

Economic Contributions of Florida's Agricultural, Natural Resource, Food and Kindred Product Manufacturing and Distribution, and Service Industries in 2008¹

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Introduction

The state of Florida has nearly 24 million acres (36,000 square miles) in forests, croplands, and ranches—two-thirds of Florida's total land area. The agricultural and natural resource industries produce food, fiber, and mineral commodities, and are linked to a broad range of other economic sectors for food and kindred product manufacturing, wholesale and retail distribution, input supplies, support services, and nature-based recreation/eco-tourism. In addition to farming, forestry, fisheries, and mining, other diverse activities are included such as fertilizer manufacturing, sawmills, fruit and vegetable processing, landscaping, wholesale food distributors, retail food stores, restaurants, retail lawn-and-garden centers, pest-control services, golf courses, and recreational fishing.

This report provides estimates of these industries' economic contributions to Florida in 2008, updating a previous study for 2007 (Hodges and Rahmani 2009).

Methods

Data for this analysis were obtained from the *IMPLAN Professional* database for Florida counties for 2001–2008 (Minnesota IMPLAN Group/MIG, Inc.) and other special studies conducted by the authors. These data were derived from the National Income and Product Accounts for the United States (United States Department of Commerce). Over 90 individual industry sectors in Florida were identified as related to agriculture and natural resource commodity production, input supply and supporting services, food and kindred product manufacturing and distribution, and nature-based recreation. A list of industry groups and individual sectors included in the analysis is shown in Table 1. Note that some industry sectors in this analysis were reclassified from their original major industry group designation under the North American Industry Classification System (NAICS) to be included as part of the broadly defined agriculture and related industries. Economic contributions were evaluated for several recognizable commodity groups that have linkages between production and processing/manufacturing sectors,

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1. This is EDIS document FE829, a publication of the Food and Resource Economics Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL. Published February 2010. Please visit the EDIS website at <http://edis.ifas.ufl.edu>.
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including environmental horticulture (nursery and greenhouse production, landscape services, and retail lawn-and-garden centers); fruit and vegetable farming and processing; forestry, logging, and forest product manufacturing; sugarcane and refined sugar manufacturing; livestock and animal products manufacturing; and fishing and seafood products.

The total regional economic impacts for each sector were estimated using models developed with the *IMPLAN Professional* software for social accounting and impact analysis (MIG, Inc.). This system enables construction of input-output models and social accounting matrices that represent the structure of a regional economy in terms of transactions among industry sectors, households, and governments. The *IMPLAN* model accounts for industrial commodity production; employment; labor and property income; household and institutional consumption; domestic and international trade (imports, exports); government taxes; transfer payments such as welfare and retirement; and capital investment. Economic multipliers for each industry capture the secondary effects of new money flowing into the region that generates further economic activity as it is re-spent in the local economy (Miller and Blair 2009). Indirect effects multipliers represent the economic activity generated in the supply chain through the purchase of intermediate inputs from vendor firms, while induced effects multipliers represent the impacts of spending by industry employee households and governments. The indirect and induced multipliers were applied only to foreign and domestic exports, or sales outside the state of Florida. The total economic impacts are calculated as the sum of direct effects, plus indirect and induced effects. Therefore, while the estimates of this analysis are referred to as "economic impacts," these values may be better understood as "economic contributions" because they represent the ongoing economic activity of existing industries, rather than a net change in activity resulting from external influences (Watson et al. 2007).

Measures of economic impacts reported here include output or revenue, value added, employment (including full-time, part-time, and seasonal positions), labor income, property income, and indirect business taxes paid to local, state, and federal

governments. Value added is a broad measure of net economic activity that is comparable to the Gross Domestic Product (GDP), and represents the sum of labor and property income, indirect business taxes, and capital consumption (depreciation). Value added also is equivalent to the difference between industry revenues and intermediate inputs purchased from other sectors. A glossary of economic impact analysis terminology is provided in the Appendix.

Regional economic models were developed for the state of Florida and for all sixty-seven counties in the state using the *IMPLAN Pro* software and Florida state/county data package for 2008 (MIG, Inc.). All model parameters were kept at default settings, with econometrically estimated regional purchase coefficients (RPCs) representing the share of commodities purchased from local sources. Social/institutional accounts for households; local, state, and federal governments; and capital investment were incorporated endogenously within the model.

Summary information was developed for the state, all counties, and for nine regions (Figure 6). These functional economic regions each represent a core urban area, surrounded by closely linked nonmetropolitan counties. The regions were defined by the United States Department of Commerce, Bureau of Economic Analysis (USDOC/BEA) based on metropolitan areas, employee commuting patterns, and other economic data from the 2000 U.S. Census (Johnson and Kort 2004). It should be noted that some Georgia counties included in the north Florida regions were not evaluated in this analysis. Due to differences in trade flows and accounting adjustments at the state and county levels, slight discrepancies in regional results were reconciled by forcing county and regional estimates to match with state totals.

For some activities that were not specifically identified in the *IMPLAN* model, values were estimated as a share of their parent sector based on previous studies and other economic data: landscape services and pest-control services were 49 percent and 15 percent, respectively, of services to buildings (sector 388); wholesale food distribution was 20 percent of wholesale trade (sector 319); retail lawn-and-garden centers were 19 percent of building

materials and garden stores (sector 323); and golf courses and recreational fishing were 48 percent and 10 percent, respectively, of amusement and recreation services (sector 410).

Values for 2001–2008 were expressed in 2008 U.S. dollars using the mid-year (July) indices for the Gross Domestic Product (GDP) Implicit Price Deflator, which is a broad measure that accounts for the effects of price changes in the measurement of GDP (USDOC 2001–2008). *IMPLAN* data were unavailable for 2005. Note that results for prior years were revised in light of new information, so findings presented here do not necessarily match those previously reported for 2001–2007 (Hodges and Rahmani 2009).

Results

Economic Contributions by Industry Groups and Sectors

Economic contributions by major industry groups and specific industry sectors in Florida in 2008 are shown in Table 1 and summarized in Figures 1–3. The industries are categorized in seven major groups: Crop, Livestock, Forestry, and Fisheries Production; Mining; Agricultural Inputs and Services; Food and Kindred Products Manufacturing; Forest Products Manufacturing; Food and Kindred Products Distribution; and Nature-based Recreation. Results are reported below for each major group; for all groups combined; and for all groups excluding Food and Kindred Products Distribution.

Direct industry output or sales in 2008 were about \$133.65 billion, including foreign and domestic exports of goods and services to customers outside of Florida, which totaled \$32.52 billion. As a result of the indirect and induced multiplier effects arising from export sales, an additional \$29.05 billion in output was generated in the economy, mostly in other economic sectors. The total output impacts, including direct, indirect, and induced effects, were estimated at \$162.70 billion. Direct employment in the industry was 1.38 million full-time and part-time jobs, while total employment impacts (including multiplier effects) were estimated at 1.61 million jobs. The direct value added contribution of these industries was \$60.89 billion, and total value added impacts were \$76.53 billion. The total labor (earned) income impact of employee wages and benefits and business proprietor income was \$47.04 billion. Total property income impacts, such as rents and dividends, amounted to \$20.21 billion. Total indirect business tax impacts paid to local, state, and federal governments were \$9.28 billion.

Excluding the sectors for Food and Kindred Products Distribution, such as restaurants, food stores, and food wholesalers, total economic values showed output of \$66.04 billion; exports of \$23.25 billion, output impacts of \$86.34 billion; direct employment of 422,127 jobs; employment impacts of 581,820 jobs; direct value added of \$21.93 billion; value added impacts of \$32.54 billion; labor income impacts of \$18.86 billion; property income impacts of \$11.06 billion; and indirect business tax impacts of \$2.62 billion.

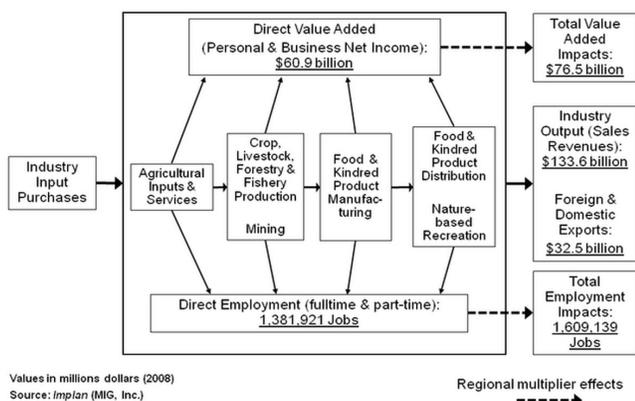


Figure 1. Structure of economic activity in agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in Florida in 2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.)]

Crop, Livestock, Forestry, and Fisheries Production includes sectors for the production of basic unrefined food and fiber commodities. In 2008, total output of these sectors was \$11.57 billion; exports were \$6.09 billion; output impacts were \$16.24 billion; direct value added was \$6.59 billion; value added impacts were \$9.22 billion; direct employment was 178,838 jobs; and total employment impacts were 230,946 jobs (Table 1, Figures 2 and 3). Among individual industry sectors in this group, the highest value added and employment impacts were for Greenhouse, Nursery, and Floriculture Production (\$2.04 billion | 26,046 jobs), Fruit Farming (\$1.78 billion | 36,672 jobs), Support Activities for

Agriculture and Forestry (\$1.68 billion | 84,057 jobs), and Vegetable and Melon Farming (\$1.74 billion | 18,827 jobs). Large value added and employment impacts were also realized for the sectors of Forestry and Timber Tracts (\$512 million | 12,758 jobs), Sugarcane Farming (\$310 million | 18,995 jobs), and Commercial Logging (\$288 million | 5,007 jobs). Value added impacts of \$100–\$200 million were obtained for Dairy Farming, Poultry and Egg Production, Commercial Fishing, and All Other Crop Farming.

services for agricultural operations or landscape management. Output impacts in 2008 by this group totaled \$18.35 billion; value added impacts were \$6.90 billion; direct employment was 135,496 jobs; and employment impacts were 164,408 jobs (Table 1, Figures 2 and 3). Among leading sectors in this group, Landscape Services had value added impacts of \$2.62 billion and employment impacts of 84,728 jobs, followed by Fertilizer Manufacturing (\$2.34 billion | 24,962 jobs), Veterinary Services (\$988 million | 27,379 jobs), Pest-Control Services (\$802 million | 25,937 jobs), and Pesticide and Other Agricultural Chemical Manufacturing (\$64 million | 322 jobs). Other minor sectors in this group included Farm Machinery and Equipment Manufacturing, and Lawn and Garden Equipment Manufacturing.

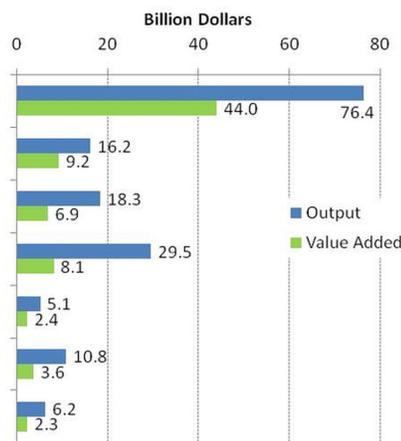


Figure 2. Output and value added impacts of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in Florida in 2008 [Source: IMPLAN Professional data for Florida (MIG, Inc.)]

Mining is a natural resource-based activity for the extraction of basic mineral commodities such as oil, natural gas, stone, sand, gravel, clay, phosphate, and a variety of metals. In 2008, the Mining industries in Florida collectively had direct output of \$5.02 billion; exports of \$1.23 billion; output impacts of \$6.23 billion; value added impacts of \$2.29 billion; direct employment of 12,746 jobs; and employment impacts of 20,327 jobs (Table 1, Figures 2 and 3). The largest individual sector was Extraction of Oil and Natural Gas, which had value added impacts of \$1.12 billion and generated employment impacts of 13,340 jobs. Other individual sectors with significant value added impacts included Mining and Quarrying of Other Nonmetallic Minerals (\$496 million); Mining and Quarrying of Stone (\$249 million); Mining and Quarrying of Sand, Gravel, and Clay (\$163 million); and Drilling of Oil and Gas Wells (\$73 million).

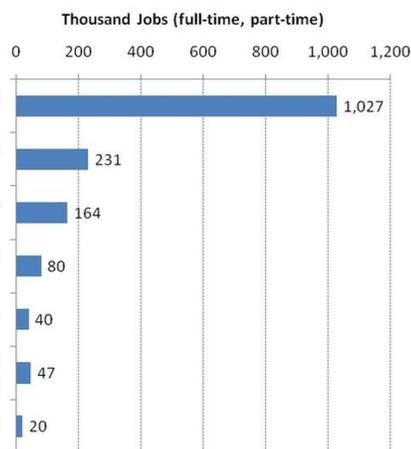


Figure 3. Employment impacts of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in Florida in 2008 [Source: IMPLAN Professional data for Florida (MIG, Inc.)]

Food and Kindred Products Manufacturing industries convert unrefined agricultural commodities to food products for final consumption or use. In 2008, this group of industries in Florida had direct output of \$24.04 billion, including exports of \$5.83 billion, with output impacts of \$29.53 billion; value added impacts of \$8.15 billion; direct employment of 41,924 jobs; and total employment impacts of 79,797 jobs (Table 1, Figures 2 and 3). This large industry group included thirty-four individual sectors, of which the highest value added and employment impacts were Tobacco Product Manufacturing (\$2.26 billion | 4,940 jobs); Fruit and Vegetable Canning,

Agricultural Inputs and Services includes a variety of sectors providing inputs or supporting

Pickling, and Drying (\$811 million | 8,110 jobs); Soft Drink and Ice Manufacturing (\$810 million | 10,158 jobs); Sugar Manufacturing (\$708 million | 12,719 jobs); Breweries (\$616 million | 2,114 jobs); Bread and Bakery Products Manufacturing (\$425 million | 8,375 jobs); and Frozen Food Manufacturing (\$348 million | 4,435 jobs). Other sectors with significant value added impacts included Coffee and Tea Manufacturing (\$246 million), Animal Slaughtering (\$207 million), Fluid Milk and Butter Manufacturing (\$193 million), and Snack Food Manufacturing (\$156 million).

Forest Products Manufacturing is a group of industries for the processing of raw timber or wood into finished wood and paper products. In 2008, this industry group had direct output valued at \$7.86 billion, with export sales of \$3.14 billion; output impacts of \$10.85 billion; direct employment of 25,405 jobs; employment impacts of 46,675 jobs; and value added impacts of \$3.62 billion, including labor income impacts of \$2.43 billion, other property income impacts of \$976 million, and indirect business tax impacts of \$209 million (Table 1, Figures 2 and 3). Leading sectors within this group in terms of value added and employment impacts were Paper Mills (\$665 million | 6,929 jobs), Sanitary Paper Products Manufacturing (\$426 million | 2,618 jobs), Wood Window and Door Manufacturing (\$380 million | 6,701 jobs), Paperboard Container Manufacturing (\$297 million | 3,681 jobs), Engineered Wood Member and Truss Manufacturing (\$296 million | 6,083 jobs), Pulp Mills (\$392 million | 4,626 jobs), and Paperboard Mills (\$388 million | 4,109 jobs). Other sectors with significant value added impacts included Sawmills and Wood Preservation (\$199 million), Stationary Products Manufacturing (\$141 million), and Veneer and Plywood Manufacturing (\$132 million).

Nature-based Recreation includes recreational activities generally tied to natural resources or managed landscapes, such as golf, recreational fishing, and hunting and trapping. In 2008, this industry group in Florida had total output of \$3.64 billion; exports or sales to Florida visitors of \$1.39 billion; output impacts of \$5.14 billion; direct employment of 27,699 jobs; employment impacts of 39,667 jobs; and value added impacts of \$2.36 billion

(Table 1 and Figures 2 and 3). Among individual sectors, Golf Courses had value added impacts of \$1.89 billion and employment impacts of 31,462 jobs, followed by Recreational Fishing (\$394 million | 6,555 jobs), and Commercial Hunting and Trapping (\$69 million | 1,650 jobs).

Food and Kindred Products Distribution

includes activities for wholesale and retail trade in agricultural and related products. This large group of industry sectors is only indirectly related to agriculture and natural resources because it serves to deliver products to final consumers, but it is included here for a perspective on the scope of the entire market chain for food and kindred products. In 2008, this industry group in Florida had total output of \$67.61 billion; exports of \$9.27 billion; output impacts of \$76.36 billion; direct employment of 959,814 jobs; employment impacts of 1,027,319 jobs; and value added impacts of \$43.99 billion, including labor income impacts of \$28.17 billion, other property income impacts of \$9.15 billion, and indirect business tax impacts of \$6.67 billion (Table 1 and Figures 2 and 3). Collectively, this group represented about 57 percent of total value added impacts and 63 percent of employment impacts for the entire set of industries defined in this report. Among individual sectors within this group, Food Service Establishments and Drinking Places (restaurants and bars) had by far the greatest value added impacts (\$24.22 billion) and employment impacts (709,141 jobs), followed by Wholesale Trade in Food and Kindred Products (\$10.49 billion | 97,613 jobs), Food and Beverage Stores (\$8.35 billion | 204,147 jobs), and Retail Lawn-and-Garden Centers (\$942 million | 18,618 jobs).

Economic Contributions by Commodity Groups

In addition to the industry groups noted above, economic contributions were also evaluated for groups of food, fiber, and mineral commodities having identifiable market chain linkages between producers, manufacturers, and service sectors. In this section, some sectors are regrouped to reflect these linkages, with results summarized in Figures 4 and 5. Environmental Horticulture, which includes the sectors Nursery and Greenhouse Production,

Landscape Services, and Retail Lawn-and-Garden Centers, had value added impacts of \$5.60 billion and employment impacts of 127,192 jobs. Forestry and Forest Products, which includes the sectors for Forestry and Timber Tracts, Logging, and sixteen forest product manufacturing sectors, had value added impacts of \$4.42 billion and employment impacts of 64,440 jobs. Fruit and Vegetable Farming and Processing, including sectors for Frozen Food Manufacturing; Fruit and Vegetable Canning, Pickling, and Drying; and Fruit Farming and Vegetable and Melon Farming, had value added impacts of \$4.68 billion and employment impacts of 68,184 jobs. Sugarcane Farming and Refined Sugar Manufacturing had value added impacts of \$1.02 billion and employment impacts of 31,714 jobs. Livestock and Dairy Farming and Animal Products Manufacturing, including the processing sectors Animal Slaughtering, Poultry Processing, Cheese Manufacturing, and Ice Cream Manufacturing, had total value added impacts of \$1.07 billion and employment impacts of 25,007 jobs. Fishing and Seafood Products had value added impacts of \$297 million and employment impacts of 10,341 jobs. The commodity group Grain and Oilseed Farming and Processing had value added and employment impacts of \$176 million and 1,380 jobs, respectively.

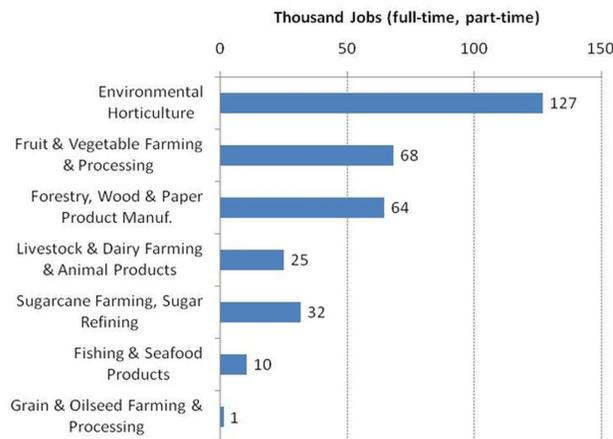


Figure 5. Employment impacts of food and fiber commodity groups in Florida in 2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.)]

Economic Contributions in Florida Regions and Counties

Regional impacts of agriculture and natural resources, and their related manufacturing, distribution, and service industries in 2008 were evaluated for nine economic regions of Florida, as illustrated in Figure 6, with results summarized in Table 2 and Figures 7–8. The region with the highest value added and employment impacts was Miami-Ft. Lauderdale (\$25.48 billion | 526,556 jobs), followed by Orlando (\$18.30 billion | 400,497 jobs), Tampa-St. Petersburg (\$12.31 billion | 249,764 jobs), Jacksonville (\$7.64 billion | 122,265 jobs), Sarasota-Bradenton (\$6.98 billion | 161,897 jobs), Gainesville (\$2.01 billion | 53,419 jobs), Pensacola (\$1.96 billion | 49,148 jobs), Tallahassee (\$1.51 billion | 36,753 jobs), and Panama City (\$358 million | 8,839 jobs).

Economic impacts were also evaluated for all sixty-seven counties in Florida as shown in Table 2. The eight largest counties in terms of value added impacts and employment impacts in 2008 were Miami-Dade (\$9.37 billion | 176,557 jobs), followed by Hillsborough (\$7.09 billion | 138,598 jobs), Orange (\$6.52 billion | 130,733 jobs), Broward (\$6.23 billion | 127,661 jobs), Palm Beach (\$6.00 billion | 130,314 jobs), Duval (\$5.75 billion | 82,336 jobs), Pinellas (\$4.15 billion | 80,907 jobs), and Polk (\$3.67 billion | 66,048 jobs). Eight other counties with value added impacts exceeding \$1 billion were Lee (\$2.04 billion), Collier (\$1.73 billion), Manatee

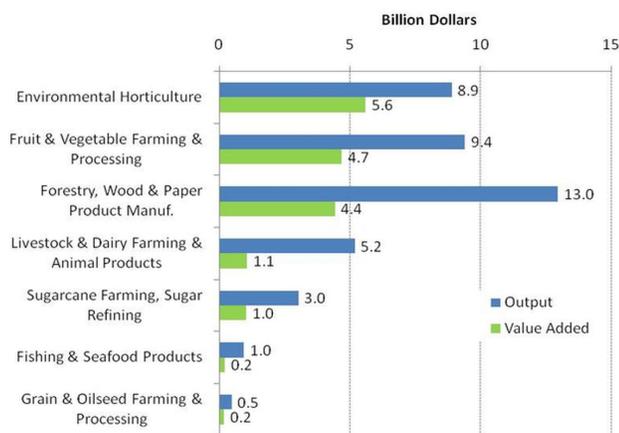


Figure 4. Output and value added impacts of food and fiber commodity groups in Florida in 2008 [Source: *IMPLAN Professional* data for Florida (MIG, Inc.)]



Figure 6. Economic regions of Florida [Source: United States Department of Commerce, Bureau of Economic Analysis]

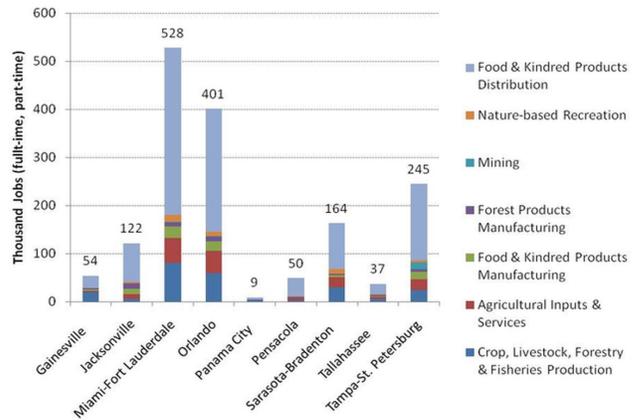


Figure 8. Employment impacts in Florida regions by agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in 2008 [Source: IMPLAN Professional data for Florida (MIG, Inc.)]

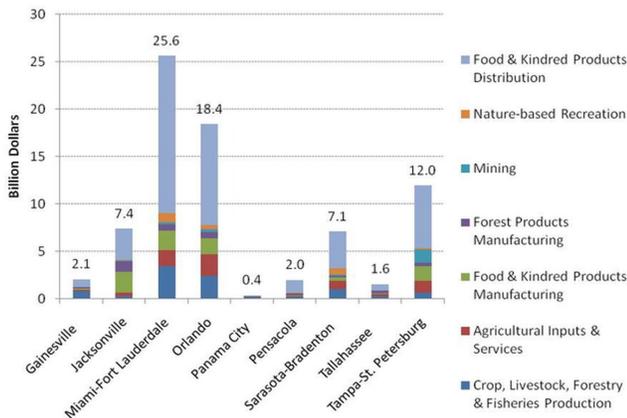


Figure 7. Value added impacts in Florida regions by agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in 2008 [Source: IMPLAN Professional data for Florida (MIG, Inc.)]

(\$1.73 billion), Seminole (\$1.47 billion), Volusia (\$1.29 billion), Brevard (\$1.15 billion), Sarasota (\$1.11 billion), and Marion (\$1.04 billion).

Share of Gross State Product and Employment

The relative importance of the agriculture and natural resources, and their related manufacturing, distribution, and service industries in Florida can be gauged by their share of overall economic activity in the state. The Gross State Product (GSP) of Florida in 2008 was \$722 billion (equivalent to the sum of value added for all industries), and total employment in the state was 10.1 million jobs. The direct value added

contributed by agricultural, natural-resources, and related industries (\$60.89 billion) represented 8.2 percent of Florida's Gross State Product, and ranked fourth among major industry groups (Figure 9). Direct employment in these industries represented 13.4 percent of all jobs in the state, ranking second among major industry groups behind Professional and Technical Services (Figure 10). Excluding Food and Kindred Products Distribution, agriculture, natural resources, and their related industries represented 3.0 percent of Gross State Product and 4.1 percent of total state employment.

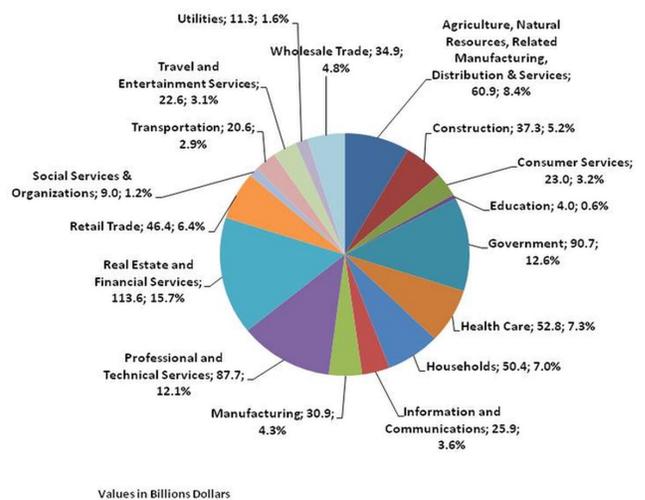


Figure 9. Contribution to Gross State Product (direct value added) of Florida by major industry groups in 2008 [Source: IMPLAN Professional data for Florida (MIG, Inc.)]

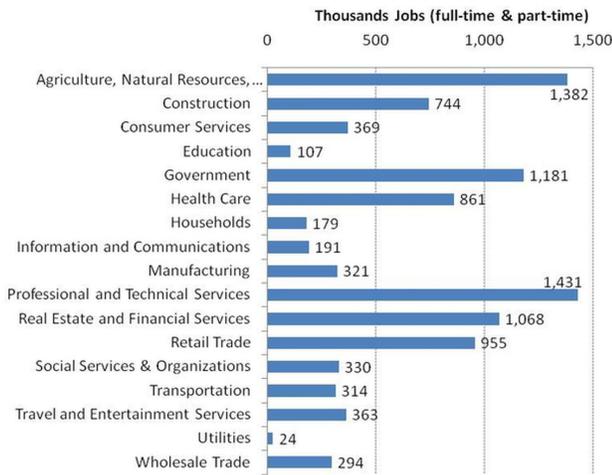


Figure 10. Direct employment by major industry groups in Florida in 2008 [Source: IMPLAN Professional data for Florida (MIG, Inc.)]

Trends in Economic Contributions

In addition to the economic contributions in 2008, it is important to understand how these values have changed over time. Of particular interest are the changes occurring for the most recent period, from 2007 to 2008, which partly indicates the effect of the global recession. The recession in the United States started in December 2007. Trends in the economic impacts of agriculture, natural resources, and their related industries between 2001 and 2008 are shown in Figures 11–13. Annual average growth rates were estimated for 2001–2007 and for 2007–2008, with all monetary values adjusted for inflation and expressed in constant 2008 U.S. dollars. Total output impacts grew by an average of 5.3 percent annually from 2001 to 2007, but declined by more than 13 percent from 2007 to 2008. Total employment impacts increased by 1.7 percent annually from 2001 to 2007, but declined nearly 14 percent from 2007 to 2008 (Figure 11). Overall value added impacts grew from \$76.67 billion in 2001 to \$93.39 billion in 2007, representing an average real annual growth rate of 3.6 percent, but then declined to \$76.53 billion in 2008, or by more than 18 percent (Figure 12). Although direct output, value added, and employment (excluding multiplier effects) actually increased modestly from 2007 to 2008, the severe decline in export activity for virtually all sectors in 2008 led to the sharp decrease in estimated total impacts (including multiplier effects). Note that these trends may reflect changes in the structure of the Florida

economy and with other changes in industry activity and commodity prices, as well as the effect of recession.

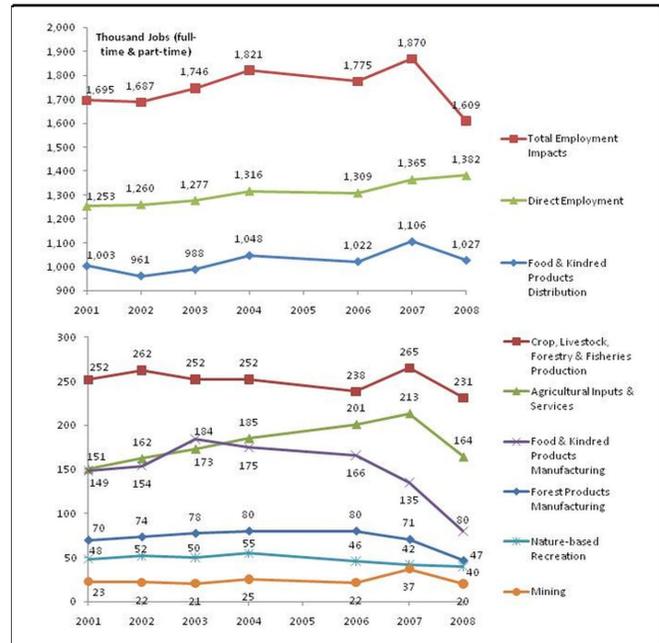


Figure 11. Trends in employment impacts for agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in Florida during 2001–2008 [Source: IMPLAN Professional data for Florida (MIG, Inc.)] Impact estimates include regional multiplier effects. Note that data were unavailable for 2005.

Among industry groups, average annual growth in value added impacts from 2001 to 2007 was highest for Mining (19.1%) and Crop, Livestock, Forestry, and Fishery Production (10.2%), followed by Food and Kindred Products Distribution (4.9%) and Forest Product Manufacturing (3.0%). From 2007 to 2008, Forest Product Manufacturing and Agricultural Input and Services suffered the largest setback, with value added impacts declining by 35 percent, followed by Agricultural Inputs and Services (34%); Mining (33%); Food and Kindred Products Manufacturing (27%); and Crop, Livestock, Forestry, and Fishery Production (23%). The only industry group that increased was Nature-based Recreation (1.5%). Employment impacts declined the most in 2008 for Mining (45%), Forest Products Manufacturing (34%), and Agriculture and Input Services (23%). Output impacts declined the most in 2008 for Forest Products Manufacturing (22%) and Food and Kindred

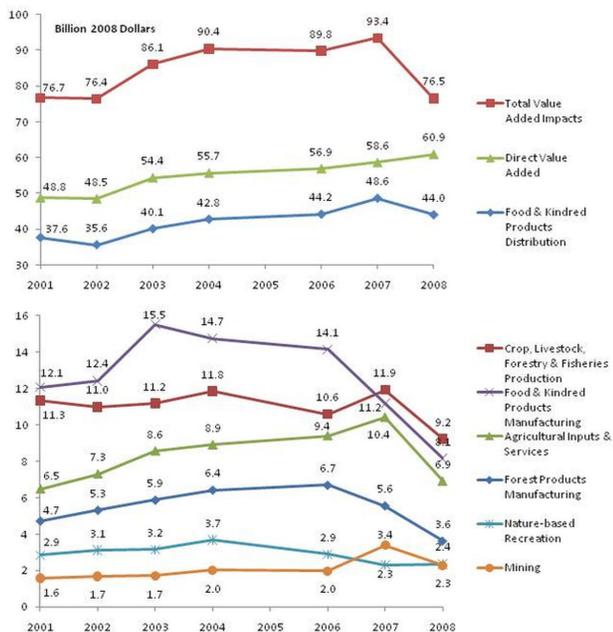


Figure 12. Trends in value added impacts for agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in Florida during 2001-2008 [Source: IMPLAN Professional data for Florida (MIG, Inc.)] Values expressed in 2008 U.S. dollars using USDOC GDP Implicit Price Deflator. Impact estimates include regional multiplier effects. Note that data were unavailable for 2005

Products Manufacturing (↓22%), but increased for Nature-based Recreation (↑40%).

Trends over time in employment impacts of food and fiber commodity groups in Florida are shown in Figure 13. All groups experienced substantial decline in employment impacts in 2008, with the biggest declines for Fruit and Vegetable Farming and Processing (↓35%); Grain and Oilseed Farming and Processing (↓29%); and Forestry, Wood, and Paper Manufacturing (↓28%), followed by Environmental Horticulture (↓20%), Sugarcane Farming and Manufacturing (↓14%), Livestock and Dairy Farming and Animal Products Manufacturing (↓11%), and Fishing and Seafood Products (↓6%).

Among individual industry sectors, the effect of the recession from 2007 to 2008 varied widely. While most sectors experienced a significant decline in 2008, some sectors grew. Sectors with noticeable growth in value added impacts included Lawn-and-Garden Equipment Manufacturing (↑498%), Tree Nut Farming (↑234%), Oilseed Farming

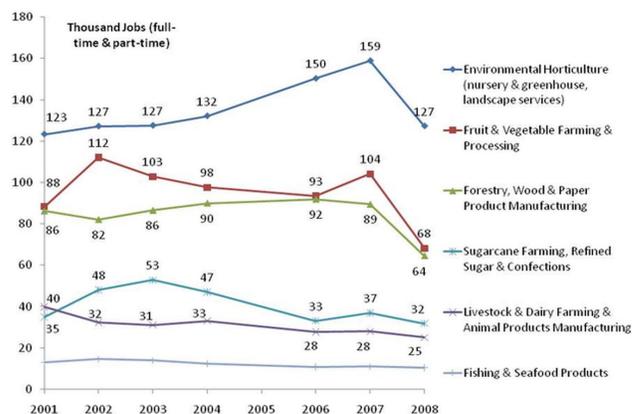


Figure 13. Trends in employment impacts for food and fiber commodity groups in Florida during 2001-2008 [Source: IMPLAN Professional data for Florida (MIG, Inc.)] Impact estimates include regional multiplier effects. Note that data were unavailable for 2005

(↑169%), Coffee and Tea Manufacturing (↑156%), and Cheese Manufacturing (↑79%). Industry sectors with the highest declines in value added impacts were Seasoning and Dressing Manufacturing (↓122%); Distillers (↓90%); Coal Mining (↓82%); Commercial Hunting and Trapping (↓80%); Soft Drink and Ice Manufacturing (↓66%); Fruit and Vegetable Canning, Pickling, and Drying (↓54%); Forestry, Forest Products, and Timber Tracts (↓48%); and Sugar Manufacturing (↓38%).

Changes for major industry groups in growth rates in direct value added (excluding multiplier effects) for 2001-2007 and 2007-2008 are shown in Figure 14. The average annual growth rate for agriculture, natural resources, and their related industries for 2001-2007 was 4.1 percent, but then fell slightly to 3.9 percent for 2007-2008. In comparison, the growth in value added in 2008 was higher for Education (↑22.7%), Households (↑19.5%), Consumer Services (↑11.7%), Utilities (↑11.1%), Transportation (↑9.3%), Health Care (↑6.9%), Manufacturing (↑6.2%), and Travel and Entertainment Services (↑5.2%). Growth rates in direct value added were lower for Real Estate and Financial Services (↑2.3%) and for Wholesale Trade (↑0.4%). Negative growth was observed for Retail Trade (-1.8%), Information and Communications (-2.6%), Social Services and Non-profit Organizations (-5.5%), Professional and Technical Services (-8.9%), Government (-16.5%), and Construction (-18.8%).

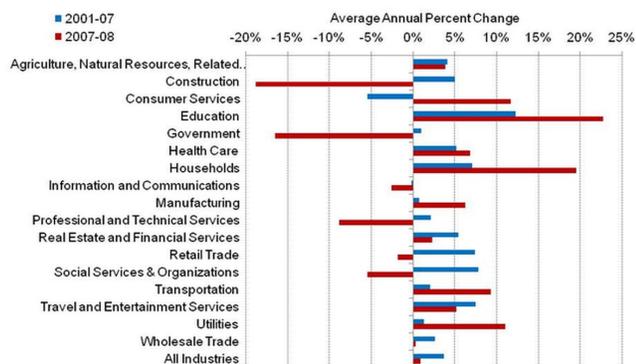


Figure 14. Change in value added impacts for industry groups in Florida, 2001–2007 versus 2007–2008 [Source: IMPLAN Professional data for Florida (MIG, Inc.)]

Conclusions

This analysis indicated that agriculture and natural resources are linked to a broad array of economic sectors for commodity production, food and kindred product manufacturing and distribution, and related service activities. These industries collectively have a significant economic impact on the Florida economy, accounting for about 13.7 percent of total employment and 8.4 percent of Gross State Product, representing the second and fourth highest, respectively, among major industry groups. Food and Kindred Products Distribution is by far the largest segment of the industry, representing 64 percent of value added and employment impacts. These industries are present throughout the state, with a major activity in urbanized metro areas as well as rural areas, where it may be relatively more important as a share of total economic activity, although less in absolute magnitude. These industries have grown substantially since 2001, with direct activity actually increasing in 2008 in spite of the global recession. Even while total regional economic impacts in Florida declined dramatically due to reduced exports, Agriculture, Natural Resources, and their Related Industries still fared better than about half of the other major industry groups in terms of change between 2007 and 2008, thus entailing their integral contributions towards the sustainability of Florida's economy.

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Appendix: Glossary of Economic Impact Terms

Region defines the geographic area for which impacts are estimated. Regions are generally an aggregation of one or more counties. Economic regions identified in this paper were defined based on worker commuting patterns.

Sector is a grouping of industries that produce similar products or services, or production processes. Most economic reporting and models in the United States are based on the Standard Industrial Classification system (SIC code) or the North American Industrial Classification System (NAICS).

Impact analysis estimates the impact of a change in output or employment resulting from a change in final demand to households, governments, or exports.

Input-output (I-O) model is a representation of the flows of economic activity between industry sectors within a region. I-O models capture what each business or sector must purchase from every other sector in order to produce its output of goods or services. Using such a model, flows of economic activity associated with any change in spending may be traced backwards (e.g., purchases of plants that leads growers to purchase additional inputs such as fertilizers and containers. Multipliers for a region may be derived from an I-O model of the region's economy.

IMPLAN is a micro-computer-based input output modeling system and Social Accounting Matrix (SAM). With IMPLAN, one can estimate I-O models of up to 440 sectors for any region consisting of one or more counties. IMPLAN includes procedures for generating multipliers and estimating impacts by applying final demand changes to the

model. The current version of the software is *IMPLAN Pro*, version 3.

Direct effects are the changes in economic activity during the first round of spending. **Secondary effects** are the changes in economic activity from subsequent rounds of re-spending (there are two types of secondary effects: indirect and induced). **Indirect effects** are the changes in sales, income, or employment within the region in backward-linked industries supplying goods and services to businesses (e.g., increased sales in input supply firms resulting from more nursery industry sales). **Induced effects** are the increased sales within the region from household spending of the income earned in the direct and supporting industries (i.e., employees in the direct and supporting industries spend the income they earn on housing, utilities, groceries, and other consumer goods and services, which generates sales, income and employment throughout the region's economy). **Total effects** are the sum of direct, indirect, and induced effects.

Multipliers capture the total effects, both direct and secondary, in a given region, generally as a ratio of the total change in economic activity in the region relative to the direct change. Multipliers may be expressed as ratios of sales, income, or employment, or as ratios of total income or employment changes relative to direct sales. Multipliers express the degree of interdependency between sectors in a region's economy and therefore vary considerably across regions and sectors. **Type I** multipliers include only direct and indirect effects. **Type II** multipliers also include induced effects. **Type SAM** multipliers used by IMPLAN additionally account for capital investments and transfer payments such as welfare and retirement income. A **sector-specific multiplier** gives the total changes to the economy associated with a unit change in output or employment in a given sector.

Purchaser prices are the prices paid by the final consumer of a good or service. **Producer prices** are the prices of goods at the factory or production point. For manufactured goods the purchaser price equals the producer price plus a retail margin, a wholesale margin, and a transportation margin. For services, the producer and purchaser prices are equivalent.

Margins (retail, wholesale, and transportation) are the portions of the purchaser price accruing to the retailer, wholesaler, and grower, respectively. Only the retail margins of many goods purchased by consumers accrue to the local region, as the wholesaler, shipper, and manufacturer often lie outside the local area.

Sales or output is the dollar volume of a good or service produced or sold. **Final Demand** is sales to final consumers, including households, governments, and exports. **Intermediate sales** are sales to other industrial sectors. **Income** is the money earned within the region from production and sales. Total income includes personal income (wage and salary income, including sole proprietor profits and rents). **Jobs** or employment is a measure of the number of jobs required to produce a given volume of sales/production, usually expressed as full-time equivalents, or as the total number including part-time and seasonal positions. **Value Added** is the sum of total income and indirect business taxes. Value added is the most commonly used measure of the contribution of a region to the national economy, as it avoids double counting of intermediate sales and captures only the "value added" by the region to final products.

Table 1. Economic contributions of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industry groups and sectors in Florida in 2008

| Industry Group/Sector | Employment | | Output (Revenue) | | Exports | Value Added | |
|---|--------------------------|--------------|------------------|--------------|---------|---------------|--------------|
| | Direct Impact | Total Impact | Direct Impact | Total Impact | | Direct Impact | Total Impact |
| | Full-time/Part-time Jobs | | Million Dollars | | | | |
| Crop, Livestock, Forestry & Fisheries Production | 178,838 | 230,946 | 11,566.2 | 16,241.6 | 6,090.2 | 6,595.7 | 9,221.9 |
| Support activities for agriculture and forestry | 75,771 | 84,057 | 1,564.6 | 2,654.4 | 844.4 | 1,077.1 | 1,678.9 |
| Fruit farming | 24,830 | 36,672 | 1,972.0 | 2,884.9 | 1,302.5 | 1,248.3 | 1,775.9 |
| Greenhouse, nursery, and floriculture production | 19,702 | 26,046 | 1,930.2 | 2,613.8 | 1,353.5 | 1,632.3 | 2,037.2 |
| Sugar cane and sugar beet farming | 16,740 | 18,995 | 442.2 | 642.4 | 264.4 | 194.9 | 310.1 |
| Vegetable and melon farming | 12,654 | 18,827 | 2,164.3 | 2,689.6 | 999.3 | 1,434.7 | 1,739.2 |
| Commercial fishing | 7,754 | 8,485 | 259.5 | 351.2 | 167.0 | 50.2 | 101.4 |
| Animal (except cattle, poultry and eggs) production | 4,745 | 4,851 | 174.8 | 186.2 | 21.5 | 93.6 | 99.5 |
| Cattle ranching and farming | 4,204 | 4,542 | 404.0 | 442.9 | 44.4 | 69.5 | 87.1 |
| Dairy cattle and milk production | 4,202 | 4,284 | 463.8 | 475.2 | 17.7 | 175.9 | 181.1 |
| Commercial logging | 3,516 | 5,007 | 724.3 | 876.6 | 102.3 | 216.5 | 288.4 |
| All other crop farming | 1,669 | 2,986 | 322.6 | 440.3 | 167.6 | 120.6 | 188.3 |
| Forestry, forest products, and timber tract production | 1,364 | 12,758 | 658.5 | 1,233.8 | 437.8 | 170.4 | 512.0 |
| Poultry and egg production | 887 | 2,125 | 403.0 | 621.8 | 295.8 | 71.1 | 155.7 |
| Grain farming | 287 | 345 | 20.1 | 25.8 | 11.3 | 10.7 | 13.9 |
| Cotton farming | 284 | 602 | 42.1 | 71.3 | 42.1 | 19.7 | 36.4 |
| Oilseed farming | 83 | 117 | 7.5 | 10.8 | 7.5 | 4.2 | 6.1 |
| Tree nut farming | 74 | 140 | 8.6 | 13.3 | 7.1 | 5.0 | 7.7 |
| Tobacco farming | 73 | 106 | 4.0 | 7.1 | 4.0 | 1.0 | 2.8 |

Table 1. Economic contributions of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industry groups and sectors in Florida in 2008

| Industry Group/Sector | Employment | | Output (Revenue) | | Exports | Value Added | |
|--|--------------------------|--------------|------------------|--------------|---------|---------------|--------------|
| | Direct Impact | Total Impact | Direct Impact | Total Impact | | Direct Impact | Total Impact |
| | Full-time/Part-time Jobs | | Million Dollars | | | | |
| Agricultural Inputs and Services | 135,496 | 164,408 | 13,548.0 | 18,346.5 | 5,574.7 | 4,598.6 | 6,902.6 |
| Landscape services | 79,598 | 84,728 | 4,201.8 | 4,837.6 | 737.0 | 2,256.4 | 2,619.3 |
| Veterinary services | 26,006 | 27,379 | 1,936.0 | 2,116.0 | 184.9 | 886.2 | 988.4 |
| Pest control services | 24,367 | 25,937 | 1,286.3 | 1,480.9 | 225.6 | 690.7 | 801.8 |
| Fertilizer manufacturing | 5,017 | 24,962 | 5,696.8 | 9,349.0 | 4,234.0 | 685.9 | 2,342.0 |
| Farm machinery and equipment manufacturing | 277 | 897 | 142.6 | 234.6 | 128.0 | 25.3 | 74.3 |
| Pesticide and other agricultural chemical manufacturing | 161 | 322 | 258.1 | 284.3 | 39.0 | 50.4 | 64.0 |
| Lawn and garden equipment manufacturing | 71 | 183 | 26.4 | 43.5 | 26.2 | 3.7 | 12.7 |
| Mining | 12,746 | 20,327 | 5,019.3 | 6,225.6 | 1,232.8 | 1,620.5 | 2,789.3 |
| Extraction of oil and natural gas | 7,914 | 13,340 | 3,302.7 | 4,199.4 | 786.8 | 622.0 | 1,117.1 |
| Mining and quarrying other nonmetallic minerals | 1,491 | 2,718 | 674.7 | 847.7 | 243.0 | 399.0 | 495.9 |
| Mining and quarrying stone | 1,362 | 1,562 | 374.0 | 401.4 | 33.3 | 233.0 | 248.6 |
| Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals | 1,189 | 1,453 | 250.6 | 287.2 | 40.6 | 142.9 | 163.4 |
| Drilling oil and gas wells | 315 | 386 | 116.6 | 126.9 | 18.8 | 67.3 | 72.9 |
| Support activities for oil and gas operations | 207 | 207 | 51.0 | 51.0 | 0.0 | 19.0 | 19.0 |
| Mining gold, silver, and other metal ore | 83 | 281 | 124.1 | 156.2 | 61.2 | 77.6 | 95.8 |
| Support activities for other mining | 82 | 85 | 32.8 | 33.2 | 0.4 | 9.2 | 9.4 |
| Mining iron ore | 63 | 222 | 61.2 | 86.7 | 41.2 | 30.9 | 45.0 |
| Mining coal | 25 | 31 | 13.5 | 14.4 | 1.2 | 7.9 | 8.4 |
| Mining copper, nickel, lead, and zinc | 16 | 41 | 17.9 | 21.6 | 6.4 | 11.7 | 13.9 |

Table 1. Economic contributions of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industry groups and sectors in Florida in 2008

| Industry Group/Sector | Employment | | Output (Revenue) | | Exports | Value Added | |
|---|--------------------------|--------------|------------------|--------------|---------|---------------|--------------|
| | Direct Impact | Total Impact | Direct Impact | Total Impact | | Direct Impact | Total Impact |
| | Full-time/Part-time Jobs | | Million Dollars | | | | |
| Food and Kindred Products Manufacturing | 41,924 | 79,797 | 24,400.6 | 29,534.9 | 5,832.3 | 5,538.7 | 8,140.0 |
| Soft drink and ice manufacturing | 7,267 | 10,158 | 4,787.1 | 5,268.0 | 663.0 | 574.5 | 810.3 |
| Bread and bakery product manufacturing | 6,770 | 8,375 | 1,046.2 | 1,263.9 | 205.6 | 303.6 | 424.8 |
| Fruit and vegetable canning, pickling, and drying | 3,402 | 8,110 | 1,878.6 | 2,588.9 | 769.1 | 439.0 | 810.7 |
| Frozen food manufacturing | 3,136 | 4,435 | 1,036.8 | 1,222.3 | 198.4 | 246.2 | 348.4 |
| Tobacco product manufacturing | 2,342 | 4,940 | 4,668.2 | 5,192.0 | 986.6 | 1,993.0 | 2,356.7 |
| All other food manufacturing | 2,312 | 4,795 | 678.2 | 1,014.5 | 321.8 | 131.9 | 318.7 |
| Animal (except poultry) slaughtering, rendering, and processing | 2,267 | 4,369 | 1,049.1 | 1,286.6 | 223.3 | 105.2 | 207.2 |
| Fluid milk and butter manufacturing | 1,947 | 2,188 | 1,366.1 | 1,399.1 | 29.1 | 177.8 | 193.1 |
| Seafood product preparation and packaging | 1,689 | 1,856 | 582.8 | 602.1 | 22.0 | 86.9 | 97.3 |
| Sugar cane mills and refining | 1,614 | 12,719 | 1,263.6 | 2,380.4 | 887.2 | 180.8 | 708.2 |
| Poultry processing | 1,302 | 1,552 | 286.0 | 324.0 | 54.2 | 50.9 | 70.0 |
| Seasoning and dressing manufacturing | 1,255 | 2,589 | 599.2 | 803.2 | 247.7 | 83.7 | 188.7 |
| Cookie, cracker, and pasta manufacturing | 968 | 1,496 | 380.2 | 463.6 | 91.7 | 74.5 | 118.9 |
| Breweries | 906 | 2,114 | 1,638.2 | 1,846.5 | 292.7 | 513.0 | 616.3 |
| Coffee and tea manufacturing | 717 | 3,077 | 502.0 | 791.7 | 267.7 | 81.9 | 245.6 |
| Snack food manufacturing | 665 | 1,446 | 442.9 | 557.9 | 158.8 | 93.5 | 156.0 |

Table 1. Economic contributions of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industry groups and sectors in Florida in 2008

| Industry Group/Sector | Employment | | Output (Revenue) | | Exports | Value Added | |
|--|--------------------------|--------------|------------------|--------------|---------|---------------|--------------|
| | Direct Impact | Total Impact | Direct Impact | Total Impact | | Direct Impact | Total Impact |
| | Full-time/Part-time Jobs | | Million Dollars | | | | |
| Ice cream and frozen dessert manufacturing | 651 | 828 | 320.9 | 348.8 | 27.7 | 48.0 | 61.6 |
| Confectionery manufacturing from purchased chocolate | 616 | 1,005 | 163.6 | 224.1 | 68.0 | 23.3 | 54.0 |
| Other animal food manufacturing | 560 | 693 | 528.0 | 551.0 | 40.6 | 44.2 | 55.3 |
| Wineries | 371 | 437 | 186.8 | 195.7 | 9.4 | 36.7 | 41.8 |
| Non-chocolate confectionery manufacturing | 360 | 637 | 101.4 | 143.9 | 51.5 | 15.6 | 37.7 |
| Flour milling and malt manufacturing | 200 | 866 | 301.4 | 400.9 | 119.1 | 95.4 | 151.9 |
| Distilleries | 125 | 190 | 106.9 | 116.5 | 18.9 | 59.3 | 64.8 |
| Dog and cat food manufacturing | 124 | 163 | 123.8 | 129.9 | 10.5 | 20.4 | 23.5 |
| Flavoring syrup and concentrate manufacturing | 113 | 161 | 209.4 | 216.3 | 10.7 | 43.4 | 46.7 |
| Tortilla manufacturing | 90 | 90 | 15.8 | 15.9 | 0.0 | 4.1 | 4.2 |
| Chocolate and confectionery manufacturing from cacao beans | 71 | 189 | 40.1 | 57.4 | 20.2 | 2.6 | 11.4 |
| Cheese manufacturing | 49 | 128 | 45.1 | 55.6 | 11.3 | 5.5 | 10.5 |
| Dry, condensed, and evaporated dairy product manufacturing | 24 | 141 | 25.7 | 42.1 | 16.8 | 2.2 | 10.1 |
| Fats and oils reining and blending | 9 | 11 | 14.5 | 14.8 | 1.0 | 0.8 | 0.9 |
| Wet corn milling | 4 | 37 | 8.0 | 12.7 | 6.8 | 0.9 | 3.6 |
| Soybean and other oilseed processing | 1 | 3 | 4.2 | 4.5 | 0.8 | 0.1 | 0.3 |
| Breakfast cereal manufacturing | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Beet sugar manufacturing | 0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Table 1. Economic contributions of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industry groups and sectors in Florida in 2008

| Industry Group/Sector | Employment | | Output (Revenue) | | Exports | Value Added | |
|--|--------------------------|--------------|------------------|--------------|---------|---------------|--------------|
| | Direct Impact | Total Impact | Direct Impact | Total Impact | | Direct Impact | Total Impact |
| | Full-time/Part-time Jobs | | Million Dollars | | | | |
| Forest Products Manufacturing | 25,405 | 46,675 | 7,858.6 | 10,848.5 | 3,137.0 | 2,087.8 | 2,435.3 |
| Wood windows and doors and millwork manufacturing | 25,405 | 46,675 | 7,858.6 | 10,848.5 | 3,137.0 | 2,087.8 | 3,620.4 |
| Engineered wood member and truss manufacturing | 4,532 | 6,083 | 525.1 | 734.3 | 199.3 | 185.7 | 296.0 |
| Paperboard container manufacturing | 3,375 | 3,681 | 1,208.1 | 1,253.3 | 53.3 | 272.5 | 297.1 |
| Sawmills and wood preservation | 2,750 | 3,842 | 636.8 | 769.4 | 84.1 | 137.9 | 198.9 |
| Sanitary paper product manufacturing | 1,597 | 2,618 | 1,294.2 | 1,455.4 | 270.4 | 342.8 | 426.4 |
| Wood container and pallet manufacturing | 1,413 | 1,465 | 176.3 | 183.5 | 8.1 | 68.0 | 71.8 |
| Paper mills | 1,288 | 6,929 | 947.3 | 1,769.7 | 934.9 | 240.2 | 665.3 |
| Sationery product manufacturing | 1,061 | 1,810 | 332.8 | 443.4 | 122.9 | 80.1 | 140.6 |
| Veneer and plywood manufacturing | 1,043 | 1,930 | 213.4 | 323.3 | 90.8 | 79.4 | 132.5 |
| Paperboard mills | 891 | 4,109 | 665.0 | 1,122.2 | 466.0 | 153.9 | 388.2 |
| Pulp mills | 652 | 4,626 | 499.2 | 1,051.7 | 499.2 | 118.0 | 391.8 |
| All other miscellaneous wood product manufacturing | 556 | 646 | 92.9 | 104.9 | 11.3 | 37.3 | 43.7 |
| All other converted paper product manufacturing | 496 | 696 | 141.2 | 169.8 | 32.3 | 33.3 | 49.3 |
| Coated and laminated paper, packaging paper, and pasltics film manufacturing | 470 | 647 | 208.7 | 235.8 | 36.7 | 50.4 | 64.7 |
| All other paper bag and coated and treated paper manufacturing | 429 | 636 | 125.7 | 156.4 | 39.7 | 30.3 | 46.8 |
| Reconstituted wood product manufacturing | 163 | 255 | 39.7 | 52.7 | 16.2 | 11.1 | 17.5 |

Table 1. Economic contributions of agriculture, natural resources, food and kindred product manufacturing and distribution, and service industry groups and sectors in Florida in 2008

| Industry Group/Sector | Employment | | Output (Revenue) | | Exports | Value Added | |
|--|--------------------------|------------------|------------------|------------------|-----------------|-----------------|-----------------|
| | Direct Impact | Total Impact | Direct Impact | Total Impact | | Direct Impact | Total Impact |
| | Full-time/Part-time Jobs | | Million Dollars | | | | |
| Nature-based Recreation | 27,699 | 39,667 | 3,643.8 | 5,141.6 | 1,388.4 | 1,487.0 | 2,357.0 |
| Golf courses | 21,689 | 31,462 | 2,885.8 | 4,109.6 | 1,127.1 | 1,181.6 | 1,893.1 |
| Recreational fishing | 4,518 | 6,555 | 601.2 | 856.2 | 234.8 | 246.2 | 394.4 |
| Commercial hunting and trapping | 1,492 | 1,650 | 156.8 | 175.8 | 26.5 | 59.2 | 69.5 |
| Food and Kindred Products Distribution | 959,814 | 1,027,319 | 67,611.9 | 76,365.3 | 9,268.7 | 38,957.6 | 43,991.7 |
| Food services and drinking places | 670,117 | 709,141 | 40,266.7 | 45,477.4 | 5,478.2 | 21,267.0 | 24,218.7 |
| Retail stores (food and beverages) | 200,088 | 204,147 | 12,504.0 | 13,013.7 | 518.4 | 8,044.2 | 8,345.8 |
| Wholesale trade (food & kindred products) | 73,500 | 97,613 | 13,438.2 | 16,432.3 | 3,231.1 | 8,727.3 | 10,485.1 |
| Retail lawn and garden centers | 16,109 | 16,418 | 1,403.0 | 1,441.9 | 40.9 | 919.1 | 942.1 |
| Grand Total | 1,381,921 | 1,609,139 | 133,648.3 | 162,704.0 | 32,524.2 | 60,885.9 | 76,531.9 |
| Source: <i>IMPLAN Professional</i> data for Florida (MIG, Inc.) Total impact estimates include regional multiplier effects. | | | | | | | |

Table 2. Employment impacts (jobs) in Florida regions and counties by agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in 2008

| Region / County | Crop, Livestock, Forestry & Fisheries Production | Agricultural Inputs & Services | Mining | Food & Kindred Products Manufacturing | Forest Products Manufacturing | Nature-based Recreation | Food & Kindred Products Distribution | Total / All |
|------------------------------|--|--------------------------------|--------|---------------------------------------|-------------------------------|-------------------------|--------------------------------------|-------------|
| Gainesville | | | | | | | | |
| Alachua | 19,193 | 2,950 | 275 | 3,062 | 2,663 | 270 | 25,007 | 53,419 |
| Bradford | 1,975 | 1,761 | 102 | 445 | 565 | 66 | 17,280 | 22,195 |
| Columbia | 421 | 102 | 82 | 103 | 216 | 24 | 844 | 1,791 |
| DeSoto | 760 | 194 | 2 | 180 | 606 | 49 | 3,003 | 4,795 |
| Dixie | 7,810 | 141 | 0 | 451 | 0 | 66 | 634 | 9,102 |
| Gilchrist | 1,192 | 27 | 1 | 0 | 803 | 6 | 408 | 2,438 |
| Lafayette | 779 | 60 | 2 | 124 | 168 | 3 | 270 | 1,406 |
| Levy | 621 | 290 | 12 | 0 | 27 | 29 | 181 | 1,161 |
| Suwannee | 1,714 | 101 | 28 | 27 | 52 | 11 | 1,190 | 3,123 |
| Union | 3,671 | 163 | 39 | 1,725 | 25 | 3 | 1,095 | 6,722 |
| | 250 | 110 | 6 | 7 | 200 | 13 | 101 | 687 |
| Jacksonville | | | | | | | | |
| Baker | 5,179 | 9,835 | 447 | 13,322 | 11,004 | 2,100 | 80,379 | 122,265 |
| Clay | 237 | 172 | 0 | 0 | 0 | 0 | 697 | 1,106 |
| Duval | 470 | 1,147 | 204 | 9 | 452 | 103 | 7,435 | 9,820 |
| Nassau | 1,071 | 6,470 | 180 | 13,019 | 5,292 | 914 | 55,390 | 82,336 |
| Putnam | 1,250 | 565 | 1 | 75 | 1,981 | 199 | 3,256 | 7,327 |
| St. Johns | 1,100 | 268 | 46 | 0 | 2,963 | 51 | 2,025 | 6,453 |
| | 1,051 | 1,213 | 16 | 219 | 315 | 833 | 11,576 | 15,223 |
| Miami-Fort Lauderdale | | | | | | | | |
| Broward | 77,457 | 50,266 | 2,606 | 29,344 | 7,727 | 13,251 | 345,904 | 526,556 |
| Glades | 2,151 | 13,293 | 586 | 5,694 | 1,165 | 3,057 | 101,715 | 127,661 |
| Hendry | 921 | 32 | 10 | 41 | 0 | 41 | 129 | 1,174 |
| Indian River | 12,453 | 188 | 66 | 3,428 | 0 | 16 | 1,490 | 17,641 |
| Martin | 7,646 | 1,842 | 42 | 133 | 90 | 885 | 6,498 | 17,136 |
| Miami-Dade | 3,737 | 2,395 | 17 | 693 | 130 | 1,456 | 8,082 | 16,509 |
| Monroe | 12,228 | 13,965 | 1,048 | 8,961 | 4,552 | 1,404 | 134,398 | 176,557 |
| Okeechobee | 1,798 | 695 | 98 | 83 | 7 | 476 | 9,391 | 12,548 |
| Palm Beach | 3,021 | 287 | 20 | 374 | 0 | 24 | 1,377 | 5,102 |
| St. Lucie | 23,902 | 15,645 | 630 | 9,078 | 1,432 | 5,398 | 74,229 | 130,314 |
| | 9,601 | 1,924 | 88 | 859 | 350 | 495 | 8,596 | 21,914 |

Table 2. Employment impacts (jobs) in Florida regions and counties by agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in 2008

| Region / County | Crop, Livestock, Forestry & Fisheries Production | Agricultural Inputs & Services | Mining | Food & Kindred Products Manufacturing | Forest Products Manufacturing | Nature-based Recreation | Food & Kindred Products Distribution | Total / All |
|--------------------|--|--------------------------------|--------|---------------------------------------|-------------------------------|-------------------------|--------------------------------------|-------------|
| Orlando | 57,571 | 44,136 | 3,005 | 24,896 | 8,348 | 7,347 | 255,195 | 400,497 |
| Brevard | 691 | 2,883 | 89 | 297 | 428 | 1,174 | 25,408 | 30,969 |
| Citrus | 562 | 691 | 82 | 76 | 61 | 392 | 4,825 | 6,689 |
| Flagler | 671 | 592 | 54 | 33 | 71 | 42 | 2,739 | 4,203 |
| Hardee | 7,145 | 132 | 94 | 154 | 94 | 49 | 595 | 8,263 |
| Highlands | 12,489 | 467 | 47 | 78 | 127 | 292 | 3,528 | 17,028 |
| Lake | 3,922 | 2,638 | 213 | 1,372 | 480 | 299 | 11,697 | 20,621 |
| Marion | 6,653 | 2,822 | 236 | 1,340 | 729 | 512 | 12,427 | 24,720 |
| Orange | 5,600 | 10,981 | 164 | 6,254 | 1,341 | 1,659 | 104,734 | 130,733 |
| Osceola | 1,644 | 1,835 | 137 | 360 | 129 | 395 | 14,667 | 19,168 |
| Polk | 13,671 | 11,588 | 1,708 | 13,224 | 3,593 | 907 | 21,356 | 66,048 |
| Seminole | 629 | 6,130 | 46 | 575 | 941 | 383 | 24,291 | 32,995 |
| Sumter | 885 | 375 | 105 | 307 | 192 | 529 | 3,056 | 5,449 |
| Volusia | 3,009 | 3,003 | 30 | 826 | 162 | 712 | 25,872 | 33,615 |
| Panama City | 2,673 | 517 | 123 | 129 | 872 | 262 | 4,263 | 8,839 |
| Bay | 237 | 172 | 0 | 0 | 0 | 0 | 697 | 1,106 |
| Calhoun | 492 | 16 | 11 | 0 | 139 | 39 | 445 | 1,143 |
| Gulf | 289 | 20 | 2 | 13 | 120 | 9 | 498 | 951 |
| Holmes | 429 | 52 | 1 | 67 | 36 | 86 | 392 | 1,063 |
| Jackson | 881 | 77 | 87 | 29 | 562 | 77 | 1,665 | 3,379 |
| Washington | 344 | 181 | 21 | 20 | 15 | 52 | 565 | 1,198 |
| Pensacola | 2,645 | 4,257 | 578 | 717 | 2,099 | 743 | 38,109 | 49,148 |
| Escambia | 1,089 | 1,314 | 296 | 198 | 1,850 | 325 | 16,143 | 21,215 |
| Okaloosa | 487 | 1,393 | 104 | 245 | 31 | 295 | 13,431 | 15,988 |
| Santa Rosa | 691 | 847 | 172 | 62 | 89 | 78 | 4,412 | 6,352 |
| Walton | 377 | 703 | 6 | 211 | 129 | 45 | 4,123 | 5,593 |

Table 2. Employment impacts (jobs) in Florida regions and counties by agriculture, natural resources, food and kindred product manufacturing and distribution, and service industries in 2008

| Region / County | Crop, Livestock, Forestry & Fisheries Production | Agricultural Inputs & Services | Mining | Food & Kindred Products Manufacturing | Forest Products Manufacturing | Nature-based Recreation | Food & Kindred Products Distribution | Total / All |
|-----------------------------|--|--------------------------------|--------|---------------------------------------|-------------------------------|-------------------------|--------------------------------------|-------------|
| Sarasota-Bradenton | 29,000 | 20,219 | 1,117 | 5,795 | 1,582 | 9,345 | 94,839 | 161,897 |
| Charlotte | 1,241 | 1,496 | 82 | 14 | 148 | 486 | 6,735 | 10,202 |
| Collier | 11,313 | 4,324 | 338 | 223 | 145 | 3,700 | 18,926 | 38,970 |
| Lee | 2,430 | 6,269 | 341 | 636 | 362 | 2,740 | 33,600 | 46,377 |
| Manatee | 13,316 | 3,385 | 162 | 4,811 | 691 | 1,230 | 15,296 | 38,891 |
| Sarasota | 700 | 4,746 | 194 | 111 | 235 | 1,188 | 20,282 | 27,456 |
| Tallahassee | 5,877 | 4,088 | 454 | 1,208 | 2,917 | 555 | 21,655 | 36,753 |
| Franklin | 53 | 31 | 32 | 28 | 0 | 25 | 724 | 894 |
| Gadsden | 2,252 | 244 | 226 | 56 | 669 | 67 | 931 | 4,445 |
| Hamilton | 362 | 1,060 | 0 | 0 | 0 | 38 | 263 | 1,722 |
| Jefferson | 593 | 89 | 15 | 18 | 0 | 36 | 277 | 1,027 |
| Leon | 682 | 2,403 | 91 | 221 | 32 | 172 | 17,332 | 20,933 |
| Liberty | 340 | 20 | 18 | 0 | 597 | 141 | 172 | 1,287 |
| Madison | 733 | 9 | 0 | 603 | 83 | 36 | 506 | 1,971 |
| Taylor | 715 | 60 | 71 | 181 | 1,536 | 13 | 772 | 3,348 |
| Wakulla | 145 | 174 | 1 | 100 | 0 | 27 | 677 | 1,126 |
| Tampa-St. Petersburg | 23,463 | 22,299 | 18,624 | 18,825 | 5,167 | 3,075 | 158,309 | 249,764 |
| Hernando | 577 | 885 | 155 | 29 | 31 | 299 | 6,153 | 8,130 |
| Hillsborough | 19,255 | 12,152 | 678 | 15,573 | 3,224 | 1,418 | 86,299 | 138,598 |
| Pasco | 2,759 | 3,050 | 127 | 677 | 277 | 477 | 14,761 | 22,128 |
| Pinellas | 872 | 6,212 | 17,664 | 2,546 | 1,636 | 881 | 51,097 | 80,907 |
| Total | 223,058 | 158,568 | 27,228 | 97,298 | 42,379 | 36,949 | 1,023,660 | 1,609,139 |

Source: IMPLAN Professional data for Florida (MIG, Inc. 2009)

Impact estimates include multiplier effects. Employment includes full-time and part-time positions.