U.S. Department of Commerce Industry Report

Food Manufacturing NAICS 311

Industry Definition

The food manufacturing industry (NAICS 311) transforms livestock and agricultural products into products for intermediate or final consumption. Subsectors in this category include animal food manufacturing (NAICS 3111), grain and oilseed milling (NAICS 3112), sugar and confectionary product manufacturing (NAICS 3113), fruit and vegetable preserving and specialty food manufacturing (NAICS 3114), dairy product manufacturing (NAICS 3115), meat product manufacturing (NAICS 3116), seafood product preparation and packaging (NAICS 3117), bakeries and tortilla manufacturing (NAICS 3118), and other food manufacturing (NAICS 3119).

Establishments primarily engaged in manufacturing beverages and tobacco are classified separately in Subsector 312, Beverage and Tobacco Product Manufacturing and are not covered in this chapter.

Current Economic Indicators

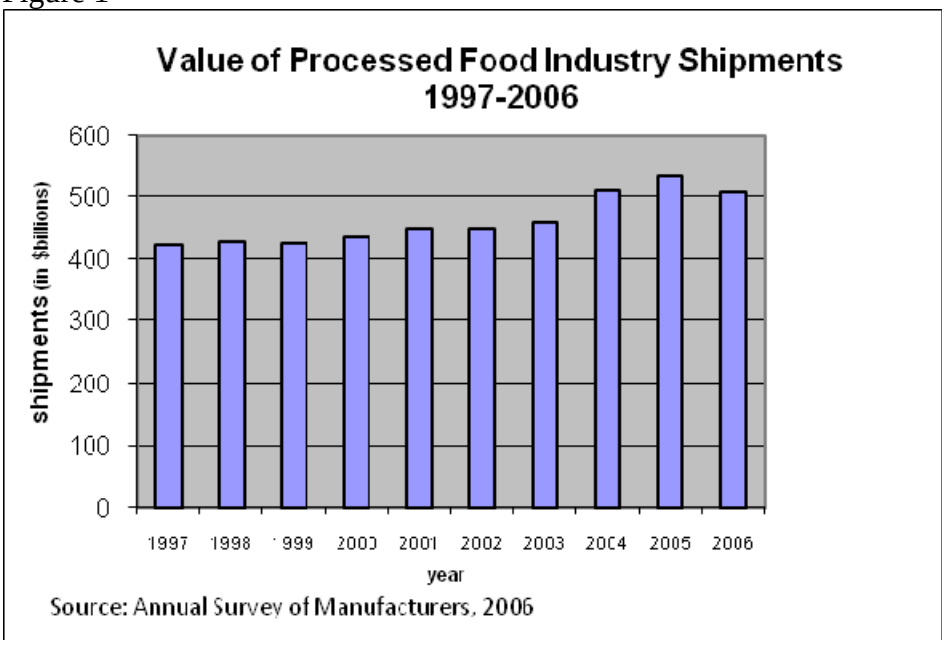
The food manufacturing industry is one of the United States' largest manufacturing sectors, accounting for more than 10 percent of all manufacturing shipments. The processed food industry has experienced fairly steady growth over the 1997-2006 period but experienced a slight decline from 2005 to 2006. In 2006, the value of food shipments was $538 billion, an increase of 27 percent from 1997 shipments of $422 billion (see Figure 1).[1] Demand for processed food products tends to be less susceptible to fluctuating economic conditions than other industries.

In 2006, there were 28,000 establishments in food manufacturing. Large multinationals are a big presence in the industry but although they account for 36 percent of all the jobs in the industry, they represent just over 500 of the 28,000 establishments. Eighty nine percent of establishments employ fewer than 100 workers.[2]

According to the Food Institute, there were 99 mergers and acquisitions among food processing companies in 2006, up from 94 in 2005, but down from 168 in 2000. Acquisitions and mergers have already resulted in consolidation of some of the largest companies in the industry.

[1] This chart reflects growth in current dollars, not real dollars and does not account for changes in inflation.
[2] Bureau of Labor Statistics

Figure 1



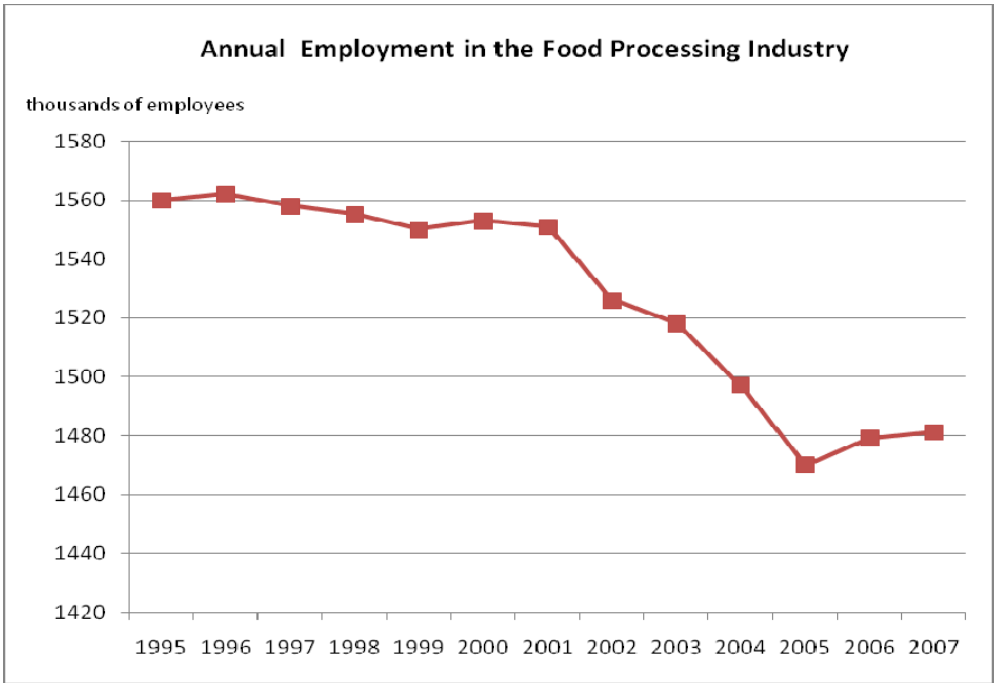
In 2007, the ten largest U.S. companies in this sector according to *Food Processing* were Kraft Foods, Tyson Foods, PepsiCo, Nestle, Anheuser-Busch, General Mills, Dean Foods, Smithfield Foods, ConAgra Foods, and Cadbury Schweppes. Kraft Foods, the largest in the industry, employs 103,000 employees, has more than 180 manufacturing and processing facilities worldwide, and reported net revenues of $37 billion in 2007. Kraft also manufactures some of the industry's leading brands, such as Oreo, Nabisco, Oscar Mayer, Philadelphia Cream Cheese, and Maxwell House coffee.

The industry invests heavily in technology and increased automation and production improvements have allowed companies to increase output while relying on fewer employees. Employment in the industry declined 5% from 1996 to 2007, decreasing from 1.56 million to 1.5 million (see Figure 2). The Bureau of Labor Statistics expects overall wage and salary employment in food manufacturing to experience little or no change over the 2006-16 period, compared with 11 percent employment growth projected for the entire economy.[3]

Geographically, the largest percentage of workers in the industry is concentrated in California, making up 11 percent of the food processing industry workforce in 2005. Texas, Illinois, and Pennsylvania employed significant percentages of the food processing workforce at 7 percent, 6 percent, and 5 percent respectively with the rest of the workforce fairly evenly distributed across the United States.

[3] Bureau of Labor Statistics, U.S. Department of Labor, *Career Guide to Industries, 2008-09 Edition*, Food Manufacturing

Figure 2



Source: Bureau of Labor Statistics

The meat industry employed the largest number of workers in 2007 employing 34 percent of total industry workers.

Figure 3

Industry	**Employment 2007 (thousands)**	**%**
Food Manufacturing	1482	100.0
Animal Slaughtering and Processing	507	34
Bakeries and Tortilla Mfg	278	19
Fruit & Veg Preserving and specialty	173	12
Other Food Products	165	11
Dairy Products	129	9
Sugar and Confectionary	74	5
Grain and Oilseed Milling	61	4
Animal Food	51	3
Seafood product prep and pkging	44	3

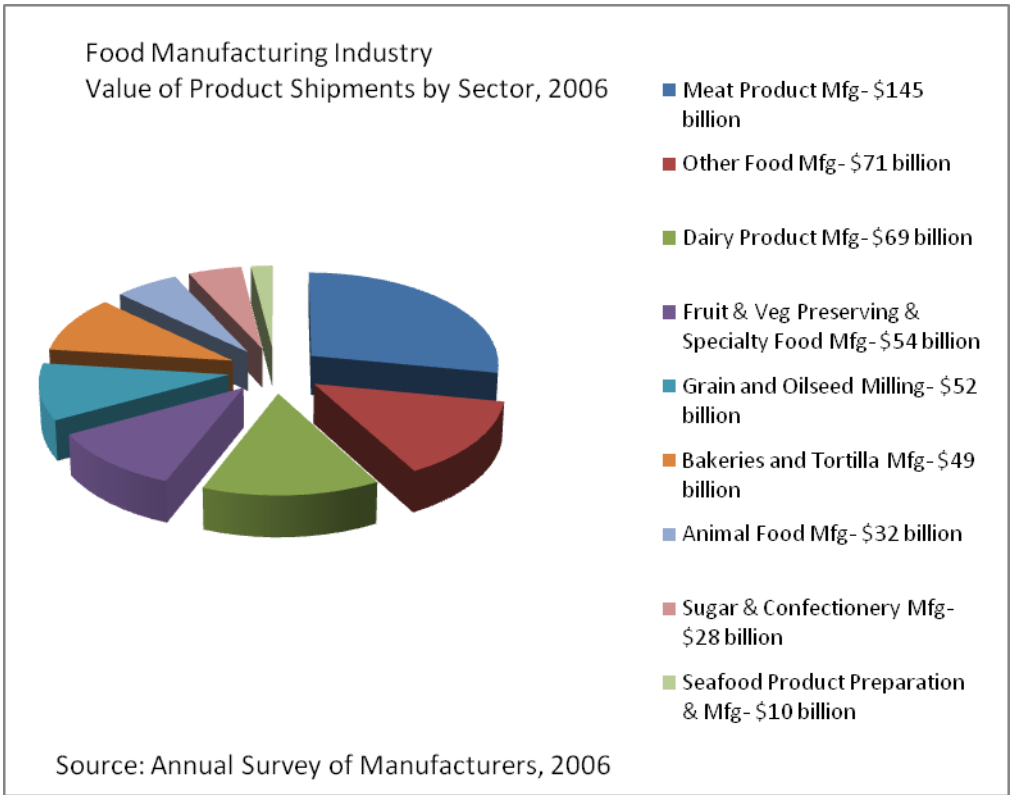
Source: Bureau of Labor Statistics

Nature of the Industry

Processed foods are "value-added" products, referring to the fact that a raw commodity or commodities are transformed into a processed product through use of materials, labor, and technology. Any product that requires some degree of processing is referred to as a processed product, regardless of whether the amount of processing is minor, such as for canned fruit, or more complex, such as for snack foods.

Of the sub sectors that make up the food manufacturing industry, the largest four: meat products; other food; dairy products; other food; and grain and fruit and vegetable preserving and specialty food manufacturing, made up 68 percent of total industry shipment values of $510 billion in 2006. Other sectors included grain and oilseed milling, which accounted for 10 percent, bakeries and tortilla manufacturing (10 percent), animal food manufacturing (6 percent) sugar and confectionery product manufacturing (5%) and seafood products (2 percent).

Figure 4

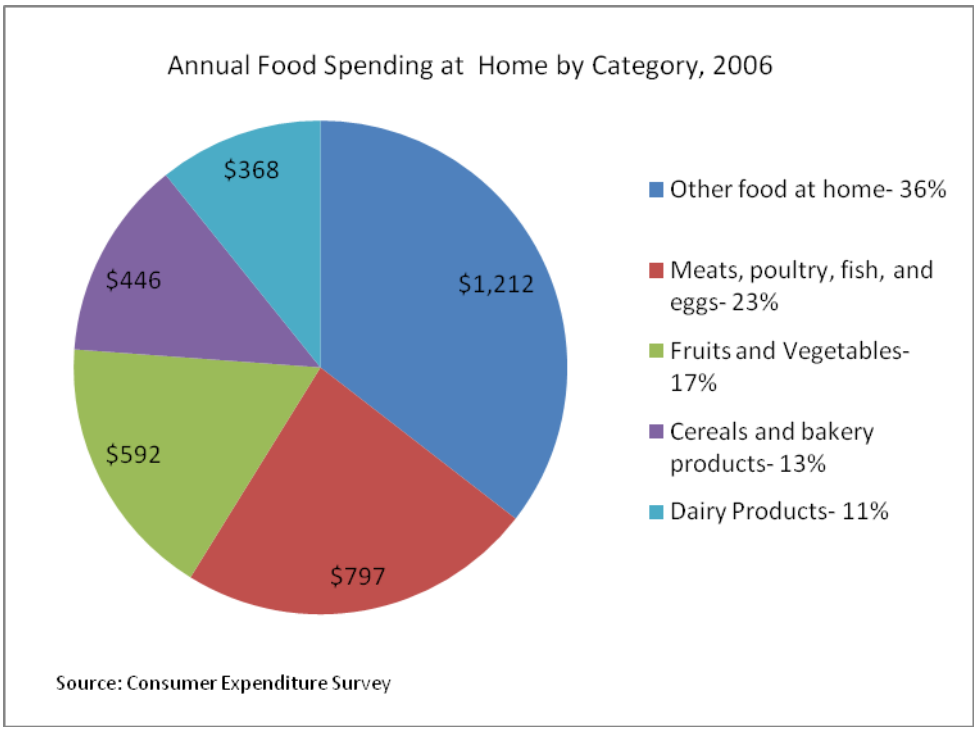


Market Overview and Demand

According to the Department of Labor, average annual food spending per person increased 18 percent during 2000 to 2006, from $5,158 to $6,111. Total spending on food makes up about 13 percent of a household's total average annual expenditures. Of the $6,111 in food spending, $3,417 was spent on food at home and $2,694 was spent on

food away from home. Consumers spent the largest portion of their food at home spending ($1,212) on the "other food" category which includes sugar, sweets, fats and oils, miscellaneous foods, nonalcoholic beverages, and prepared food (see Figure 5).

Figure 5



Most supermarkets now offer prepared meals. There is high demand for convenience food and ready to serve products such as snack foods, snack bars, and frozen food that are popular with double income households and consumers who are generally short on time. The aging U.S. population and rising per capita incomes should cause this trend to continue.

As the U.S. population becomes increasingly ethnically diverse, consumer demand for food products also diversifies. The Hispanic population continues to grow rapidly and processed food companies are developing new products for this population. Some retailers and supermarkets now cater specifically to Hispanic populations. Also, many traditionally ethnic food products are crossing over to the mainstream population.

Other factors affecting demand for processed food in the U.S. market include concern about dieting and obesity, allergens, and increased interest in sourcing locally and use of quality ingredients..

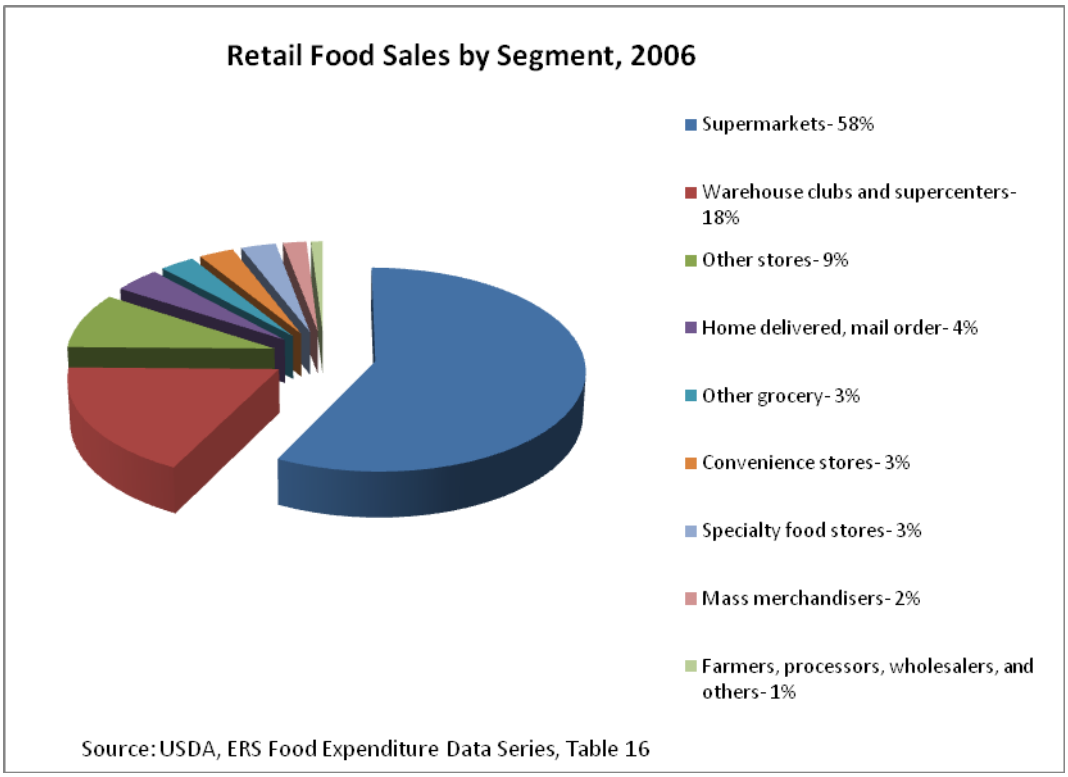
Organic food is another market segment that has grown rapidly (an estimated 20% per year through the 1990s according to USDA) due to increased consumer interest in healthy products. Organic food can now be found in traditional supermarkets, natural food stores, and other retail markets. USDA issued Federal standards for organic food in

October 2002. In accord with the standards, a certified organic processed product must use at least 95 percent organic ingredients to be labeled or represented as organic. The Organic Trade Association reports that sales of organic food were $16.7 billion in 2006, making up nearly 3% of total food sales. Sales growth was strongest for organic meat, dairy, fruits and vegetables, and bread and grains. The Organic Trade Association anticipates growth of 18 percent a year for the organic food industry through 2010.

Distribution

Retail food sales at warehouse clubs and supercenters has increased steadily since their introduction in the 1980's and have taken away some sales share from traditional supermarkets which still sell 58 percent of all retail food. The leading U.S. grocery retailers are Walmart and Kroger, while top warehouse clubs include Sam's Club, Costco, and BJs.

Figure 6



Technology

Food manufacturers continue to invest in greater automation in manufacturing processes. Budgeted spending for plant equipment, upgrades, computers, and automation remains at steady levels and manufacturers are adding additional processes to address concerns with ensuring food safety. Increased use of automation and innovation in the manufacturing process has limited employment in the manufacturing sector to some extent.

According to *Food Engineering*, key issues for plant manufacturers include plant technology improvements and automation, consolidation, energy costs and usage, consumer demand for healthier and more nutritious products, and continuous improvement programs.[4]

Use of radiofrequency ID (RFID) tags is still limited in the food manufacturing industry due to its prohibitively high cost. The technology consists of tagging pallets with RFID tags to track goods through the supply chain from the factory floor to the store. Although it is currently not used on a widescale basis on individual products, it could be headed that direction if technology costs drop. Walmart required its top 100 suppliers to have RFID technology in place to track pallets in 2005. And according to a 2006 Food Engineering Survey, 40 percent of respondents indicated that their companies either had initiated or were investing already in RFID-tag initiatives.

Issues Affecting the Industry

Rising Commodity Prices: A dramatic jump in food commodity prices worldwide has had an impact on the industry, which uses commodities such as grains and vegetable oils as inputs to many of its products. Rising food commodity prices particularly impact small producers. For example, small bakeries and bagel companies are often unable to absorb the big price increases of inputs such as wheat and flour and must ultimately raise the final prices of their products whereas larger producers are better able to absorb commodity price increases. A number of factors have contributed to this run up in prices, including slowing production, rapid growth in demand, increased demand for biofuels feedstocks, and adverse weather conditions which have affected crop yields.[5]

Food Safety: In the last year, concerns over food safety have increased as the industry has been hit by several high profile and large scale recalls, as well as faced questions regarding the quality of inputs from suppliers in foreign countries. Government and industry have responded to try to address the issue. The Food and Drug Administration which regulates about 80 percent of the nation's food products, issued a Food Protection Plan in 2007 to safeguard the nation's food supply against unintentional and deliberate contamination. The plan focuses on risk based interventions and rapid response when problems are identified. The food industry also responded by pressing for more funding of FDA and issuing best practices guidance to its industry members on securing supply chains. The Grocery Manufacturers Association created its own food safety website for the industry. It also created an action plan for its members designed to protect consumers from unsafe imported products by calling on the industry to adopt four "pillars" of food safety. The approach focuses on prevention and a stronger public-private partnership to address food safety issues. Walmart has taken the step to become the first U.S. grocery chain to require its food suppliers to certify compliance with internationally recognized private Global Food Safety Initiative Standards. Internationally, food safety has become

[4] "State of Food Manufacturing, The Continuous Quest for Improvement," by Kevin Higgins, *Food Engineering,* September 2, 2006

[5] "Global Agricultural Supply and Demand: Factors Con tributing to the Recent Increase in Food Commodity Prices,"by Ronald Trostle, USDA ERS Report No. (WRS-0801) May 2008

a top issue as well. For example, the Asia Pacific Economic Cooperation Forum (APEC), created a Food Safety Forum in 2007 to address food safety issues among its members.

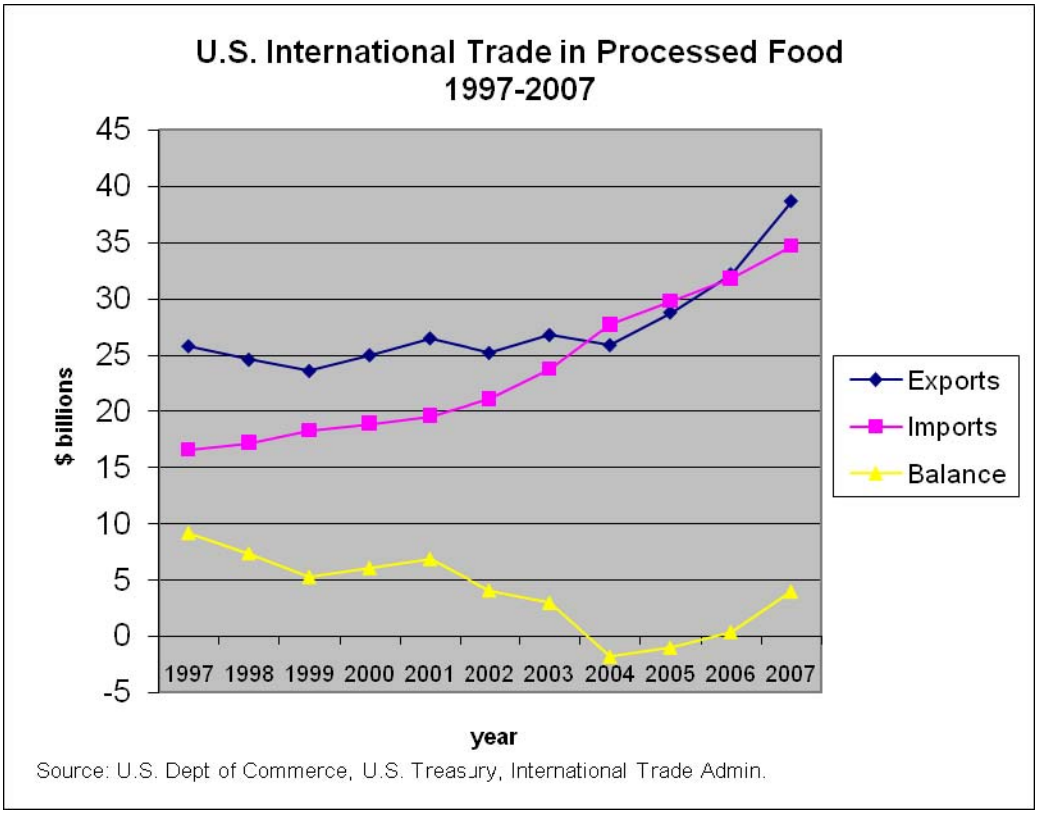
Energy Costs /Corporate Responsibility/Environmental Sustainability: Higher energy costs are causing concern among manufacturers in the industry who are increasingly looking for ways to conserve energy in manufacturing processes to reduce costs. Concerns about the environment and sustainability are also having an impact on producers. Many are increasing their recycling efforts and redesigning packaging to lessen the impact on the environment.

World Market and Trends

The U.S. processed food industry is a major participant in the global economy, active in both exporting and foreign direct investment. More than a third of the world's top 50 food and beverage processing firms are headquartered in the United States (19 out of 50 in 2004 according to *Food Engineering*). Major foreign competitors were Nestle (Switzerland), Unilever (England), Groupe Danone (France), Diageo (England), Kirin Brewery (Japan), SABMiller (South Africa), Cadbury Schweppes (England), Heineken (Netherlands), and Asahi Breweries (Japan).

In 2007, the U.S. processed food industry exported $38.7 billion of product and imported $34.7 billion. This marked the second year of a trade surplus for the industry after being in a deficit for the prior two years (see Figure 7).

Figure 7



Imports

In 2007, five countries accounted for 52 percent of U.S. imports of processed food products: Canada (27%), Mexico (8%), China (7%), Australia (5%), and New Zealand (5%). Increased demand for processed food imports has occurred as the population has grown and become more diverse, and as a result of rising incomes. Imports are also important to supply seasonal fresh fruits and vegetables when domestic production is low.

Figure 8

U.S. Trade Patterns in Food Manufacturing (NAICS 311) in 2007
(millions of dollars; percent)

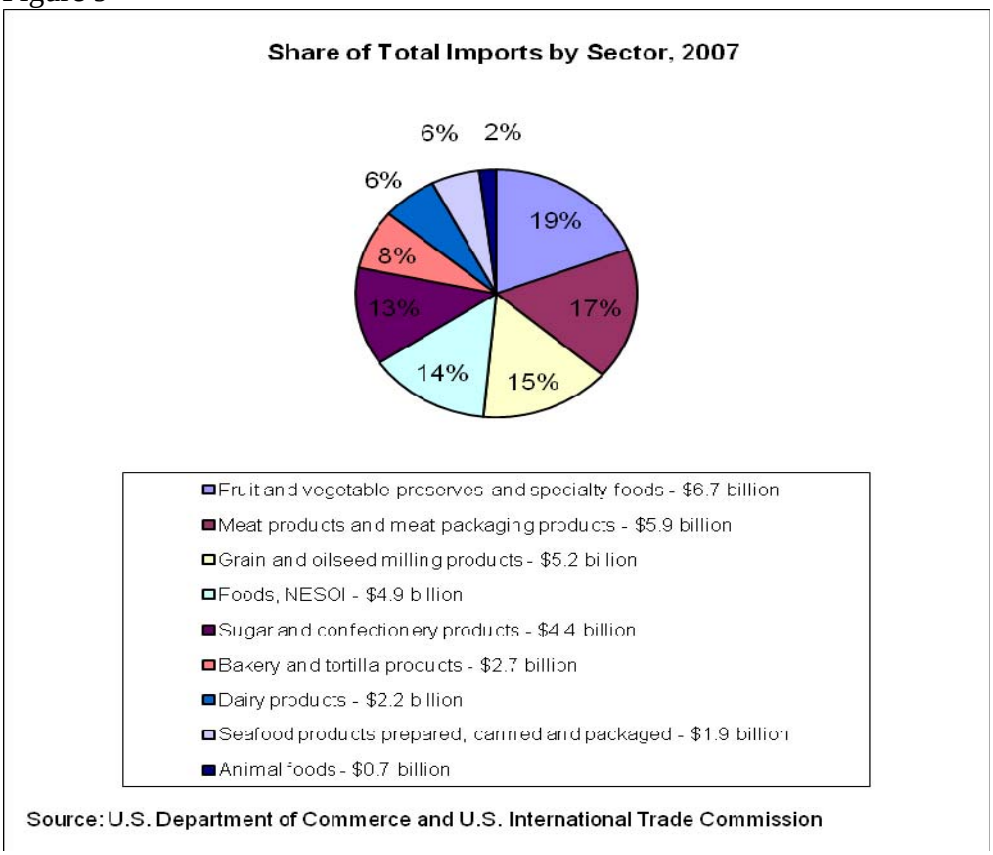
Imports

Region	Value	Share, %
NAFTA	12,323	35
EU 25	5,630	16
Latin America	7,251	21
Other Asia	4,845	14
Japan/Chinese Economic Area	3,050	9
Rest of World	1,621	5
Total	**34,720**	**100**

Top 5 Countries	Value	Share of Total, %
Canada	9,484	27
Mexico	2,839	8
China	2,489	7
Australia	1,709	5
Italy	1,603	5

Fruit and vegetable preserves and specialty foods made up the largest share of the $34.6 billion in overall processed food imports in 2007 (19%). This was followed by Meat products and meat packaging products (17%), grain and oilseed milling products (15%), miscellaneous foods (14%), and sugar and confectionery products (13%).

Figure 9



Exports

Processed food exports have grown steadily since a slight downturn in 2004. In 2007, five foreign countries accounted for 61 percent of U.S. processed food exports: Canada (23%), Mexico (18%), Japan (10%), China (6%), and Korea (4%).

Retail sales of food products increased relatively quickly in many developing and lower-middle income countries through the late 1990s and demand in Asian markets is expected to increase significantly into the near future. As developing countries experience income increases, demand for processed food grows, especially for higher valued food products such as meat. In developed countries, increased demand comes for convenience and specialty food products.

Figure 10

U.S. Trade Patterns in Food Manufacturing (NAICS 311) in 2007

Exports

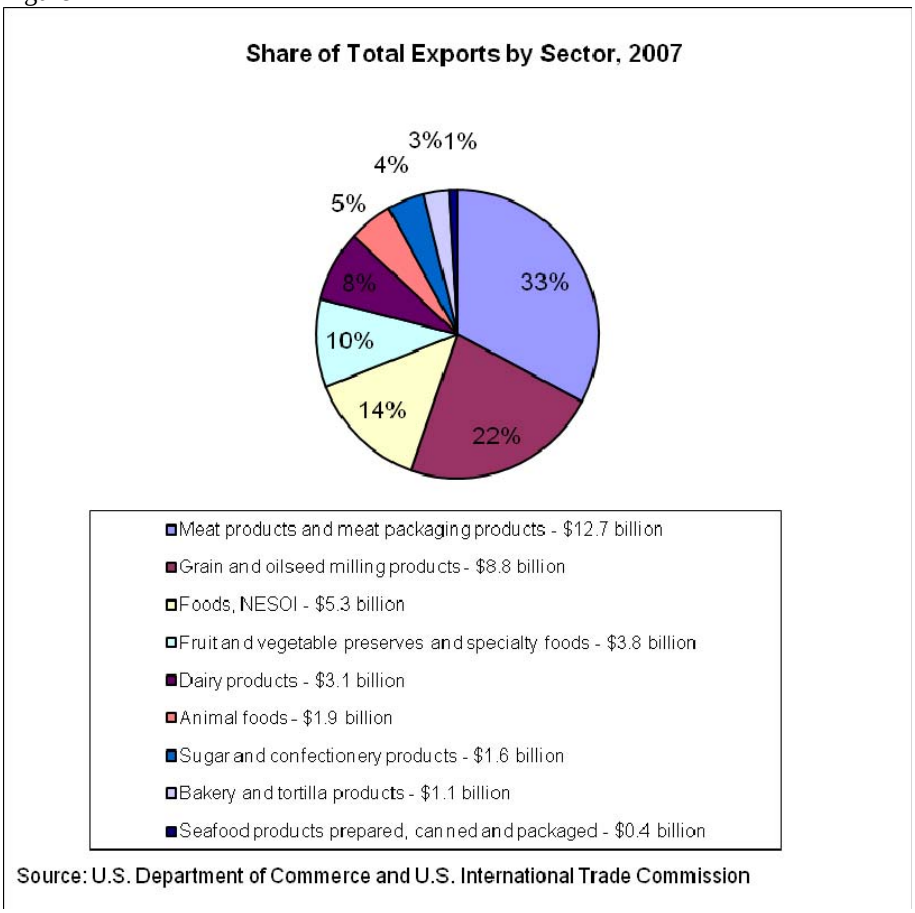
Region	Value ($millions)	Share, %
NAFTA	15,819	41
Japan/Chinese Economic Area	7,656	20
Rest of World	5,021	13
Other Asia	3,964	10
Latin America	3,579	9
EU 25	2,707	7
Total	**38,746**	**100**

Top 5 Countries	Value	Share, %
Canada	8,900	23
Mexico	6,919	18
Japan	3,835	10
China	2,312	6
Korea	1,503	4

Source: U.S. Department of Commerce, Bureau of the Census

Meat products and meat packaging products made up the largest share of the $38.7 billion in overall processed food exports in 2007 (33%). This was followed by grain and oilseed milling products (22%), miscellaneous foods (14%), and fruit and vegetable preserves and specialty foods (10%).

Figure 11



According to the U.S. Department of Agriculture, processed food exports with good sales potential in the top five largest export countries are the following:

> **Canada**: Beverages (cocktail mixes, flat water), dry grocery (icing products, baking mixes, tortilla shells), frozen foods (fruit, pizza, yogurt), perishables (prepared salads, sausages), prepared foods.
>
> **Mexico**: Poultry, meat, dairy, fresh vegetables, processed fruit and vegetables, breakfast cereals and mixes, processed meat, wine and beer.
>
> **Japan**: Pork, beef, cheese, snack food (excluding nuts), frozen vegetables, fruit juice, berries, tree nuts, wine, pet food, cakes, waffles, pie, salmon
>
> **China**: Nuts and dried fruits, seafood, poultry, red meat, frozen vegetables, infant formula, baby food, dairy products, fresh fruit (cherries, pears), Mexican food
>
> **Korea**: Beef, pork, poultry, citrus, chocolate, whey, wine, fish and seafood, bread, cakes, pastry, nuts

Trade Policy

The U.S. processed food industry still faces relatively high foreign tariffs on many of its products and also on some of its inputs, such as sugar.

The North American Free Trade Agreement (NAFTA) eliminated most Mexican and Canadian tariffs on U.S. processed food exports, which were as high as 20% on such products as chocolate and preserved meats before NAFTA took effect. U.S. firms now have a price advantage over competitors who have to pay an average tariff of 24% in Mexico's market. Sectors that have particularly benefited include milk and cream products, breakfast cereals, prepared meats, and processed fruits and vegetables.

NAFTA had an influential role in increasing exports and imports between Mexico, Canada, and the U.S. NAFTA has allowed processed food firms increased operational flexibility regarding how to meet "just in time" delivery requirements of customers, particularly along border regions of NAFTA countries. Also, NAFTA investment provisions that guarantee equal treatment for foreign and domestic investors have proven beneficial and have resulted in increased U.S. direct investment in Mexico and Canada's processed food industry.

Pending free trade agreements could be beneficial in bringing down high tariffs in the industry. For example, in Korea, the average current tariff for products such as sauces and condiments is 8 percent. However, they have also been subjected to arbitrary annual adjustment tariffs as high as 45 percent. Under the Korea Free Trade Agreement, these tariffs would be eliminated within 5 to 10 years.

The U.S. processed food industry still faces nontariff barriers in many markets that act to restrict trade in processed food. These include issues such as onerous certification, registration, and labeling requirements, differing food standards, shelf-life requirements, intellectual property right protection, and customs procedures.

Industry Shows and Trade Events

All Candy Expo
May
http://www.allcandyexpo.com/

All Things Organic
April
http://www.organicexpo.com/08/public/enter.aspx

Fancy Food Show
June and January
http://www.specialtyfood.com/do/fancyFoodShow/LocationsAndDates

Food Marketing Institute (FMI) Leadership Education Forum and FMI Show
May
http://www.fmi.org/events/

Institute of Food Technologists (IFT) Annual Meeting and Food Expo
June/July
http://www.am-fe.ift.org/cms/

National Restaurant Association Show
May
http://www.restaurant.org/events/

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