Economic Indicators for the U.S. Food Marketing System

Anthony Gallo, USDA

The economic indicators of the United States food marketing system are some of the most extensive and well developed in the world. The present indicators were not initiated in one shot, but were instead developed over time, and represent a concerted if not perfect effort to characterize of the demand and supply situation of the U.S. food marketing system. Some date back as far as 1909, while others were developed in very recent years.

The purpose of this presentation is to give an overview of these indicators, which include consumption, expenditures, marketing spreads and size, conduct, structure and performance. We will try to point out the lead series in each category, the source of the data, and an indication of recent trends. In this report, an indicator is any measure or statistical figure which helps us to accurately understand developments in the food system, which is defined as the aggregate of firms which process, wholesale and retail the U.S. food supply.

Food Demand Indicators

Food demand indicators include both consumption and expenditure data. The first includes all indicators which measure quantities of food consumed, while the second includes all indicators of spending on food products.

Consumption Indicators

We essentially have two consumption indicators. The first, which is really so called “disappearance data,” measures consumption by examining supplies. The second, dietary intake data, essentially asks consumers what they eat.

Food Disappearance Data

- measure the amount of food available for human consumption in the United States based on records of commodity flows from production to end uses;
- are developed from estimates of production with adjustments for trade flows in and out of the country, changes in beginning and ending inventories, and removal of nonfood uses;
- are annual data--continuous back to 1909 for most commodities;
- measure food supplies for consumption through all outlets--at home and away from home;
- while not a direct measure of human consumption, are often used to monitor levels and year-to-year trends in commodity consumption and use, estimate nutrient availability in the Nation’s food supply, and estimate statistical relationships among commodity supply, demand, and prices;
- are a major component of national nutrition monitoring activity;
• are the basis of Federal dietary guidance, food fortification policy, business decisions, and economic analysis; and

• are published annually in *Food Consumption, Prices, and Expenditures* by USDA’s Economic Research Service.

*Dietary Survey Data*

• The Continuing Survey of Food Intakes by Individuals 1994-96 is the 10th nationwide survey conducted by USDA’s Agricultural Research Service since the 1930's.

• The data provide national probability estimates for the U.S. population based on food intakes reported by over 16,000 individuals, 2 years of age and older, on 2 non-consecutive days during in-person interviews. In addition, nearly 6,000 participants age 20 years or older answered questions on their attitudes and knowledge about dietary guidance and health in the follow-up Dietary and Health Knowledge Survey.

• The USDA surveys provide an up-to-date picture of the dietary status of Americans, where Americans are eating (at home or away), and whether they are meeting dietary recommendations.

• Estimates of food and nutrient intakes can be compared to those from previous surveys in order to identify changes in dietary status over time.

• Data from these surveys are needed for administration of a variety of public programs affecting the supply, safety, and distribution of the nation’s food and for planning food assistance, health interventions, and educational programs.

*Expenditure Indicators*

Three U.S. agencies measure U.S. food expenditures: the Department of Commerce, the Department of Agriculture, and the Department of Labor. The Commerce Department estimate is designed to measure the food component of the national income accounts. The Labor Department estimate is designed to establish retail price weights, while the Agriculture Departments series is intended to measure total expenditures.

• The US Department of Commerce Personal Consumption Expenditures for Food, a component of the official US income and product accounts, are the most often cited, but do not give us the overall picture of total food expenditures because food is often included in other categories. Consequently, we do not acquire an overall complete indication of food expenditures.

• The Bureau of Labor Statistics Continuing Expenditures Survey, like the nationwide consumption survey, allows us to measure changes over time and to perform socio-demographic analysis on such variables as race, family size, age and marital status, of the population in households. Food expenditures data are aggregated into about 100 food categories.

• The USDA Total Food Expenditure Series which does include estimates for all food eaten away from home and gives the most comprehensive picture of U.S. food expenditures. Both food at home and food away from home are included. The series also allows us to break down expenditures by source of purchase.

*Supply Side Indicators*

For every US food dollar about 15 cents goes to US farms. The other 85 cents goes to the US food marketing system: the nation's food manufacturers, retailers, restaurants, and wholesalers.
USDA maintains two sets of economic indicators on the US food system:

- Food cost indicators.
- Size, structure, conduct, and performance indicators of the United States food marketing system, in all four food distribution sectors.

Food Cost Indicators
USDA uses a market basket concept to track retail food prices and to determine the underlying causes of food price changes.

- The retail price component of the market basket is a subset of the consumer price index for food at home.
- The farm value represents the prices received by farmers for raw farm commodities.
- The farm-to-retail price spread is the difference between the retail price and the farm value.
- The marketing bill measures specific changes in marketing costs such as labor, packaging, transportation, advertising, profits, rent, interest, and other costs.

Food Cost Review is the major outlet in which these indicators are published.

Size, Conduct, Structure, And Performance Indicators
This series has been maintained since 1984, and augmented each year to keep up with major developments in the food marketing system. This series examines developments in the U.S. food marketing system, encompassing the manufacturing, wholesaling, retailing, and food service industries. Data used is from US Government agencies or derived from publications of consulting firms, trade associations, academic research, and trade publications.

Because availability of information differs, sections of this series treat industry scope, analysis of market levels, and emphasis on relevant variables differently. Some of the indicators are based on the most recent available census data. These data represent the most complete information for measuring the structural and performance characteristics of food marketing industries. Sections on individual industries contain more recent data from secondary sources, including trade journals and statistics by government regulatory agencies. Where possible, we have made annual estimates from Bureau of the Census data that are available every 5 years.

Reasons For Maintaining This Series
These indicators are used to measure the economic performance and competition of the food system. One of the major reasons for maintaining the data is to measure consumer welfare. The US food marketing system accounts for most of the consumers' food dollar. How well is the industrial organization of the food marketing system serving the consumer in terms of prices, quantities and quality? Second is to monitor developments of the largest client of the American farm system. The US food marketing system accounts for the purchase of nearly 80 percent of the value of U.S. farm production. Whatever happens in the US food marketing system can therefore impacts upon the US farm system. Third, the US food marketing system itself is the
Nation's largest employer and accounts for about a tenth of GDP. As such, this important sector of the US economy needs a comprehensive data set in formulating decisions.

Performance Indicators: A Summary

- **Economic value added.** The data is from government sources. The u.s. food marketing system accounts for about a tenth of gdp and national employment.
- **Profitability.** The data is from both government and private sources. The u.s. food marketing system is one of the most profitable in the u.s. economy.
- **Equity performance.** The data is from private public sources. The indicator measures returns to investors. The food system has outperformed other economic sectors over the last several decades.
- **Research and development.** Is from private sources. Research and development generally accounts for 0.4 percent of sales.
- **Foreign trade and investment.** The us is one of the world’s most global food systems. Foreign trade accounts for about 5 percent of u.s. shipments of food, but roughly a fifth of all sales are from u.s. firms foreign subsidiaries.
- **Capital expenditures.** Government sources. Roughly 22 billion dollars is spent on capital expenditures. Nearly 460 new plant projects were productivity. Most u.s. food processing industries have shown an increase in productivity because of automation.
- **Leveraging.** This measures the debt load of the food system, using both government and private sources. The u.s. system has gone form one of the least leveraged to one of the most leveraged in the u.s. economy.

Competition Indicators

These indicators give a hint, but are hardly conclusive proof of competition in the system. We measure both price and non-price competition in the system as a measure of both consumer and farm welfare.

- **Price competition.** We examine the retail food price indices to see what changes in retail food prices have been. Retail food prices have been rising rather modestly in the u.s. in recent years.
- **New product introductions: we use private sources of information.** Sixteen thousand new food products were introduced in 1997. New product introduction is used as a measure of competition because firms introduce the products to maintain market share.
- **Advertising.** Food marketing is the largest advertiser in the american economy. Again, we use advertising as a measure of non-price competition.

Structure and market size indicators

- **Changes in concentration, the basic structure data are some of our most demanded indicators.** We use largely census data. Company, establishment and size changes are also highly demanded. Concentration has been rising for most u.s. food marketing industries.
- **Mergers, divestitures, and leveraged buyouts.** Nearly 7500 such transactions have taken place in the american economy since 1982. They are important indicators of market changes.
- **Market Size.** Measuring size of all four food distribution sectors over time, The size of food markets economy relative to total GDP, and Share of income for food.
**Concluding Thoughts**

These supply indicators are published annually in *Food Marketing Review And Food Marketing System*. We soon hope to have them available on the internet web page.

There is much demand for these indicators by food industry, universities, and other government agencies. While the indicators are not perfect, we can expect that they will improve over time. The work requires much understanding of the data, and the acumen to interpret that data. Finally, in establishing these indicators, the economist must not think of being brilliant, but of being useful in supplying without bias a much needed public good the economic indicators of the food marketing system.

**References**


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Anthony E. Gallo
Cuernavaca, Mexico
January 22, 1998

Purpose of the presentation

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- A process of development
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  - consumption,
  - expenditures,
  - marketing spreads, and
  - size,
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  - structure and performance.

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- the lead series in each category,
- the source of the data, and
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