

The Processed Food Industry Analysis
Presented to the Hawaii Food Manufacturers Association Board
May 12, 2015

Introduction

The Processed Food Industry Analysis is the analysis of foods and beverages that are manufactured from raw animal, vegetable, or marine sources, which are converted into edible products by peeling, cutting, shredding, dicing, etc., are heated and/or cooled to ambient, refrigerated, or freezing conditions and are packaged for portability and shelf life. Such conversions add value to the product. Thus, **processed food is also called value-added food**. The Analysis follows the products in the marketplace and until the consumers use them.

Unlike other Industry Analyses conducted by CTAHR, the Processed Food Industry Analysis is not commodity-specific. Processed Food Industry members discussed bottlenecks that were common to most members, such as marketing, industry organization, or technology development and application. If a bottleneck was commodity-specific, the problem was usually addressed in the Industry Analysis of that particular commodity.

Like its U.S. Mainland counterpart, the Hawaii food processing industry has shown a relatively stable presence compared to other industries. Some economic indicators presented below are given to help describe the current status and potential of the Hawaii food processing industry.

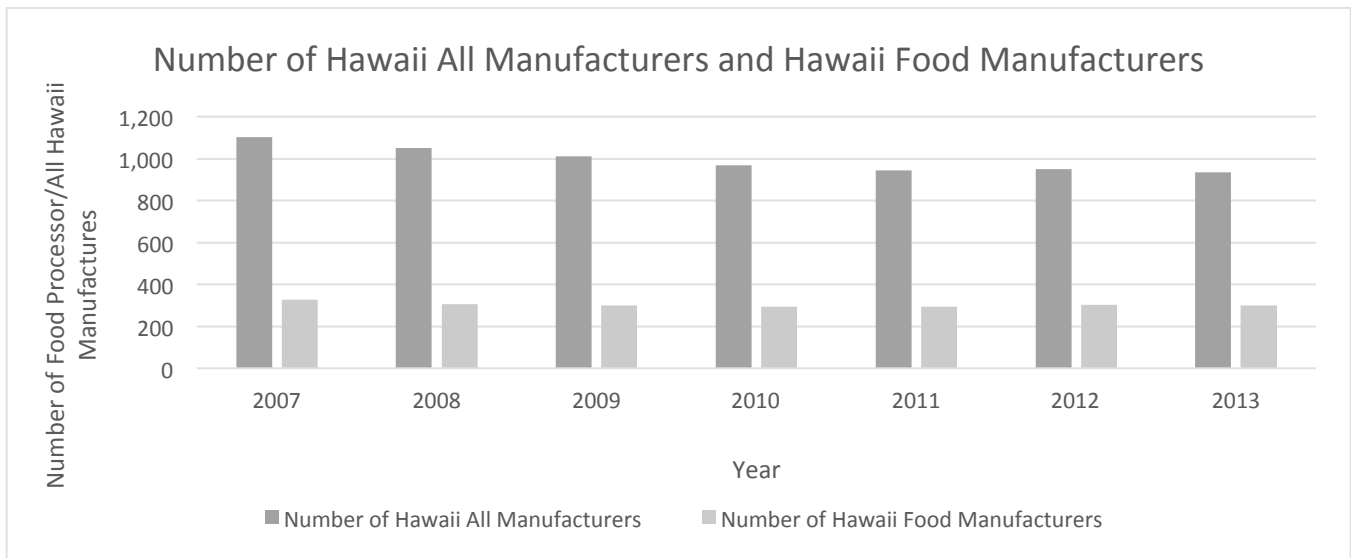
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May 12, 2015

CURRENT STATUS AND POTENTIAL

Employment

The total number of all manufacturers in Hawaii decreased from 1,103 establishments in 2007 to 934 in 2013 (2013 Employment and Payrolls in Hawaii). Although there was also a continued decline in the number of food establishments from 327 in 2007 to 294 in 2011, the Hawaii food processing industry experienced a slight increase to 301 food establishments in 2013 (2007-2013 Employment and Payrolls in Hawaii). *The number of manufacturers of food and kindred products in 2013 accounted for about 32.2% of all manufacturing establishments in the State (2013 Employment and Payrolls in Hawaii).* This is a significant section of the manufacturing industry in Hawaii.

**2007-2013 NUMBER OF HAWAII ALL MANUFACTURERS AND
HAWAII FOOD MANUFACTURERS**



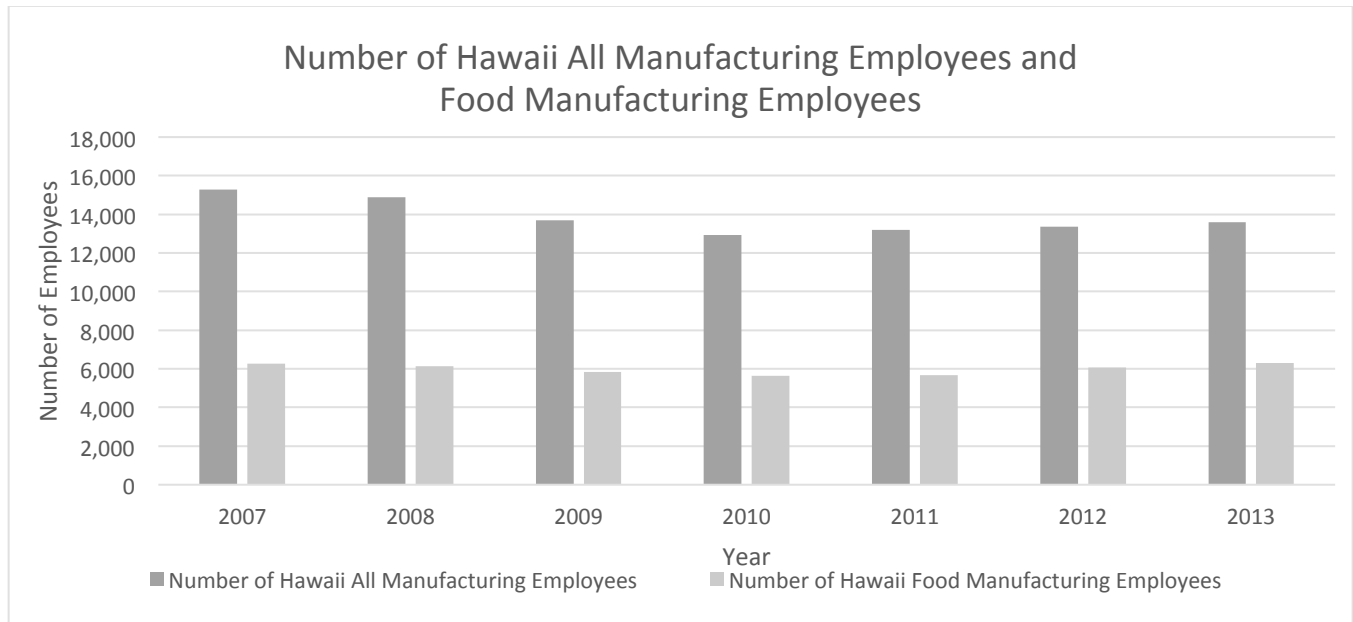
Year	Number of Hawaii All Manufacturers	Number of Hawaii Food Manufacturers
2007	1,103	327
2008	1,051	305
2009	1,012	301
2010	969	294
2011	944	294
2012	949	303
2013	934	301

Source: 2007-2013 Employment and Payrolls in Hawaii

Number of Employees in Hawaii Manufacturing

The number of employees of the Hawaii food processing industry in 2007 accounted for 41.0% of the total manufacturing industry in Hawaii (2007 Employment and Payrolls in Hawaii). *In 2013, the number of employees in the Hawaii food processing industry increased to 46.4% or almost half of all manufacturing industry in Hawaii (2013 Employment and Payrolls in Hawaii).* Although this number is already significant, it becomes more meaningful when the number of employees *associated* with the Hawaii food processing industry is added. The employees associated with the food processing industry is greater than published data because one of two positions in support services, transportation, wholesale, and retail trade are indirectly created for each person directly employed in agricultural production and processing. Thus, the food processing industry is and remains the *largest manufacturing employer* in the State of Hawaii.

2007-2013 NUMBER OF EMPLOYEES IN HAWAII ALL MANUFACTURERS AND HAWAII FOOD MANUFACTURERS



Year	Number of Hawaii All Manufacturing Employees	Number of Hawaii Food Manufacturing Employees
2007	15,278	6,265
2008	14,893	6,142
2009	13,699	5,825
2010	12,935	5,625
2011	13,184	5,669
2012	13,345	6,064
2013	13,573	6,301

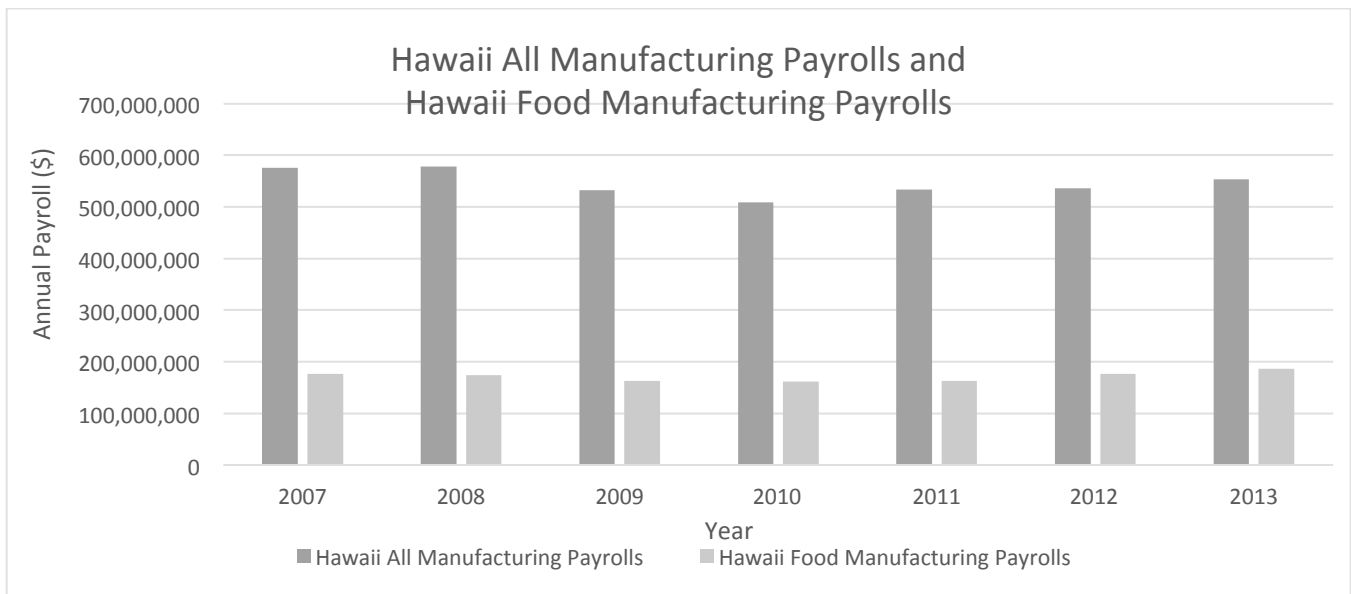
Source: 2007-2013 Employment and Payrolls in Hawaii

Payroll

Payroll of the Hawaii food processing industry declined from \$176.0 million in 2007 to \$161.4 million in 2010 but increased to \$186.2 million in 2013 (2007-2013 Employment and Payrolls in Hawaii), or 33.6% of the total Hawaii manufacturing payroll in 2013.

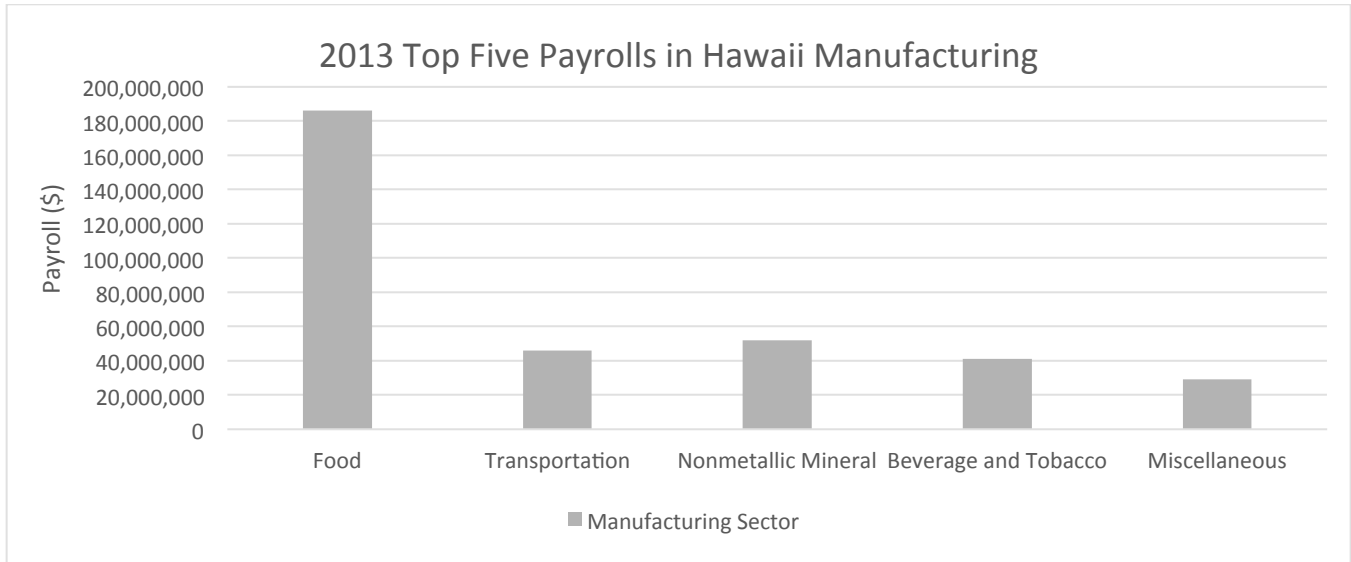
The top five payrolls in Hawaii manufacturing are food, transportation, non-metallic mineral, beverage and tobacco, and miscellaneous. *Of the top five payrolls in Hawaii manufacturing, the food processing industry has remained the largest contributor to the payroll. In 2013, the food processing industry payroll (2007-2013 Employment and Payrolls in Hawaii) was greater than the other top four payrolls in Hawaii manufacturing combined.*

2007-2013 ANNUAL PAYROLLS OF HAWAII ALL MANUFACTURING AND HAWAII FOOD MANUFACTURING



Year	Hawaii All Manufacturing Payroll (\$)	Hawaii Food Manufacturing Payroll (\$)
2007	575,823,669	176,040,873
2008	577,851,196	173,940,716
2009	532,197,147	162,876,935
2010	508,412,560	161,405,676
2011	532,818,442	162,388,821
2012	535,714,638	176,889,897
2013	553,813,436	186,188,662

Source: 2007-2013 Employment and Payrolls in Hawaii



Source: 2013 Annual Payroll of Top Four Hawaii Manufacturers

Manufacturing Sector	Annual Payroll (\$)
Food	186,188,662
Transportation	46,036,891
Nonmetallic Mineral	51,902,144
Beverage and Tobacco	41,109,522
Miscellaneous	29,340,318

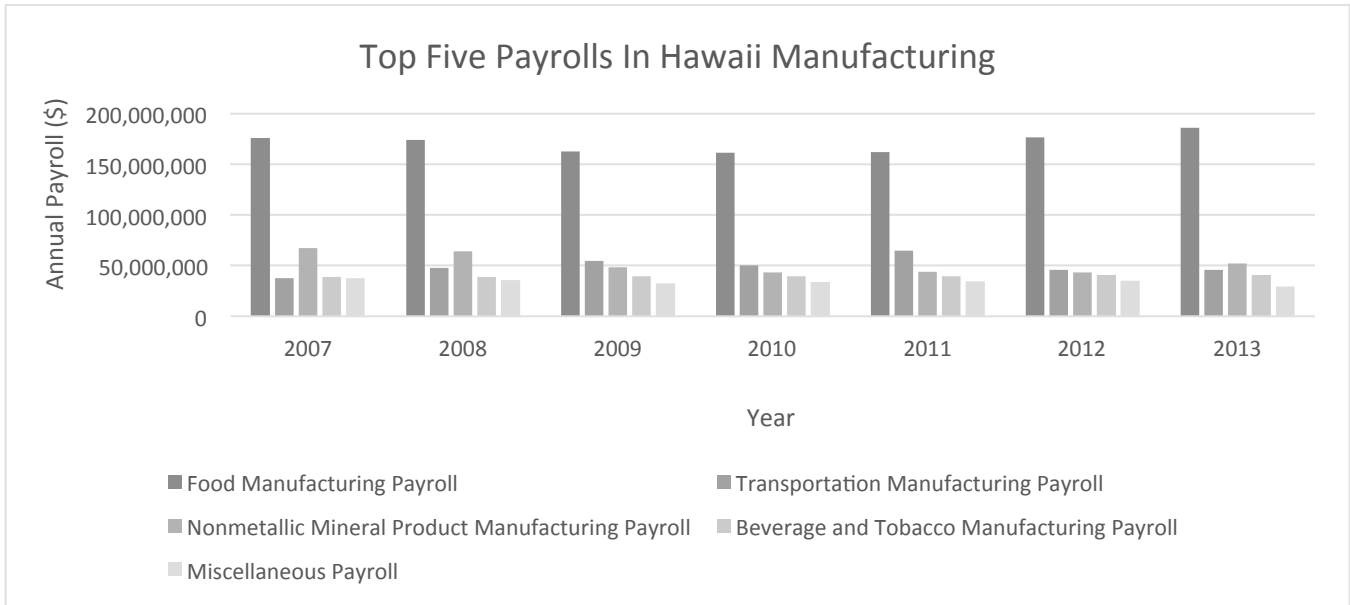
Source: 2013 Employment and Payrolls in Hawaii

Nonmetallic mineral “transforms mined or quarried minerals, such as sand, gravel, stone, clay, and refractory materials into products for intermediate or final consumption.” For example, “refractory minerals are heated and then formed into bricks or other shapes for use in industrial applications.” Products include clay, glass and glass products, cement and concrete, lime and gypsum, and others.

Beverage and tobacco product manufacturing includes nonalcoholic beverages (including ice), alcoholic beverages (through the fermentation process), distilled alcoholic beverages, redrying and stemming tobacco, and those that manufacture tobacco products such as cigarettes and cigars.

Miscellaneous manufacturing is defined to include “medical equipment and supplies manufacturing” and “other miscellaneous manufacturing.”

2007-2013 TOP FIVE PAYROLLS IN HAWAII MANUFACTURING



Year	Food Manufacturing Payroll (\$)	Transportation Manufacturing Payroll (\$)	Nonmetallic Mineral Product Manufacturing Payroll (\$)	Beverage and Tobacco Manufacturing Payroll (\$)	Miscellaneous Manufacturing Payroll (\$)
2007	176,040,873	37,948,011	67,026,620	38,899,801	37,705,348
2008	173,940,716	47,783,827	64,413,718	39,111,781	35,846,401
2009	162,876,935	54,804,241	48,358,179	39,350,583	32,804,039
2010	161,405,676	50,313,822	43,532,396	39,523,521	33,951,925
2011	162,388,821	64,853,950	44,017,316	39,617,144	34,174,319
2012	176,889,897	46,137,702	43,199,192	40,797,265	35,396,766
2013	186,188,662	46,036,891	51,902,144	41,109,522	29,340,318

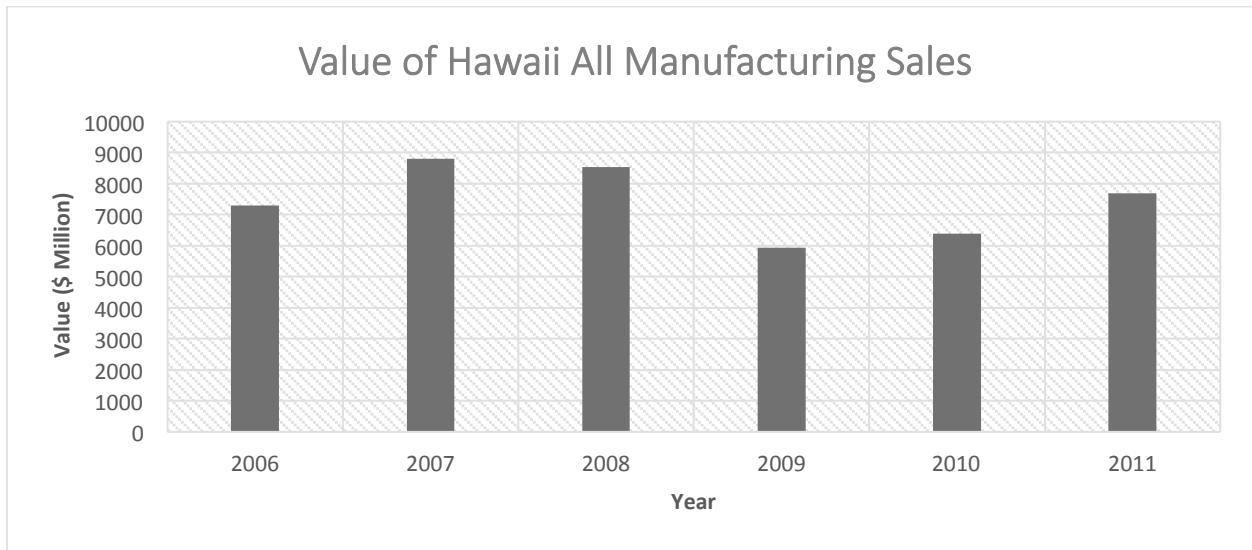
Source: 2007-2013 Employment and Payrolls in Hawaii

Total Manufacturing Sales

The petroleum industry, which overtook the food processing industry in 1990 as the highest sales manufacturer in Hawaii, continued to register in 1991 as the highest manufacturing sales receipts (Hawaii 1993: Annual Economic Report). No sales receipts for the petroleum industry in Hawaii, however, have been published since then.

The total manufacturing sales receipts in Hawaii, including sugar and pineapple processing, showed almost a 20% increase from \$7.3 billion in 2006 to \$8.8 billion in 2007 but dipped to about \$6 billion in 2009. Total manufacturing sales receipts have increased yearly since then to \$7.7 billion in 2011 (2007-2012 The State of Hawaii Data Book). The Hawaii processed food industry has been a consistent contributor to Hawaii manufacturing.

2006-2011 TOTAL HAWAII MANUFACTURING SALES OF ALL MANUFACTURERS



Year	Value (\$ Million)
2006	7,301.0
2007	8,799.3
2008	8,528.2
2009	5,928.6
2010	6,399.1
2011	7,694.5

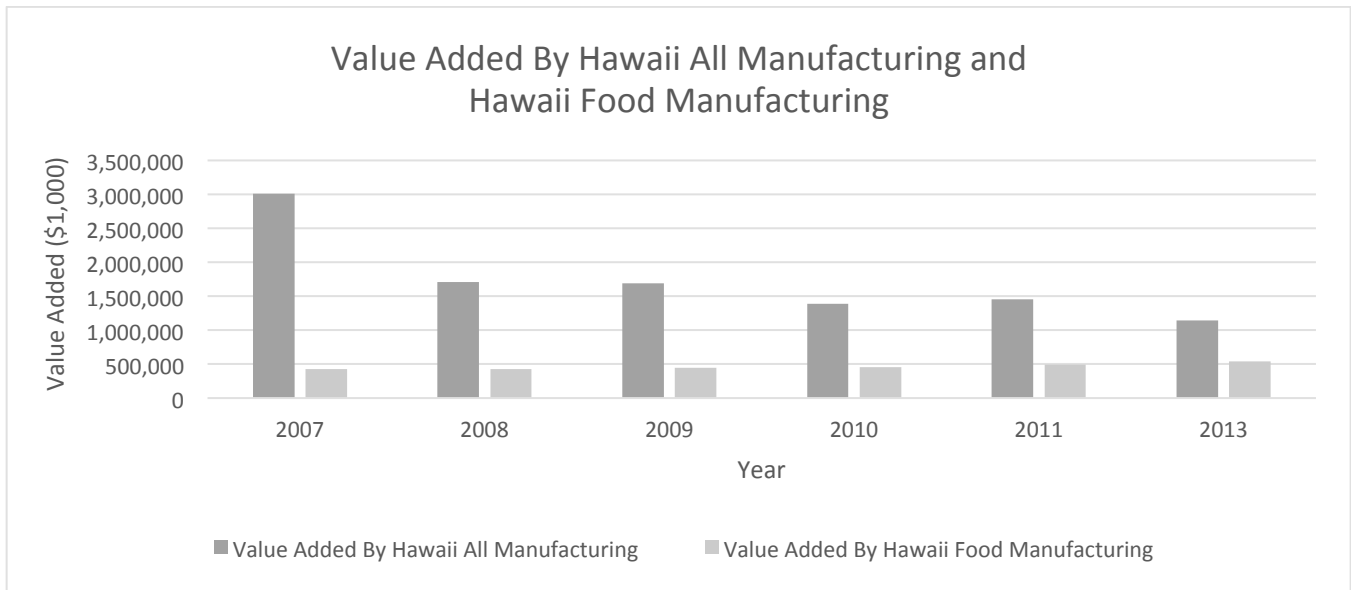
Source: 2007-2012 The State of Hawaii Data Book

Value Added

Value added by food manufacturing in 2007 was only 14.1% of that contributed by all manufacturing industries in Hawaii. Although the value added amount decreased in 2008, contribution of value added by Hawaii food manufacturing increased to 24.8% due to a drastic decrease in the value added by all manufacturing industries in Hawaii. Value added by food manufacturing has steadily increased to \$538.9 million in 2013 or 47.3% or almost half of the value added by all manufacturing industries (2006-2013 Annual Survey of Manufactures).

Just for comparison purposes, food manufacturing in Hawaii (including pineapple processing) in 2004 was estimated to have contributed \$548 million (2004 Annual Survey of Manufactures) but only 37% of the value added due to all Hawaii manufacturing activities. Thus, the general value added contribution of the Hawaii processed food industry to all manufacturing industries in Hawaii has been consistently good throughout different and difficult economic times.

2007-2013 VALUE ADDED BY HAWAII ALL MANUFACTURING AND HAWAII FOOD MANUFACTURING



Year	Value Added by Hawaii All Manufacturing (\$1,000)	Value Added by Hawaii Food Manufacturing (\$1,000)
2007	3,013,731	423,928
2008	1,707,637	423,564
2009	1,687,981	442,492
2010	1,391,356	458,476
2011	1,456,574	490,258
2013	1,139,809	538,883

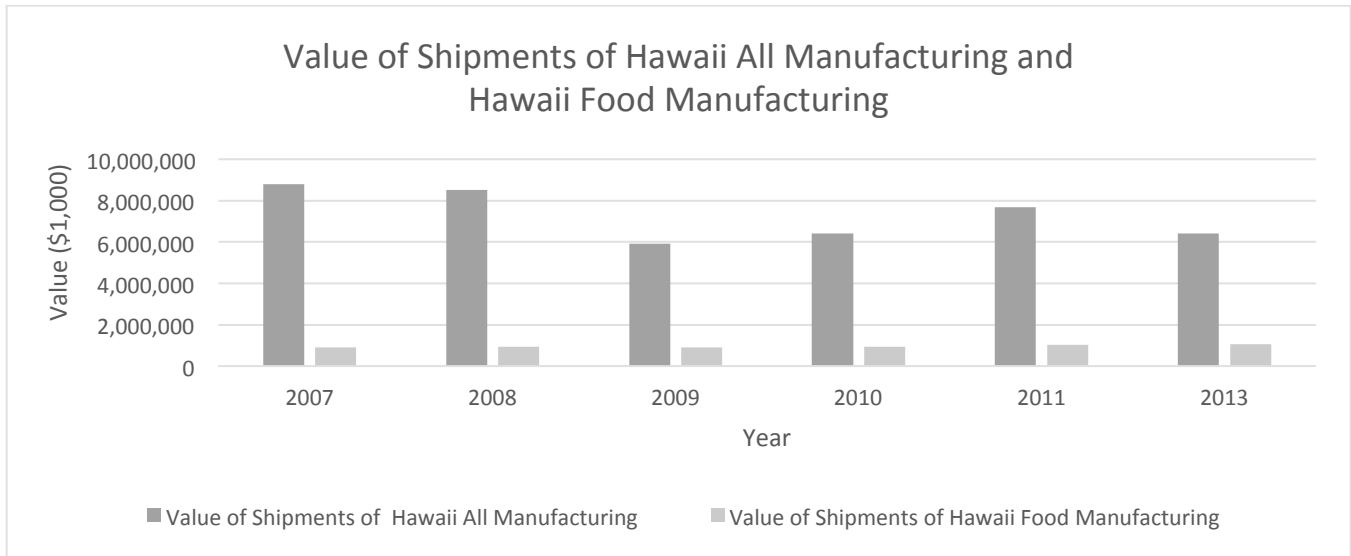
Source: 2006-2013 Annual Survey of Manufactures

Value of Processed Food Shipment

The value of all shipments of manufactured products in Hawaii declined from \$8.8 billion in 2007 to \$5.9 billion in 2009. These declines were probably still due to drastic changes in the pineapple and sugar processing industries. But the value of all shipments of manufactured products in Hawaii has increased since then to \$6.4 billion in 2013 (2007-2013 Annual Survey of Manufactures) after a drop in 2012.

The contribution of food and kindred products also experienced some decline but has been increasing from \$902.9 million in 2009 to \$943.8 in 2010 and about \$1.1 billion in 2013 (2007-2013 Annual Survey of Manufactures). From the previous data presented, *value added of processed food was \$442.5 million in 2009 and increased to \$458.5 million in 2010 and \$538.9 million in 2013 (2007-2013 Annual Survey of Manufactures). Thus, value added of processed food fluctuated with the value of processed food shipments.* The contribution of the Hawaii processed food industry in food shipments to all manufacturing industries in Hawaii has also been consistently good throughout different and difficult economic times.

2007-2013 VALUE OF SHIPMENTS OF HAWAII ALL MANUFACTURING AND HAWAII FOOD MANUFACTURING



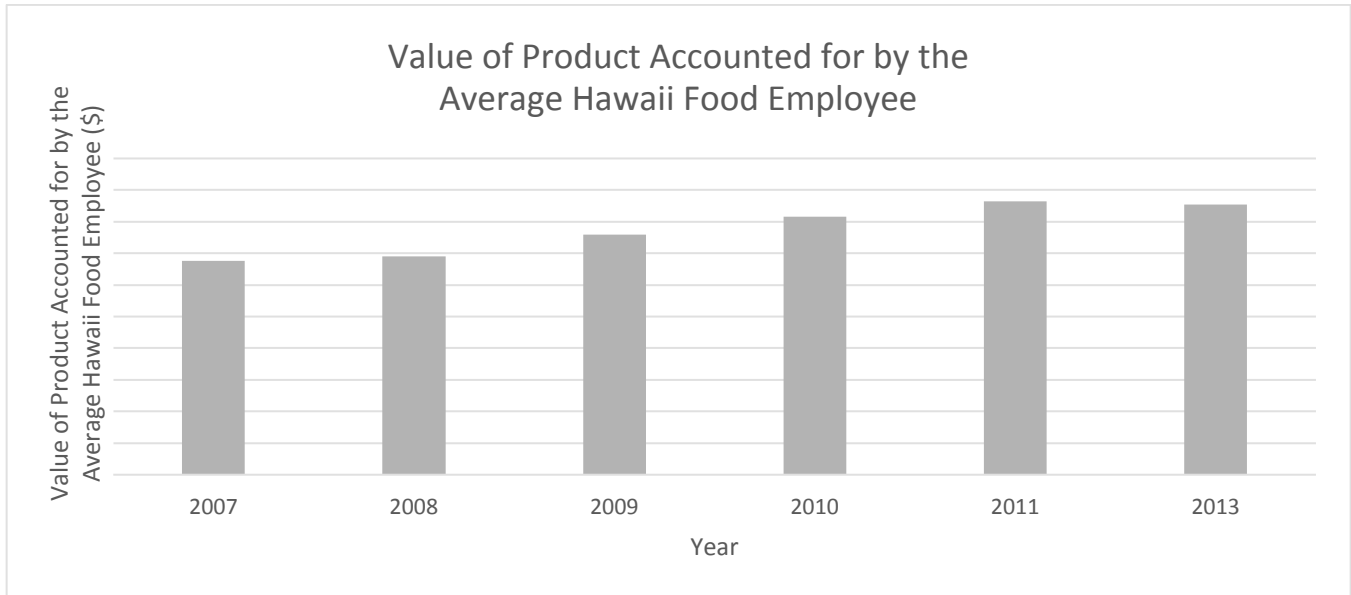
Year	Value of Shipments of Hawaii All Manufacturing (\$1,000)	Value of Shipments of Hawaii Food Manufacturing (\$1,000)
2007	8,799,266	909,158
2008	8,528,172	938,016
2009	5,928,568	902,921
2010	6,399,070	943,828
2011	7,694,544	1,035,242
2013	6,417,533	1,067,403

Source: 2007-2013 Annual Survey of Manufactures

Sales/Employment Ratio

The value of product accounted for by the average Hawaii food employee has almost consistently increased from \$67,666 in 2007 to \$85,523 in 2013 (2007-2013 Annual Survey of Manufactures), demonstrating a *healthy sale to employment ratio* at different and difficult economic times.

2007-2013 VALUE OF PRODUCT ACCOUNTED FOR BY THE AVERAGE HAWAII FOOD EMPLOYEE



$$\text{Sales to Employment Ratio} = \frac{\text{Value Added}}{\text{Number of Employees}}$$

Year	Value of Product Accounted for by the Average Hawaii Food Employee (\$)
2007	67,666
2008	68,961
2009	75,964
2010	81,506
2011	86,481
2013	85,523

Source: 2007-2013 Annual Survey of Manufactures

One reason for the **high** sales to employment ratio is the increasing substitution of capital equipment for labor in the food processing industry. Since food manufacturing operations may be automated extensively, there was a relatively high ratio of sales to employment; that is, the amount of physical assets available per employee was high. This characteristic of the food processing Industry is described as *labor-extensive*. As was the case with employment, payroll, and manufacturing sales, food processing ranks as one of the top three in sales to employment ratio in the Hawaii manufacturing industry.

Growth Projection of the Hawaii Processed Food Industry

Fluctuations: Like most other industries, production in the food processing industry shows some seasonal fluctuations. For example, September typically shows a high output while January shows below normal output. Some industries peak in May when most vegetable crops are just starting to pick up in production volume. There are also variations in seasonal consumer demands, e.g., frozen novelties, turkeys, liquor, and candies. And it is also true that the growth measures of shipments and value added are affected by inflation.

Stability: Historically, however, food manufacturing has been less sensitive to periods of recession and inflation than other manufacturing sectors, such as apparel, automobiles, machinery, and chemicals. While purchases in food and grocery stores slow down during period of rapid growth, purchases in eating and drinking places increase faster during mild recessionary periods (i.e., the response is countercyclical). As a result, utilization of plant capacities has remained steady and food processing overall has shown actual annual growths. In other words, unlike other agricultural industries, the food processing industry demonstrates a relatively stable growth.

Growth from household foods: The growth of the food processing industry will remain driven by the demand of U.S. households for food, which accounts for 85% of its retail sales. Hawaii must capitalize on trends since the early '70s, of increasing reliance of the consumer on foodservice and convenience or processed food, foods that are perceived as healthy and nutritious (as informed by product labels), exotic ethnic foods, and foods contained in environment-friendly packages. The demand for food away-from-home, however, is affected by household income.

Growth from exports: The other potential growth area of the food processing industry is export. *From 2009-2013, exports in the 20 processed food categories monitored by the USDA Food and Agricultural Service grew by 61% (<http://www.fas.usda.gov/data/us-processed-food-exports-growth-outlook> accessed February 2, 2015).* Thus, processed food forms an important component of total food consumption and world trade. Increasing the volume of Hawaii food exports is already one of the priorities of the members of the Hawaii Processed Food Industry. The growth of the export section, however, also depends on the economic growth of the trading partners of the United States.

Focusing on the special characteristics of Hawaii foods: To continue to satisfy existing and new markets, Hawaii food manufacturers must highlight special product characteristics that differentiate theirs from what are already available in other locations. These characteristics may involve the addition of the word "Hawaii" on the product label, meeting the needs of a specific market, marketing a unique product, having an exotic packaging, offering extensive product lines, superior quality, better health and nutrition characteristics, longer shelf life, clear labels, and other values. Satisfying existing and new markets also entails the ability of the processor to sustain the manufacture of products of consistent quality and volume.

The Processed Food Industry Analysis Scope

To summarize, the Processed Food Industry Analysis is the analysis of all value- added foods and beverages produced and marketed by Hawaii manufacturers, including minimally processed, refrigerated, frozen, and shelf stable foods. The scope of the Processed Food Industry Analysis is thus,

Raw Materials (local and imported) → Transport → Materials Receiving → Materials Preparation → Processing → Packaging → Marketing → Consumer.

Importance of Food Safety to the Hawaii Processed Food Industry

As the highest sales manufacturer in Hawaii, the Hawaii Processed Food Industry considers it their obligation to provide safe and high quality food to the public. HFMA facilitates for its members those activities important to food safety, including communications, project collaboration, explaining emerging hot food issues, action items from other States, and policy making. Through its activities with its members and associated units, HFMA is providing professional visibility to the other food manufacturers who may not be members but remain an important part of Hawaii's food industry. By providing safe and high quality foods, the Hawaii Processed Food Industry not only increases public confidence on value-added foods in Hawaii but also serves as a model to the other associated and supporting businesses, resulting in a consistent contribution to the economy of Hawaii, as demonstrated by the above published data.

HFMA considers food safety important to the health of the businesses of their members.

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