03	4.75	0.25	5.01
$1,000-2,000	525	5.0	6.78	6.19	.64	5.11	.60	5.70
$2,000-3,000	788	9.8	8.01	6.98	.44	6.31	1.03	7.34
$3,000-4,000	964	20.4	8.36	7.13	.28	6.72	1.24	7.96
$4,000-5,000	1,222	23.5	9.04	7.34	.15	7.03	1.70	8.73
$5,000-6,000	1,470	15.3	9.44	7.91	.17	7.62	1.52	9.14
$6,000-8,000	1,823	14.8	10.36	8.04	.20	7.77	2.32	10.09
$8,000-10,000	2,106	4.8	10.16	7.92	.13	7.70	2.24	9.95
$10,000 and over	3,772	4.3	13.15	8.61	.15	8.35	4.54	12.89
Average 4/	1,371	---	9.33	7.54	.26	7.12	1.80	8.92
Average excluding singles	1,368	100.0	9.26	7.47	.26	7.06	1.79	8.85
				b. Urban				
Under $2,000	489	5.0	6.37	5.75	5/	5.50	.62	6.11
$2,000-3,000	840	8.3	7.96	6.73	5/	6.52	1.23	7.75
$3,000-4,000	990	20.5	8.87	7.39	5/	7.24	1.47	8.71
$4,000-5,000	1,230	25.3	9.40	7.43	5/	7.29	1.97	9.26
$5,000-6,000	1,518	14.7	9.97	8.14	5/	8.04	1.83	9.87
$6,000-8,000	1,876	15.2	10.83	8.22	5/	8.12	2.60	10.72
$8,000-10,000	2,101	5.8	9.97	7.78	5/	7.69	2.19	9.88
$10,000 and over	3,882	5.2	13.27	8.65	5/	8.47	4.62	13.09
Average 4/	1,464	---	9.78	7.66	5/	7.51	2.13	9.63
Average excluding singles	1,461	100.0	9.70	7.58	5/	7.44	2.12	9.56
				c. Rural nonfarm				
Under $2,000	357	10.0	6.56	6.15	.78	4.50	.42	4.92
$2,000-3,000	708	12.6	7.91	7.14	.47	6.27	.78	7.05
$3,000-4,000	923	19.7	7.00	6.30	.32	5.75	.70	6.45
$4,000-5,000	1,208	20.9	7.89	6.97	.24	6.36	.91	7.28
$5,000-6,000	1,389	18.0	8.28	7.38	.32	6.91	.90	7.81
$6,000 and over	1,893	18.8	9.79	7.69	.33	7.23	2.10	9.33
Average 4/	1,191	---	8.12	7.06	.37	6.39	1.06	7.44
Average excluding singles	1,185	100.0	8.10	7.03	.36	6.37	1.06	7.43
				d. Farm				
Under $1,000	57	11.7	8.49	8.15	3.09	4.82	.34	5.16
$1,000-2,000	449	14.0	7.99	7.77	3.14	4.37	.21	4.58
$2,000-3,000	700	16.7	8.70	8.19	3.48	4.48	.51	4.99
$3,000-4,000	805	22.3	7.97	7.48	3.29	4.07	.49	4.55
$4,000-5,000	1,080	12.2	8.42	7.87	2.89	4.87	.55	5.42
$5,000-6,000	1,186	8.3	8.98	8.33	2.58	4.57	.65	5.22
$6,000 and over	2,038	14.8	9.98	8.82	2.77	5.96	1.16	7.12
Average 4/	905	---	8.75	8.20	3.14	4.81	.55	5.36
Average excluding singles	900	100.0	8.65	8.09	3.10	4.75	.56	5.31

1/ Value data for food, excluding alcoholic beverages for home consumption, derived from table 2 of 1955 Household Food Consumption Survey Report No. 2.
2/ Distribution of members of those families reporting incomes.
3/ Includes value of food received as gift or pay as well as purchased and home produced.
4/ Average for all families, including singles and those not classified by income.
5/ Negligible.

Table B.14.--North Central Region: Market value and expenditure data for food per person in a week, average income per person, and percentage distribution of family members, housekeeping families, by urbanization and income group, spring 1955 1/

Disposable money income of family in 1954	Disposable money income per person	Distribution of members of families of 2 or more persons 2/	Market value of all food at home and away: Total 3/	All food at home: Total 3/	All food at home: Home produced	All food at home: Expenditures for food	Expenditures for food and beverages away from home	Total expenditures for food at home and food and beverages away from home
	Dollars	Percent	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
				a. All urbanizations				
Under $1,000	162	3.2	7.15	6.57	2.04	4.29	0.58	4.87
$1,000-2,000	540	5.9	7.16	6.65	1.39	5.07	.51	5.57
$2,000-3,000	753	9.7	7.84	6.94	.91	5.80	.90	6.70
$3,000-4,000	964	16.3	7.89	6.91	.61	6.11	.97	7.08
$4,000-5,000	1,197	22.6	8.19	7.09	.47	6.46	1.10	7.56
$5,000-6,000	1,460	13.0	8.92	7.55	.42	7.00	1.36	8.36
$6,000-8,000	1,746	16.3	9.56	7.72	.42	7.15	1.84	8.99
$8,000-10,000	2,306	5.6	10.33	7.89	.52	7.32	2.44	9.76
$10,000 and over	3,947	7.4	12.84	9.20	.22	8.75	3.64	12.39
Average 4/	1,441	---	8.90	7.44	.64	6.62	1.46	8.08
Average excluding singles	1,439	100.0	8.83	7.38	.64	6.57	1.45	8.02
				b. Urban				
Under $2,000	500	4.2	8.09	6.89	5/	6.60	1.20	7.80
$2,000-3,000	799	7.4	8.04	7.08	5/	6.81	.97	7.77
$3,000-4,000	1,056	14.4	8.53	7.45	5/	7.22	1.08	8.30
$4,000-5,000	1,234	23.9	8.49	7.25	5/	7.05	1.24	8.29
$5,000-6,000	1,570	13.8	9.37	7.94	5/	7.70	1.43	9.13
$6,000-8,000	1,785	19.7	9.97	7.85	5/	7.57	2.13	9.69
$8,000-10,000	2,509	6.4	11.12	7.97	5/	7.86	3.15	11.00
$10,000 and over	4,150	10.2	13.59	9.73	5/	9.47	3.86	13.32
Average 4/	1,689	---	9.70	7.83	5/	7.58	1.88	9.46
Average excluding singles	1,691	100.0	9.64	7.78	5/	7.54	1.86	9.40
				c. Rural nonfarm				
Under $2,000	463	11.3	6.11	5.84	.81	4.72	.27	4.99
$2,000-3,000	757	11.0	7.53	6.48	.32	5.86	1.06	6.92
$3,000-4,000	850	21.7	6.99	6.02	.61	5.14	.97	6.11
$4,000-5,000	1,154	22.7	7.66	6.73	.42	6.06	.93	6.99
$5,000-6,000	1,361	12.4	8.31	6.82	.28	6.37	1.49	7.86
$6,000 and over	2,073	20.9	9.15	7.54	.49	6.90	1.61	8.50
Average 4/	1,187	---	7.78	6.73	.50	5.98	1.04	7.03
Average excluding singles	1,188	100.0	7.75	6.68	.49	5.96	1.06	7.02
				d. Farm				
Under $1,000	123	10.8	7.07	6.85	3.53	3.10	.22	3.33
$1,000-2,000	449	14.1	7.65	7.30	3.08	4.09	.36	4.45
$2,000-3,000	661	16.6	7.82	7.22	3.08	3.91	.60	4.52
$3,000-4,000	892	13.9	7.66	7.13	2.82	4.21	.53	4.74
$4,000-5,000	1,084	17.4	7.79	7.09	2.81	4.16	.70	4.86
$5,000-6,000	1,088	10.4	7.77	7.04	2.39	4.57	.73	5.30
$6,000 and over	1,727	16.8	8.00	7.14	2.83	4.23	.86	5.09
Average 4/	900	---	7.64	7.07	2.93	4.01	.57	4.57
Average excluding singles	897	100.0	7.61	7.04	2.93	3.98	.56	4.54

1/ Value data for food, excluding alcoholic beverages for home consumption, derived from table 2 of 1955 Household Food Consumption Survey Report No. 3.
2/ Distribution of members of those families reporting incomes.
3/ Includes value of food received as gift or pay as well as purchased and home produced.
4/ Average for all families, including singles and those not classified by income.
5/ Negligible.

Table B.15.--South: Market value and expenditure data for food per person in a week, average income per person, and percentage distribution of family members, housekeeping families, by urbanization and income group, spring 1955 1/

Disposable money income of family in 1954	Disposable money income per person	Distribution of members of families of 2 or more persons 2/	Market value of all food at home and away: Total 3/	Market value of all food at home and away: All food at home: Total 3/	Market value of all food at home and away: All food at home: Home produced	Market value of all food at home and away: All food at home: Expenditures for food	Expenditures for food and beverages away from home	Total expenditures for food at home and food and beverages away from home
	Dollars	Percent	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
			a. All urbanizations					
Under $1,000	117	12.4	4.70	4.48	1.45	2.75	0.21	2.96
$1,000-2,000	395	16.9	5.67	5.15	1.01	3.89	.51	4.41
$2,000-3,000	617	18.8	6.17	5.48	.67	4.55	.69	5.24
$3,000-4,000	867	20.4	6.85	5.92	.49	5.23	.93	6.15
$4,000-5,000	1,147	13.3	7.72	6.57	.51	5.85	1.14	6.99
$5,000-6,000	1,309	7.5	8.12	6.64	.46	5.96	1.47	7.43
$6,000-8,000	1,812	6.9	9.05	7.34	.39	6.77	1.71	8.48
$8,000-10,000	2,238	2.3	9.66	7.47	.20	7.12	2.19	9.31
$10,000 and over	4,246	1.5	11.02	8.93	.15	8.43	2.09	10.52
Average 4/	869	---	6.85	5.94	.73	4.95	.91	5.86
Average excluding singles	865	100.0	6.79	5.88	.74	4.89	.91	5.81
			b. Urban					
Under $1,000	223	4.3	4.63	4.27	5/	3.84	.36	4.19
$1,000-2,000	456	13.4	5.91	5.14	5/	4.77	.77	5.54
$2,000-3,000	691	18.9	6.19	5.48	5/	5.23	.71	5.93
$3,000-4,000	898	23.0	6.65	5.76	5/	5.49	.89	6.38
$4,000-5,000	1,248	15.0	7.82	6.47	5/	6.22	1.35	7.57
$5,000-6,000	1,352	9.6	8.03	6.81	5/	6.47	1.21	7.68
$6,000-8,000	1,921	10.1	9.31	7.42	5/	7.12	1.89	9.01
$8,000-10,000	2,256	3.6	9.09	7.31	5/	7.25	1.79	9.04
$10,000 and over	4,147	2.1	11.85	9.62	5/	9.11	2.24	11.35
Average 4/	1,098	---	7.34	6.21	5/	5.89	1.13	7.01
Average excluding singles	1,095	100.0	7.30	6.16	5/	5.85	1.13	6.98
			c. Rural nonfarm					
Under $1,000	160	12.1	4.45	4.33	.95	2.98	.11	3.09
$1,000-2,000	366	17.4	5.14	4.69	.66	3.70	.44	4.14
$2,000-3,000	549	20.1	5.91	5.18	.65	4.14	.73	4.88
$3,000-4,000	840	22.1	7.10	6.05	.53	5.27	1.05	6.32
$4,000-5,000	1,071	14.3	7.74	6.81	.57	5.95	.93	6.88
$5,000-6,000	1,235	6.9	8.30	6.35	.63	5.50	1.95	7.45
$6,000 and over	2,268	7.1	9.85	7.71	.23	7.20	2.15	9.34
Average 4/	775	---	6.59	5.72	.61	4.78	.87	5.65
Average excluding singles	776	100.0	6.53	5.65	.61	4.72	.88	5.60
			d. Farm					
Under $1,000	54	33.6	4.90	4.67	2.22	2.24	.23	2.48
$1,000-2,000	351	24.8	6.04	5.77	2.59	2.96	.27	3.22
$2,000-3,000	557	15.9	6.70	6.17	2.46	3.46	.53	3.99
$3,000-4,000	801	10.6	6.80	6.17	2.42	3.52	.63	4.15
$4,000-5,000	898	6.9	7.07	6.18	2.52	3.38	.89	4.28
$5,000-6,000	1,299	3.1	8.10	6.66	2.34	4.07	1.45	5.52
$6,000 and over	1,763	5.1	7.32	6.54	2.21	4.13	.78	4.91
Average 4/	476	---	6.17	5.71	2.43	3.04	.46	3.50
Average excluding singles	472	100.0	6.15	5.69	2.44	3.02	.45	3.48

1/ Value data for food, excluding alcoholic beverages for home consumption, derived from table 2 of 1955 Household Food Consumption Survey Report No. 4. 2/ Distribution of members of those families reporting incomes. 3/ Includes value of food received as gift or pay as well as purchased and home produced. 4/ Average for all families, including singles and those not classified by income. 5/ Negligible.

Table B.16.—West: Market value and expenditure data for food per person in a week, average income per person, and percentage distribution of family members, housekeeping families, by urbanization and income group, spring 1955 1/

Disposable money income of family in 1954	Disposable money income per person	Distribution of members of families of 2 or more persons 2/	Market value of all food at home and away: Total 3/	All food at home: Total 3/	All food at home: Home produced	All food at home: Expenditures for food	Expenditures for food and beverages away from home	Total expenditures for food at home and food and beverages away from home
	Dollars	Percent	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
				a. All urbanizations				
Under $1,000	-308	1.5	8.46	8.10	1.38	6.45	0.36	6.80
$1,000-2,000	536	5.4	7.32	6.53	.70	5.46	.80	6.26
$2,000-3,000	856	9.8	8.26	7.50	.39	6.86	.76	7.62
$3,000-4,000	992	19.1	7.96	7.11	.36	6.57	.85	7.41
$4,000-5,000	1,229	22.1	8.44	7.36	.34	6.84	1.07	7.91
$5,000-6,000	1,379	16.6	8.43	7.47	.33	6.89	.96	7.85
$6,000-8,000	2,015	11.8	10.74	8.44	.33	7.94	2.30	10.24
$8,000-10,000	2,550	5.3	10.55	8.26	.28	7.81	2.29	10.10
$10,000 and over	4,692	8.4	16.17	10.71	.21	10.40	5.46	15.86
Average 4/	1,584	—	9.44	7.84	.38	7.26	1.61	8.86
Average excluding singles	1,579	100.0	9.39	7.81	.38	7.22	1.59	8.81
				b. Urban				
Under $2,000	427	4.4	7.61	6.54	5/	6.30	1.07	7.36
$2,000-3,000	830	8.7	7.50	6.66	5/	6.53	.84	7.37
$3,000-4,000	993	16.4	7.83	6.86	5/	6.65	.97	7.62
$4,000-5,000	1,228	23.3	8.05	7.00	5/	6.70	1.05	7.75
$5,000-6,000	1,535	16.5	8.92	7.93	5/	7.49	1.00	8.49
$6,000-8,000	2,040	13.8	10.72	8.44	5/	8.01	2.29	10.30
$8,000-10,000	2,668	5.8	10.10	8.41	5/	8.24	1.70	9.93
$10,000 and over	4,788	11.1	16.31	10.64	5/	10.37	5.67	16.04
Average 4/	1,781	—	9.61	7.80	5/	7.50	1.82	9.32
Average excluding singles	1,774	100.0	9.58	7.76	5/	7.48	1.81	9.29
				c. Rural nonfarm				
Under $2,000	460	9.8	6.21	5.96	.14	5.07	.25	5.32
$2,000-4,000	1,018	40.1	8.79	8.17	.42	7.37	.61	7.98
$4,000-6,000	1,158	38.2	8.78	7.66	.36	7.11	1.12	8.23
$6,000 and over	2,494	11.9	13.95	9.72	.28	9.31	4.23	13.53
Average 4/	1,205	—	9.35	8.12	.36	7.46	1.22	8.68
Average excluding singles	1,197	100.0	9.15	7.99	.36	7.32	1.17	8.49
				d. Farm				
Under $2,000	69	20.2	9.26	8.65	3.07	5.39	.61	6.00
$2,000-4,000	754	30.9	7.85	7.08	2.23	4.63	.77	5.40
$4,000-6,000	1,060	30.5	7.51	6.86	2.36	4.33	.65	4.98
$6,000 and over	1,910	18.4	8.34	7.33	1.82	5.33	1.02	6.35
Average 4/	940	—	8.34	7.56	2.52	4.83	.79	5.61
Average excluding singles	937	100.0	8.25	7.48	2.52	4.77	.77	5.54

1/ Value data for food, excluding alcoholic beverages for home consumption, derived from table 2 of 1955 Household Food Consumption Survey Report No. 5.

2/ Distribution of members of those families reporting incomes.

3/ Includes value of food received as gift or pay as well as purchased and home produced.

4/ Average for all families, including singles and those not classified by income.

5/ Negligible.

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