Economic Contributions of Florida's Agricultural, Natural Resource, and Food and Kindred Product Manufacturing, Distribution, and Service Industries in 2007[1]

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Introduction

The state of Florida has nearly 24 million acres (36,000 square miles) in forests, croplands, and ranches, which is about two-thirds of its total land area. The agricultural and natural resource industries produce food, fiber, and mineral commodities. They 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. In addition to farming, forestry, fisheries, and mining, this grouping of agricultural and natural resource industries includes other diverse activities such as fertilizer manufacturing, sawmills, fruit and vegetable processing, landscaping, wholesale food distributors, retail food stores, restaurants and other food service establishments, retail garden centers, pest control, golf courses, and recreational fishing.

This report provides estimates of these industries' economic contributions to Florida in 2007, updating a previous study for 2006 (Hodges, Rahmani and Mulkey 2008).

Methods

Data for this analysis were obtained from the *IMPLAN Professional* database for Florida counties for 2001-07 (Minnesota *IMPLAN* Group) and from 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 2008). Over 80 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. Economic contributions were also evaluated for several recognizable industry commodity groups that have linkages between the production and processing/manufacturing sectors, 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; 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. This system enables the construction of input-output

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models and social accounting matrices that represent transactions among industry sectors, households, and governments within a local or regional economy. These models account for industrial commodity production, employment, labor and property income, consumption, regional trade, transfer payments such as welfare and retirement, and capital investment, etc. Economic multipliers derived for each industry capture the secondary effects of new money to the region that generates further economic activity as it is re-spent in the local economy (Miller and Blair 1985). Indirect effects multipliers represent the economic activity generated in the supply chain by purchases of intermediate inputs from vendor firms, while induced effects multipliers represent the impacts of spending by industry employee households and by local, state, and/or federal 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 the sum of direct effects of industry sales or employment, plus the indirect and induced effects. Although the estimates of this analysis are referred to as *economic impacts*, these values may be better understood as *economic contributions* because they represent ongoing economic activity of existing industries, rather than a net change in activity resulting from external influences (Watson et al. 2007).

The measures of economic impacts reported include output, or revenue; value added (income); employment (full-time, part-time, or seasonal positions); labor income; property income; and indirect business taxes paid to local, state, and/or federal governments. Value added is a broad measure of economic activity that is comparable to the Gross Domestic Product (GDP) at the national level, and represents the net income created by an industry, comprising labor and property income, indirect business taxes, and capital consumption. Value added 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 models were developed for the state of Florida, which included nine economic regions and all 67 counties in the state. The nine regions were defined based on metropolitan areas, employee commuting patterns, and other economic data from the 2000 Census (Johnson and Kort 2004). Note that some Georgia counties included in the North Florida regions were not evaluated in this analysis, and that there were slight discrepancies in the results of the analysis at the state, region, and county levels due to differences in trade flows and accounting adjustments. The regional economic models were constructed to include social/institutional accounts for households; local, state and federal governments; and capital investment.

Adjustments were made to the data for exports in some industry sectors based on information from primary surveys in previous studies (Hodges et al. 2006; Hodges, Rahmani, and Mulkey 2008). Values for some activities that are not explicitly represented in the model 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; wholesale food distribution was 20 percent of wholesale trade; garden centers were 19 percent of building materials and garden stores; and golf courses and recreational fishing were 48 percent and 10 percent, respectively, of amusement and recreation services.

Values for 2001 through 2007 were expressed in 2008 U.S. dollars using the mid-year (July) indices for the Gross Domestic Product (GDP) Implicit Price Deflator (United States Department of Commerce 2008), which is a broad measure that accounts for the effects of price changes in the measurement of GDP. *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 match those previously reported for 2001 to 2006 (Hodges, Rahmani, and Mulkey 2008).

Results

Economic Contributions by Industry Groups and Sectors

Economic contributions by major industry groups and specific industry sectors in Florida in 2007 are shown in Table 1 and summarized in Figures 1, 2, and 3. The

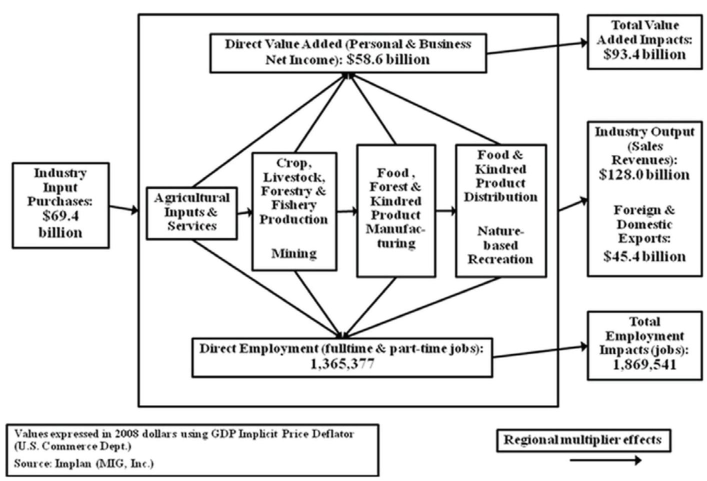

Figure 1. Structure of economic activity in Florida agricultural, natura resource, and food and kindred product manufacturing, distribution, and service industries in 2006.

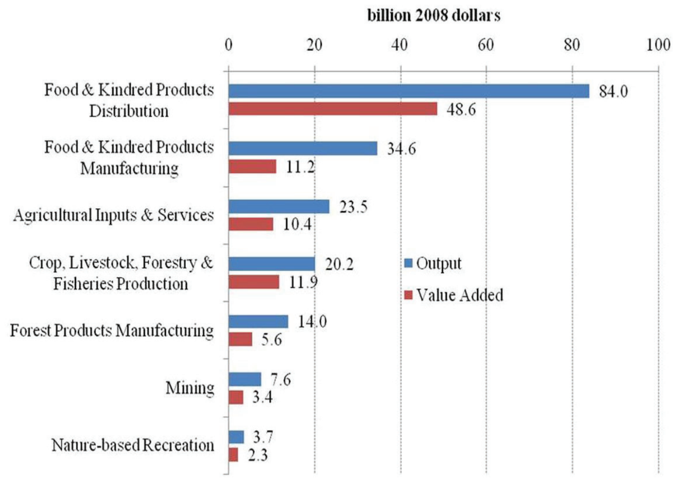

Figure 2. Output and value-added impacts of agricultural, natural resource, and food and kindred product manufacturing, distribution, and service industries in Florida in 2007.

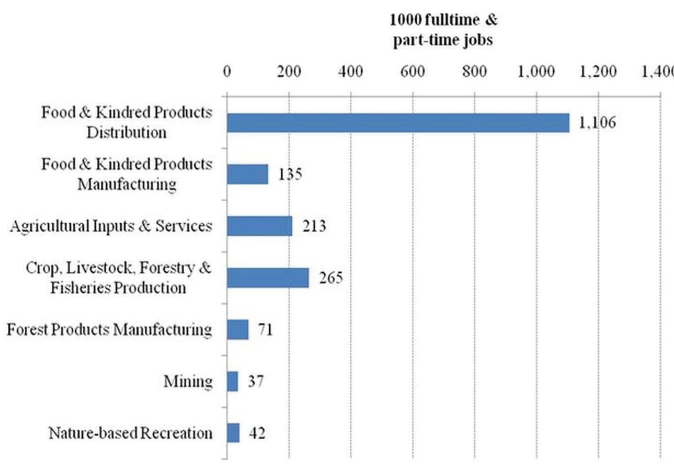

Figure 3. Employment impacts of agricultural, natural resource, and food and kindred product manufacturing, distribution, and service industries in Florida in 2007.

industries are categorized into 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; all groups combined; and all groups, excluding food and kindred products distribution.

Total industry output or sales in 2007 were about $128.01 billion (Bn), stated in 2008 U.S. dollars. Total foreign and domestic exports of goods and services to customers outside of Florida were $45.42 Bn. As a result of the indirect and induced multiplier effects from export sales, the total output impacts were estimated at $187.67 Bn. Direct employment in the industry was 1.37 million full-time and part-time jobs, while total employment impacts, including multiplier effects, were estimated at 1.87 million jobs (Figure 1). The direct value-added contribution of these industries was $58.62 Bn, and total value-added impacts were $93.38 Bn. The total labor (earned) income impact of employee wages and benefits and business proprietor income was $60.51 Bn. Property income impacts, such as rents and dividends, were $22.40 Bn. Indirect business tax impacts paid to local, state, and federal governments were $10.47 Bn.

Excluding the sectors for food and kindred products distribution, such as restaurants, food stores and wholesalers, total economic values were as follows: output, $62.67 Bn; exports, $33.13 Bn; output impacts, $103.63 Bn; direct employment, 418,003 jobs; employment impacts, 763,065 jobs; direct value added, $21.29 Bn; value-added impacts, $44.77 Bn; labor income impacts, $28.04 Bn; property income impacts, $13.16 Bn; and indirect business tax impacts, $3.58 Bn (Table 1).

Crop, livestock, forestry, and fisheries production includes sectors for production of basic unrefined food and fiber commodities. In 2007, total output was $11.30 Bn, exports were $6.52 Bn, output impacts were $20.23 Bn, direct value added was $6.48 Bn, value-added impacts were $11.90 Bn, direct employment was 172,482 jobs, and total employment impacts were 264,964 jobs (Table 1, Figures 2 and 3). Among individual industry sectors in this group, the highest value-added and employment impacts were in fruit farming ($2.59 Bn, 50,189 jobs), greenhouse, nursery and floriculture production ($2.55 Bn, 36,223 jobs), support activities for agriculture and forestry ($2.03 Bn, 86,054 jobs), and vegetable and melon farming ($1.75 Bn, 25,288 jobs). Large value-added and employment impacts were also registered for the sectors of forestry and timber tracts ($991 Million [Mn], 14,062 jobs), commercial logging ($503 Mn, 4,649 jobs), and sugarcane farming ($351 Mn, 16,150 jobs). Value-added impacts of $100 to $200 million were observed for dairy farming, beef cattle ranching and farming, poultry and egg production, commercial fishing, and all other crop farming.

Agricultural inputs and services includes a variety of functions required as inputs or supporting activities for agricultural operations or management of buildings and grounds. Output impacts in 2007 by this group totaled $23.55 Bn, value-added impacts were $10.42 Bn, direct employment was 137,880 jobs, and employment impacts were 213,274 jobs (Table 1, Figures 2 and 3). Among the leading sectors in this group, landscape services had value-added impacts of $4.02 Bn and employment impacts of 104,458 jobs, followed by fertilizer manufacturing ($3.18 Bn, 37,753 jobs), veterinary services ($1.59 Bn, 35,363 jobs), pest control services ($1.23 Bn, 31,977 jobs), and pesticide and other agricultural chemical manufacturing ($347 Mn, 3,074 jobs). Other minor sectors in this group included farm machinery and equipment manufacturing, and lawn and garden equipment manufacturing.

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 2007, the mining industries in Florida collectively had direct output of $4.41 Bn, exports of $2.22 Bn, output impacts of $7.58 Bn, value-added impacts of $3.40 Bn, direct employment of 11,877 jobs, and employment impacts of 37,207 jobs (Table 1, Figures 2 and 3). The sector extraction of oil and natural gas had value-added impacts of $1.17 Bn and generated employment impacts of 15,862 jobs. Other individual sectors with significant value-added impacts included mining and quarrying stone ($860 Mn); mining and quarrying other nonmetallic minerals ($481 Mn); mining and quarrying sand, gravel, and clay ($335 Mn); and drilling oil and gas wells ($212 Mn).

Food and kindred products manufacturing industries convert unrefined agricultural commodities to food and fiber products for consumption or use by society at large. In 2007, this group of industries in Florida had a direct output of $23.03 Bn, including exports of $10.63 Bn; output impacts of $34.64 Bn; value-added impacts of $11.17 Bn; direct employment of 42,437 jobs; and total employment impacts of 135,200 jobs (Table 1, Figures 2 and 3). This large industry group includes 34 individual sectors, of which the highest value-added and employment impacts were for soft drink and ice manufacturing ($2.37 Bn, 30, 810 jobs), tobacco product manufacturing ($1.95 Bn, 8,560 jobs), fruit and vegetable canning, pickling, and drying ($1.76 Bn, 20,986 jobs), sugar manufacturing ($1.14 Bn, 20,687 jobs), breweries ($811 Mn, 7,854 jobs) and distilleries ($631 Mn, 5,461 jobs), frozen food manufacturing ($517 Mn, 7,583 jobs), and bread and bakery product manufacturing($328 Mn, 7,736 jobs). Other sectors with significant value-added impacts included seafood product preparation and packaging ($158 Mn), animal slaughtering ($156 Mn), fluid milk and butter manufacturing ($155 Mn), other animal food manufacturing ($146 Mn), and snack food manufacturing ($107 Mn).

Forest products manufacturing is a group of manufacturing industries for the processing of raw timber or wood into finished wood and paper products. In 2007, this industry group had direct output valued at $8.19 Bn; export sales of $4.85 Bn; output impacts of $13.97 Bn; direct employment of 26,399 jobs; employment impacts of 70,696 jobs; and value-added impacts of $5.56 Bn, including labor income impacts of $3.67 Bn, other property income impacts of $1.55 Bn, and indirect business tax impacts of $337 Mn (Table 1, Figures 2 and 3). Leading sectors within this group for value-added and employment impacts were paper mills ($1.04 Bn, 11,746 jobs), paperboard container manufacturing ($894 Mn, 11,857 jobs), sanitary paper product manufacturing ($658 Mn, 6,611 jobs), engineered wood member and truss manufacturing ($620 Mn, 9,354 jobs), paperboard mills ($605 Mn, 7,054 jobs), and pulp mills ($433 Mn, 5,053 jobs). Other sectors with significant value-added impacts included wood window and door manufacturing ($355 Mn), stationary product manufacturing ($270 Mn), sawmills and wood preservation ($229 Mn), and coated and laminate paper packaging ($145 Mn).

Nature-based recreation includes recreational activities that are generally tied to natural resources or managed landscapes, such as golf, recreational fishing, and hunting/trapping. In 2007, this industry group in Florida had a total output of $1.97 Bn; exports or sales to Florida visitors of $1.07 Bn; output impacts of $3.67 Bn; direct employment of 26,929 jobs; employment impacts of 41,724 jobs; and value-added impacts of $2.32 Bn (Table 1 and Figures 2 and 3). Among individual sectors, golf courses had value-added impacts of $1.64 Bn and employment impacts of 31,571 jobs, followed by recreational fishing ($341 Mn, 6,577 jobs), and commercial hunting and trapping ($345 Mn, 3,575 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 perspective on the scope of the entire market chain for food and kindred products. In 2007, this industry group in Florida had total output of $65.34 Bn; exports of $12.29 Bn; output impacts of $84.04 Bn; direct employment of 947,374 jobs; employment impacts of 1,106,477 jobs; and value-added impacts of $48.61 Bn, including labor income impacts of $32.48 Bn, other property income impacts of $9.24 Bn, and indirect business tax impacts of $6.90 Bn (Table 1 and Figures 2 and 3). Collectively, this group represented about 52 percent of the total value-added impacts and 59 percent of the employment impacts for the entire agriculture, natural resources, and related industries defined in this report. Among individual sectors within this group, food services and drinking places (restaurants and bars) had by far the greatest value-added impacts ($26.72 Bn) and employment impacts (746,925 jobs), followed by wholesale trade in food and kindred products ($12.27 Bn, 125,708 jobs), food and beverage stores ($8.50 Bn, 215,695 jobs), and retail lawn and garden centers ($1.12 Bn, 18,148 jobs).

Economic Contributions by Commodity Groups

Economic contributions were also evaluated for food, fiber, and mineral commodity groups having 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 stores, had value-added impacts of $7.68 Bn and employment impacts of 158,829 jobs. Forestry and forest products, which includes the sectors for forestry and timber tracts, logging, and 16 forest product manufacturing sectors, had value-added impacts of $7.05 Bn and employment impacts of 89,407 jobs. Fruit and vegetable farming and processing, including sectors for frozen food manufacturing and fruit and vegetable canning, pickling and drying, as well as fruit farming and vegetable and melon farming, had value-added impacts of $6.61 Bn and employment impacts of 104,082 jobs. Sugarcane farming and refined sugar manufacturing had value-added impacts of $1.49 Bn and employment impacts of 36,837 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 $1.22 Bn and employment impacts of 27,960 jobs. Fishing and seafood products had value-added impacts of $297 Mn and employment impacts of 10,986 jobs. The commodity group grain and oilseed farming and processing had value-added and employment impacts of $146 Mn and 1,936 jobs, respectively.

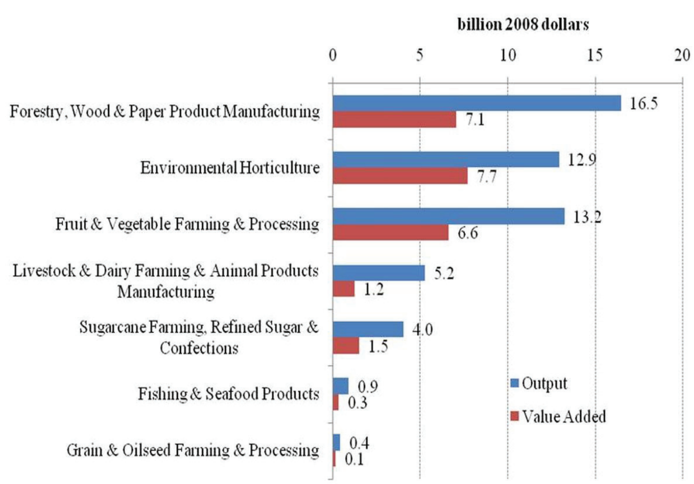

Figure 4. Output and value-added impacts of food and fiber commodity groups in Florida in 2007.

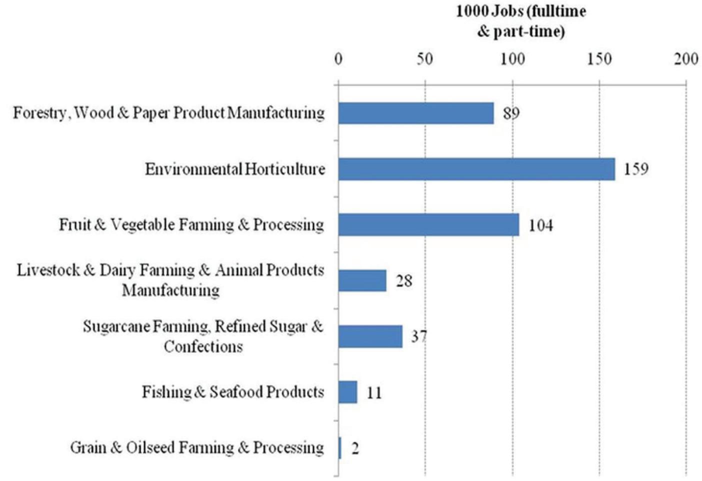

Figure 5. Employment impacts of food and fiber commodity groups in Florida in 2007.

Economic Contributions in Florida Regions and Counties

Regional impacts of agriculture, natural resources, food manufacturing, distribution, and related service industries in 2007 were evaluated for nine economic regions of Florida, as illustrated in Figure 6, with results summarized in Table 2 and Figures 7 and 8. The region with the highest value-added and employment impacts was Miami-Ft. Lauderdale ($29.82 Bn, 596,271 jobs), followed by Orlando ($22.04 Bn, 458,740 jobs), Tampa-St. Petersburg ($15.39 Bn, 301,786 jobs), Jacksonville ($10.66 Bn, 166,391 jobs), Sarasota-Bradenton ($8.41 Bn, 184,877 jobs), Pensacola ($2.43 Bn, 56,959 jobs), Gainesville ($2.35 Bn, 51,758 jobs), Tallahassee ($1.95 Bn, 43,047 jobs), and Panama City ($1.24 Bn, 26,290 jobs.

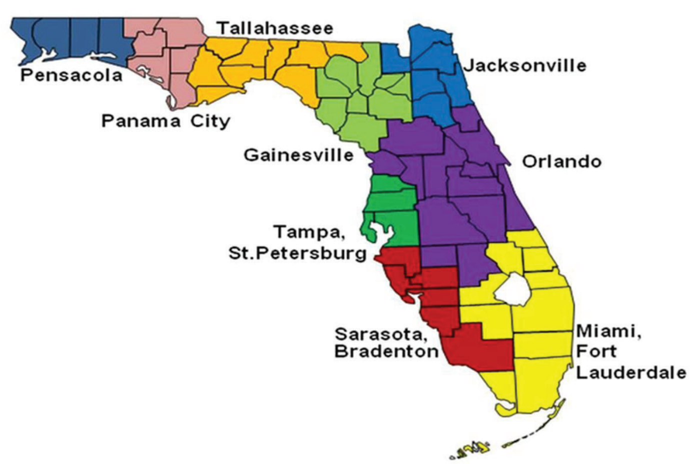

Figure 6. Economic regions of Florida.

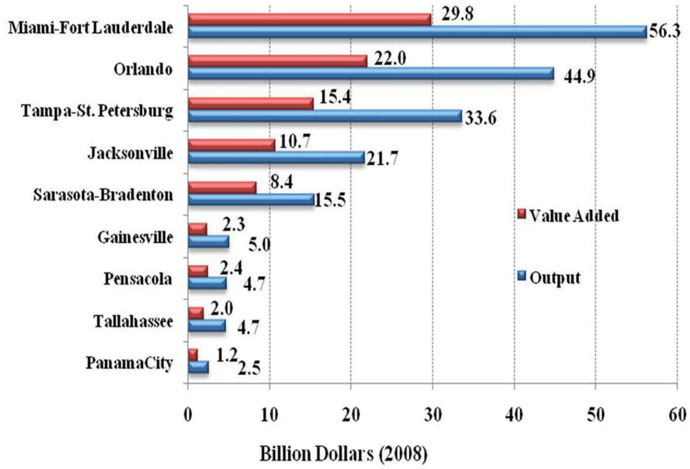

Figure 7. Output and value-added impacts in Florida regions by agricultural, natural resource, and food and kindred product manufacturing, distribution, and service industries in 2007.

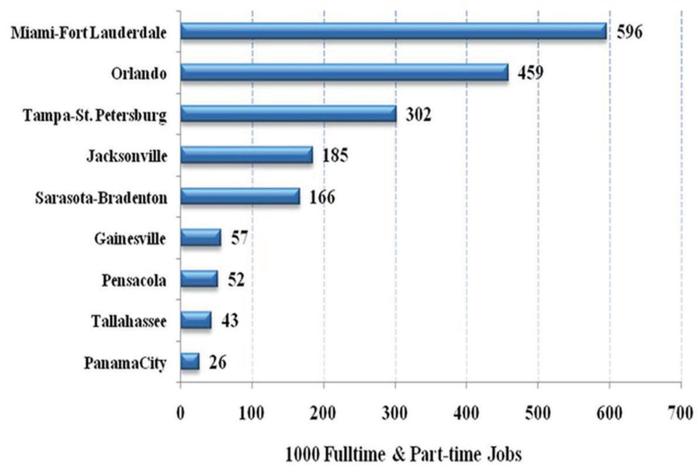

Figure 8. Employment impacts in Florida regions by agricultural, natural resoure, and food and kindred product manufacturing, distribution, and service industries in 2007.

Economic impacts were also evaluated for all 67 counties in Florida as shown in Table 3 and summarized in Figure 9. The largest counties in terms of value-added impacts and employment impacts in 2007 were Miami-Dade ($11.37 Bn, 204,105 jobs), Hillsborough ($9.46 Bn, 172,481 jobs), Duval ($7.84 Bn, 112,440 jobs), Orange ($7.81 Bn, 147,289 jobs), Palm Beach ($6.94 Bn, 147,783 jobs), Broward ($6.87 Bn, 137,512 jobs), Pinellas ($4.78 Bn, 93,861 jobs), and Polk ($4.41 Bn, 78,454 jobs). Counties with value-added impacts exceeding $2 billion were Lee ($2.45 Bn), Collier ($2.11 Bn), and Manatee ($2.05 Bn), and counties with value-added impacts exceeding $1 billion included Brevard ($1.22 Bn), Escambia ($1.16 Bn), Marion $1.07 Bn), Sarasota ($1.24 Bn), Seminole ($1.67 Bn), St. Lucie ($1.08 Bn), and Volusia ($1.36 Bn).

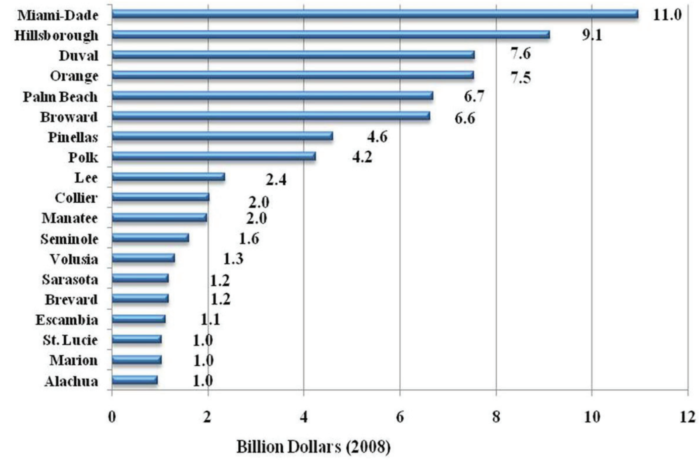

Figure 9. Value-added impacts in the twenty largest Florida counties by agriculture, natural resource, and food and kindred product manufacturing, distribution, and service industries in 2007.

Economic Contribution Trends for 2001 through 2007

In addition to the economic contributions in 2007, it is important to understand how these values have changed over time. Trends in economic impacts of these industries between 2001 and 2007 are shown in Tables 4 and 5 and Figures 10 and 11. Note again that all values were adjusted for inflation to express in constant 2008 U.S. dollars. Total value-added impacts grew from $76.48 Bn in 2001 to $93.38 Bn in 2007, representing an average annual growth rate of 3.7 percent. Total output impacts grew by an average of 5.4 percent annually, and total employment impacts

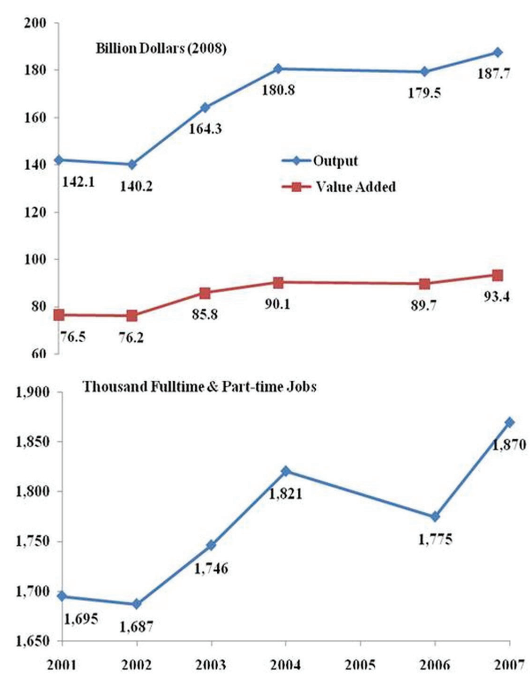

Figure 10. Trends in economic impacts during 2001–2007 for Florida agricultural, natural resource, and food and kindred product manufacturing, distribution, and service industries.

increased by 1.7 percent annually. For 2006-07, there was a slightly higher growth rate in value-added impacts (4.1%) and substantially higher growth in employment impacts (5.3%) (Table 4). Note that these trends may reflect changes in the structure of the Florida economy, as well as changes in industry activity and commodity prices.

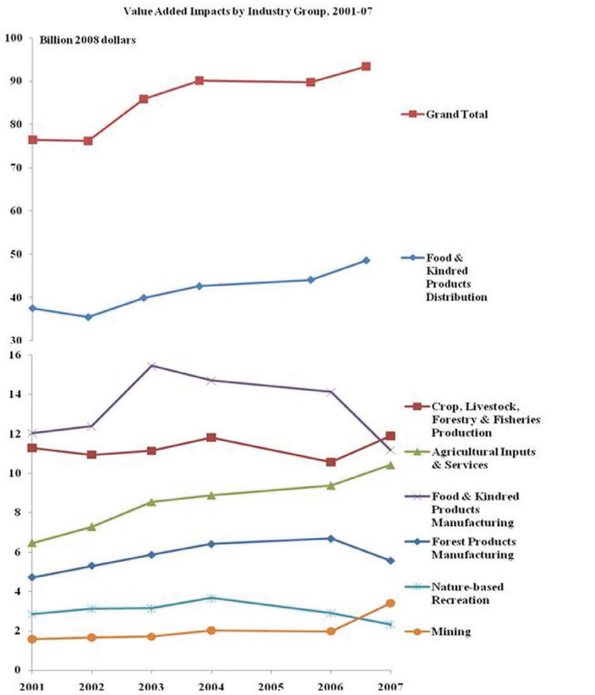

Figure 11. Trends in value-added impacts during 2001–2007 for industry groups in Florida agricultural, natural resource, and food and kindred product manufacturing, distribution, and services.

Among industry groups, average annual growth in value-added impacts for the 2001 to 2007 period was highest for mining (19.2%) and crop, livestock, forestry, and fishery production (10.2%), followed by food and kindred products distribution (4.9%) and forest product manufacturing (3.0%). Other industry groups showed little growth or declined slightly during this period. The solid long-term growth for the crop, livestock, forestry and fishery production sectors continued in 2007, with an 11.6 percent increase, while the high growth for mining was primarily due to a significant increase (72%) during 2006-07 alone (Table 4 and Figure 11).

Table 5 shows the trends for all economic impact measures for commodity groups during the 2001 to 2007 period, and the corresponding average annual percentage changes. Environmental horticulture (nursery and greenhouse, and landscape services) had a long-term annual growth in value-added impacts of 9.4 percent, but slowed in 2006-07 to 4.6 percent. Forestry, wood, and paper products manufacturing had a long-term growth of 5.4 percent annually, but declined by –6.7 percent during the latter part of the period. Commodity groups with growing value-added impacts for 2006-07 included fruit and vegetable farming and processing (4.2%); sugarcane farming, refined sugar, and confections (4.2%); and grain and oilseed farming and processing (20.1%). Value-added impacts decreased for livestock and dairy farming, and animal products manufacturing (–4.3%), and fishing and seafood products (–7.7%).

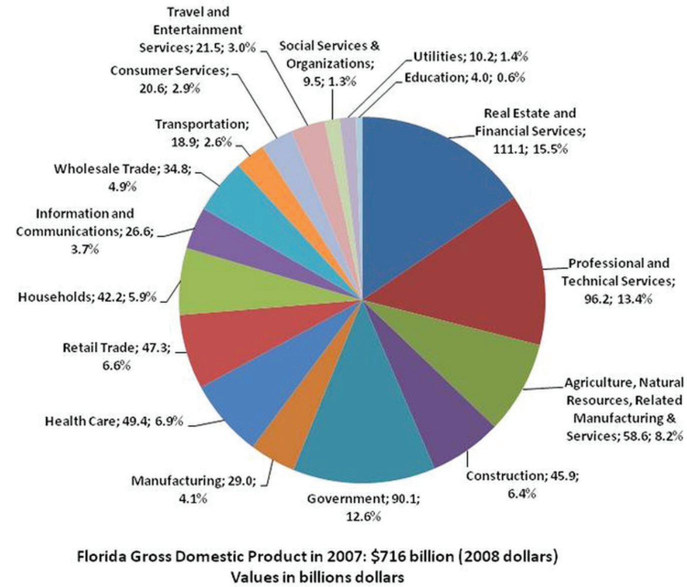

Figure 12. Contribution to Gross State Product (GSP) of Florida by major industry groups in 2007.

Individual industry sectors with significant increases in value-added impacts between 2001 and 2007 included food services and drinking places ($8.3 Bn, 7.5% annually), and landscape services ($1.6 Bn, 10.7% annually). Wholesale trade food and kindred products increased over the long term ($1.9 Bn, 3.0% annually), but decreased during 2006-07. Other industry sectors that had increased value-added impacts over the long term were extraction of oil and natural gas ($1.0 Bn, 79.6% annually), of which most was in 2007 ($690 Mn); fertilizer manufacturing ($938 Mn, 7.0% annually), again mostly in 2007 ($516 Mn); fruit farming ($896 Mn, 8.8% annually), with significant growth of more than $1.0 Bn in 2007; and veterinary ($882 Mn, 20.7% annually), including $516 Mn during the latter part of the period. Individual industry sectors that showed a decline in value-added impacts included tobacco product manufacturing, which had a substantial growth of $1.7 Bn between 2001 and 2006, but declined by more than $1.0 Bn during 2006-07; frozen food manufacturing (–$883 Mn), of which –$464 Mn was during 2006-2007; golf courses (–$602Mn); support activities for agriculture and forestry (–$529 Mn); bread and bakery products manufacturing (–$372 Mn); fruit/vegetable canning/drying (–$348 Mn); and pulp mills (–$336 Mn).

Share of Gross State Product and Employment

The relative importance of the agriculture, natural resources, and related food and service industries in Florida can be gauged by its share of overall economic activity in the state. The Gross State Product (GSP) of Florida in 2007 was $716 Bn (2008 U.S. dollars), which is equivalent to the sum of value added by all industries. Total employment in the state was 10.3 million jobs. The direct value added contributed by agriculture, natural resources, and related food and service industries ($58.62 Bn) represented 8.2 percent of Florida's GSP. Agriculture, natural resources and related food and service industries ranked fourth among major industry groups (Figure 12). Direct employment in these industries represented 13.3 percent of all jobs in the state; these industries ranked second among major industry groups, behind professional and technical services (Figure 13). Excluding food and kindred products distribution, the agriculture, natural resources, and related industries represented 3.0 percent of Florida's GSP and 4.1 percent of Florida's total state employment. Note that some industry sectors in this analysis were reclassified from their original designation under the North American Industry Classification System (NAICS) to be included as part of the broadly defined agriculture and related industries.

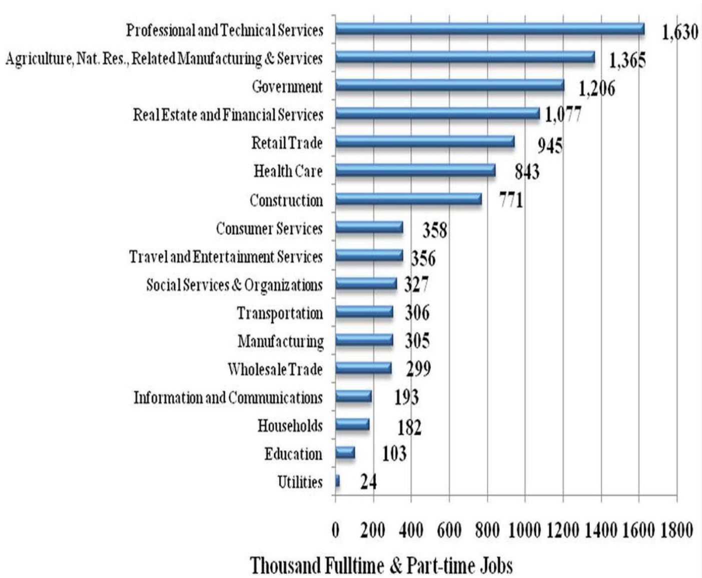

Figure 13. Direct employment by major industry groups in Florida in 2007.

Conclusions

This analysis shows that agriculture and natural resources are linked to a broad array of economic sectors for commodity production, and food and kindred product manufacturing, distribution, and related service activities. These industries collectively have a significant economic impact on the Florida economy, accounting for about 8.2 percent of Florida's GSP and 13.3 percent of Florida's total employment, which is ranked second among major industry groups. Food and kindred products distribution is by far the largest segment of the industry, representing 52 percent of value-added impacts and 59 percent of employment impacts. These industries are present throughout the state, with major activity in urbanized metropolitan areas, as well as rural counties, where it may be relatively more important as a share of total economic activity, although less in absolute magnitude. The industries have grown substantially since 2001; however, growth significantly slowed during 2006-07, along with the overall Florida and U.S. economies.

In addition to these estimates of commercial activity and employment, agricultural and forest lands provide valuable non-marketed environmental services for water supply, water quality improvement, pollution abatement, erosion control and shoreline protection, carbon sequestration and climate stabilization, wildlife habitat, and open space for community buffers and outdoor recreation. These non-market values, however, are beyond the scope of this analysis.

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Appendix: Glossary of Economic Impact Terms

(*Terms are presented in a logical order, rather than alphabetical order*.)

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 document were defined based on work 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 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. The model captures 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 lead growers to purchase additional inputs—fertilizers, containers, etc.). Multipliers for a region may be derived form an input-output model of the region's economy.

IMPLAN is a microcomputer-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 2*.

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., the 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. Employees in the direct and supporting industries spend the income they earn on housing, utilities, groceries, and other consumer goods and services. This 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. The retail, wholesale, and transportation margins 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/or 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 and governments, and exporters. 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 income from 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 (includes full-time, 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 since it avoids double counting of intermediate sales and captures only the *value added* by the region to final products.

Table 1. Economic contributions of Florida agricultural, natural resource, and food and kindred product manufacturing, distribution, and service industry groups and sectors in 2007.

Industry Group / Sector	Industry Output	Foreign and Domestic Exports	Total Output Impacts	Direct Value Added	Value Added Impacts	Direct Employment	Employment Impacts
			(2008 U.S. million dollars)			*(full-time and part-time jobs)*	
Crop, Livestock, Forestry & Fisheries Production	**11,299**	**6,523**	**20,229**	**6,482**	**11,903**	**172,482**	**264,964**
Fruit farming	2,245	1,618	4,472	1,217	2,587	24,751	50,189
Greenhouse, nursery, and floriculture production	2,033	1,327	3,860	1,438	2,546	19,128	36,223
Vegetable and melon farming	1,703	1,021	3,077	906	1,746	10,938	25,288
Support activities for agriculture and forestry	1,467	922	2,829	1,218	2,030	74,484	86,054
Cattle ranching and farming	931	304	1,254	274	453	8,134	11,069
Commercial logging	734	111	880	416	503	3,416	4,649
Forestry, forest products, and timber tract production	652	652	1,610	391	991	1,368	14,062
Sugarcane and sugar beet farming	456	173	694	206	351	13,671	16,150
Poultry and egg production	376	169	562	68	171	812	2,546
Animal production, excluding cattle, poultry, and eggs	247	13	265	132	143	6,033	6,204
All other crop farming	217	127	378	66	166	1,271	2,979
Commercial fishing	164	22	193	121	139	7,691	7,946
Cotton farming	40	38	92	20	51	228	742
Grain farming	14	10	27	5	12	265	392
Tobacco farming	14	10	26	2	10	254	389
Tree nut farming	2	1	4	1	2	16	37
Oilseed farming	2	2	4	1	2	23	46
Agricultural Inputs & Services	**13,759**	**7,837**	**23,547**	**4,981**	**10,419**	**137,880**	**213,274**
Fertilizer manufacturing	5,085	4,096	9,796	744	3,180	5,022	37,753
Landscape services	4,788	1,970	7,433	2,444	4,019	81,759	104,458
Veterinary services	1,919	824	3,111	881	1,591	25,443	35,363
Pest control services	1.466	603	2,275	748	1,230	25,028	31,977
Pesticide and other agricultural chemical manufacturing	419	309	813	134	347	273	3,074
Farm machinery and equipment manufacturing	68	34	105	28	49	320	614
Lawn and garden equipment manufacturing	13	0	14	2	2	34	35

Industry Group / Sector	Industry Output	Foreign and Domestic Exports	Total Output Impacts	Direct Value Added	Value Added Impacts	Direct Employment	Employment Impacts
		(2008 U.S. million dollars)				*(full-time and part-time jobs)*	
Food & Kindred Products Manufacturing	**23,034**	**10,629**	**34,637**	**4,757**	**11,167**	**42,437**	**135,200**
Soft drink and ice manufacturing	4,730	3,937	8,153	571	2,373	7,331	30,810
Tobacco products manufacturing	4,332	679	5,143	1,472	1,948	2,224	8,560
Fruit and vegetable canning, pickling, and drying	2,394	2,084	4,680	476	1,761	3,358	20,986
Sugar manufacturing	1,490	1,134	3,338	188	1,140	1,934	20,687
Fluid milk and butter manufacturing	1,174	11	1,189	147	155	1,870	1,988
Bread and bakery product manufacturing	1,122	29	1,160	306	328	7,425	7,736
Animal (excluding poultry) slaughtering, rendering, and processing	1,061	94	1,162	105	156	2,381	•
Breweries	992	763	1,854	303	811	961	7,854
Seafood product preparation and packaging	554	102	680	83	158	1,664	3,040
Seasoning and dressing manufacturing	539	23	563	72	85	1,198	1,372
Distilleries	473	383	1,041	266	631	314	5,461
Frozen food manufacturing	465	445	1,015	195	517	3,101	7,583
Snack food manufacturing	447	47	497	80	108	705	1,084
Poultry processing	442	28	472	76	91	1,976	2,192
All other food manufacturing	391	67	478	63	114	1,454	2,164
Coffee and tea manufacturing	372	37	423	66	96	622	1,054
Other animal food manufacturing	337	303	547	27	146	454	2,020
Cookie, cracker, and pasta manufacturing	327	7	335	58	63	882	939
Ice cream and frozen dessert manufacturing	245	2	247	35	36	490	504
Flavoring syrup and concentrate manufacturing	234	3	236	32	34	86	103
Non-chocolate confectionery manufacturing	225	93	329	41	98	675	1,428
Confectionery manufacturing from purchased chocolate	198	102	308	22	81	612	1,394

Industry Group / Sector	Industry Output	Foreign and Domestic Exports	Total Output Impacts	Direct Value Added	Value Added Impacts	Direct Employment	Employment Impacts
			(2008 U.S. million dollars)			*(full-time and part-time jobs)*	
Flour milling and malt manufacturing	163	136	338	28	130	177	1,472
Dog and cat food manufacturing	116	64	171	16	46	112	518
Wineries	66	30	107	12	36	175	498
Chocolate and confectionery from cacao beans	48	14	63	4	12	83	196
Cheese manufacturing	47	1	48	5	6	59	65
Dry, condensed, and evaporated dairy product manufacturing	25	6	31	2	6	30	83
Fats and oils refining and blending	16	4	18	1	2	12	26
Tortilla manufacturing	12	0	12	3	3	72	72
Forest Products Manufacturing	**8,191**	**4,850**	**13,972**	**2,224**	**5,558**	**26,399**	**70,696**
Paper mills	1,614	1,586	3,825	379	1,646	2,221	18,800
Sanitary paper product manufacturing	1,157	695	1,801	288	658	1,643	6,611
Paperboard container manufacturing	1,142	1,134	2,219	258	894	3,285	11,857
Wood windows and doors and millwork manufacturing	1,010	12	1,026	346	355	5,288	5,414
Engineered wood member and truss manufacturing	930	355	1,420	343	355	5,288	5,414
Sawmills and wood preservation	743	57	832	178	229	2,700	3,354
Pulp mills	401	401	1,005	90	433	558	5,053
Stationery product manufacturing	320	307	647	76	270	1,038	3,639
Veneer and plywood manufacturing	187	12	206	68	79	965	1,106
Coated and laminated paper and packaging manufacturing	182	182	364	42	145	440	1,819
Wood container and pallet manufacturing	170	3	174	65	68	1,403	1,439
All other paper bag and coated and treated paper manufacturing	132	15	146	30	38	394	508
All other converted paper product manufacturing	82	82	175	19	74	312	1,055
All other miscellaneous wood product manufacturing	73	6	82	28	33	444	510

Industry Group / Sector	Industry Output	Foreign and Domestic Exports	Total Output Impacts	Direct Value Added	Value Added Impacts	Direct Employment	Employment Impacts
			(2008 U.S. million dollars)			*(full-time and part-time jobs)*	
Reconstituted wood product manufacturing	47	2	49	15	16	160	177
Mining	**4,413**	**2,217**	**7,583**	**1,544**	**3,401**	**11,877**	**37,207**
Extraction of oil and natural gas	2,627	761	3,803	490	1,166	6,871	15,862
Mining and quarrying stone	611	567	1,404	390	860	1,453	8,010
Mining and quarrying other nonmetallic minerals	430	269	807	257	482	1,513	4,611
Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals	265	265	626	154	368	1,157	4,115
Drilling oil and gas wells	182	172	395	88	212	374	2,076
Mining gold, silver, and other metal ore	92	17	115	60	74	66	249
Mining copper, nickel, lead, and zinc	70	31	117	47	76	75	460
Mining iron ore	61	61	137	33	78	71	678
Support activities for oil and gas operations	55	55	134	20	66	248	883
Support activities for other mining	19	19	45	6	21	49	265
Nature-Based Recreation	**1,970**	**1,071**	**3,667**	**1,301**	**2,322**	**26,929**	**41,724**
Golf courses	1,393	761	2,594	909	1,636	4,418	6,577
Recreational fishing	290	158	540	189	341	1,302	3,575
Commercial hunting and trapping	287	152	532	202	345	21,209	31,571
Subtotal, Excluding Food & Kindred Products Distribution	**62,666**	**33,127**	**103,634**	**21,387**	**44,771**	**418,003**	**763,064**
Food & Kindred Products Distribution	**65,344**	**12,291**	**84,038**	**37,332**	**48,613**	**947,374**	**1,106,477**
Food services and drinking places	39,339	7,684	50,472	20,077	26,724	653,894	746,925
Wholesale trade, food, and kindred products	13,389	3,559	19,227	8,696	12,268	74,727	125,708
Retail stores (food and beverages)	11,194	927	12,718	7,565	8,505	202,339	215,695
Retail lawn and garden centers	1,422	122	1,620	994	1,116	16,414	18,148
Grand Total	**128,010**	**45,418**	**187,672**	**58,619**	**93,384**	**1,365,377**	**1,869,541**

Source: *IMPLAN Professional* data for Florida (MIG, Inc. 2007).
Impact estimates include regional multiplier effects.Values expressed in 2008 U.S. million dollars using GDP implicit price deflator (U.S. Commerce Department).

Table 2. Economic contributions in Florida regions by agricultural, natural resource, and food and kindred product manufacturing, distribution, and service industries in 2007.

Industry Group	Miami–Ft. Lauderdale	Orlando	Tampa–St. Petersburg	Jacksonville	Sarasota–Bradenton	Gainesville	Pensacola	Tallahassee	Panama City
Output Impacts (*million $*)	**56,263**	**44,901**	**33,599**	**21,693**	**15,511**	**5,033**	**4,734**	**4,655**	**2,526**
Agricultural inputs & services	4,508	8,704	4,352	1,015	2,058	217	343	1,211	182
Crop, livestock, forestry & fisheries production	7,044	4,685	1,666	944	2,655	1,595	275	560	471
Food & kindred products distribution	30,046	20,583	12,390	6,448	6,846	1,500	2,947	1,286	1,014
Food & kindred products manufacturing	10,443	7,162	7,771	8,758	2,081	891	220	341	17
Forest products manufacturing	1,907	2,345	1,326	4,059	354	690	791	1,091	736
Mining	1,020	827	5,854	258	566	120	118	93	49
Nature-based recreation	1,294	596	240	211	950	19	41	72	57
Employment Impacts (*jobs*)	**596,271**	**458,740**	**301,786**	**166,391**	**184,877**	**51,758**	**56,959**	**43,047**	**26,290**
Agricultural inputs & services	57,463	63,979	32,829	12,377	24,207	2,747	5,270	6,449	1,785
Crop, livestock, forestry & fisheries production	95,292	63,980	30,244	7,504	39,699	14,125	2,990	6,195	4,251
Food & kindred products distribution	367,900	274,290	168,133	86,701	97,194	25,101	42,993	22,346	15,693
Food & kindred products manufacturing	46,604	31,283	29,662	37,009	8,732	4,568	839	1,276	70
Forest products manufacturing	9,481	12,696	6,756	19,160	1,854	4,304	3,621	5,305	3,568
Mining	5,278	5,002	30,686	1,209	2,893	654	533	701	247
Nature-based recreation	14,253	7,508	3,476	2,432	10,297	259	713	775	676
Value-Added Impacts (*million $*)	**29,821**	**22,035**	**15,393**	**10,661**	**8,408**	**2,350**	**2,433**	**1,951**	**1,236**
Agricultural inputs & services	2,292	3,427	1,860	519	1,051	95	175	357	70
Crop, livestock, forestry & fisheries production	4,286	2,801	958	551	1,587	831	148	318	254
Food & kindred products distribution	17,858	11,759	7,076	3,714	3,964	813	1,666	681	568
Food & kindred products manufacturing	3,240	2,296	2,411	3,955	744	238	54	77	4

Industry Group	Miami–Ft. Lauderdale	Orlando	Tampa–St. Petersburg	Jacksonville	Sarasota–Bradenton	Gainesville	Pensacola	Tallahassee	Panama City
Forest products manufacturing	725	912	522	1,636	135	289	304	419	277
Mining	591	469	2,417	151	315	71	60	53	26
Nature-based recreation	828	371	149	135	611	12	26	47	37

Source: *IMPLAN Professional* data for Florida (MIG, Inc. 2008).
Impact estimates include regional multiplier effects.Values expressed in 2008 U.S. million dollars using GDP implicit price deflator (U.S. Commerce Department).

Table 3. Economic impacts in Florida counties by agricultural, natural resource, and food and kindred product manufacturing, distribution, and service industries in 2007.

County	Industry Output	Output Impacts	Direct Value Added	Value-Added Impacts	Direct Employment	Employment Impacts
	(2007 U.S. million dollars)		*(2007 U.S. million dollars)*		*(full-time and part-time jobs)*	
Alachua	1,283.5	1,861.5	623.5	990.4	19,026	24,878
Baker	1,283.5	1,359.7	623.5	665.7	19,026	19,796
Bay	1,152.2	1,724.6	522.4	876.6	13,105	18,212
Bradford	174.9	192.5	72.5	82.2	1,413	1,580
Brevard	1,937.2	2,329.5	991.2	1,223.1	29,061	32,747
Broward	9,532.5	112,982.2	4,867.2	6,874.4	110,708	137,512
Calhoun	95.7	140.0	48.3	73.7	722	1,164
Charlotte	597.7	752.9	310.6	405.5	8,811	10.495
Citrus	335.3	389.8	176.2	208.4	5,866	6,472
Clay	600.9	741.2	306.7	388.4	8,550	9,794
Collier	2,394.0	3,523.8	1,402.6	2,111.1	34,169	45,019
Columbia	344.3	484.9	148.9	226.8	3,775	5,016
DeSoto	370.8	533.4	198.4	297.2	6,269	9,097
Dixie	187.4	263.3	67.9	107.2	1,861	2,500
Duval	9,569.7	15,860.7	3,973.0	7,838.5	65,752	112,440
Escambia	1,612.7	2,353.0	714.3	1,163.4	18,610	24,972
Flagler	269.2	356.6	142.7	196.9	4,008	4,859
Franklin	50.8	70.3	26.3	38.3	813	1,006
Gadsden	259.9	357.0	122.0	179.2	3,697	4,842
Gilchrist	176.5	237.4	62.5	94.0	1,040	1,709
Glades	124.8	188.5	55.9	92.7	972	1,663
Gulf	73.7	100.1	35.1	51.3	724	988
Hamilton	678.4	942.2	110.3	186.3	1,110	2,156
Hardee	398.1	612.3	199.4	331.8	5,602	8,839
Hendry	1,285.9	1,917.9	499.5	859.6	12,029	21,768
Hernando	481.1	591.0	248.3	312.9	7,888	9,079

County	Industry Output	Output Impacts	Direct Value Added	Value-Added Impacts	Direct Employment	Employment Impacts
Highlands	797.4	1,221.6	401.7	650.1	10,561	16,854
Hillsborough	12,824.5	20,655.2	4,970.0	9,456.7	113,167	172,481
Holmes	93.0	120.0	37.6	51.0	826	1,075
Indian River	933.6	1,333.4	520.0	767.1	13,954	18,340
Jackson	228.2	311.4	98.8	145.9	869	1,235
Jefferson	91.2	127.4	42.7	77.2	869	1,235
Lafayette	93.5	130.2	34.7	54.8	678	1,069
Lake	1,499.8	1,994.3	673.9	954.3	16,765	21,661
Lee	3,136,9	4,375.2	1,695.8	2,451.1	40,818	51,711
Leon	1,169.7	1,438.8	588.9	756.6	19,915	22,640
Levy	250.2	361.7	124.0	187.9	2,514	3,798
Liberty	217.9	307.4	72.0	121.3	863	1,522
Madison	225.7	310.8	69.3	110.7	1,174	1,942
Manatee	2,912.8	4,333.7	1,237.7	2,052.2	26,363	39,628
Marion	1,626.6	2,220.7	740.3	1,072.3	21,287	27,109
Martin	1,093.8	1,575.7	577.0	873.2	14,077	18,791
Miami–Dade	14,496.9	21,206.4	7,305.7	11,366.5	150,852	204,104
Monroe	768.4	1,203.3	452.2	741.9	10,061	13,806
Nassau	970.8	1,400.2	370.1	615.9	5,320	9,019
Okaloosa	1,013.0	1,401.0	504.7	759.3	15,322	18,890
Okeechobee	476.2	701.6	166.8	289.0	4,059	6,615
Orange	9,587.3	14,719.5	4,796.2	7,814.6	107,404	147,289
Osceola	1,132.8	1,616.9	596.7	893.1	15,723	20,458
Palm Beach	9,161.1	13,154.0	4,569.7	6,944.3	111,010	147,783
Pasco	1,394.4	1,698.6	650.9	820.2	19,556	22,463
Pinellas	7,086.1	10,709.0	2,766.6	4,784.1	65,494	93,861
Polk	6,995.6	11,424.8	2,203.5	4,405.8	44,313	78,454
Putnam	1,075.8	1,542.2	332.8	586.5	4,679	8,633

County	Industry Output	Output Impacts	Direct Value Added	Value-Added Impacts	Direct Employment	Employment Impacts
Santa Rosa	417.3	505.9	198.7	251.3	5,789	6,599
Sarasota	1,801.2	2,207.4	991.6	1,235.8	25,736	29,299
Seminole	2,308.8	3,109.3	1,199.7	1,669.5	30,161	37,086
St. Johns	1,019.5	1,346.0	533.6	736.8	13,685	16,795
St. Lucie	1,402.5	2,046.1	684.9	1,083.5	17,793	24,704
Sumter	413.0	560.7	141.6	211.1	3,632	4,804
Suwannee	756.1	1,146.3	245.1	414.3	4,711	7,736
Taylor	590.3	831.4	178.3	307.7	1,982	3,916
Union	98.0	133.6	29.2	45.3	526	780
Volusia	1,998.3	2,593.1	1,005.2	1,357.8	29,419	35,204
Wakulla	89.9	111.9	36.4	48.6	1,204	1,459
Walton	374.1	546.9	189.0	288.5	4,939	6,504
Washington	117.9	162.0	35.7	55.2	1,044	1,426

Source: *IMPLAN Professional* data for Florida (MIG, Inc. 2008).
Impact estimates include regional multiplier effects.Values expressed in 2007 million dollars using GDP implicit price deflator (U.S. Commerce Department).

Table 4. Economic impacts during 2001–2007 by agricultural, natural resource, and food and kindred product manufacturing, distribution, and service industry groups in Florida.

Industry Group	Years 2001–2007*						Average Annual Percentage Change	
	2001	2002	2003	2004	2006	2007	2001–07	2006–07
Output Impacts (*2008 million dollars*)	**142,068**	**140,187**	**164,302**	**180,764**	**179,546**	**187,672**	**5.4%**	**4.5%**
Food & kindred products distribution	65,691	60,113	67,704	75,358	76,586	84,038	4.7%	9.7%
Food & kindred products manufacturing	26,582	26,816	37,456	37,408	37,197	34,637	5.1%	–6.9%
Agricultural inputs & services	18,403	19,527	17,695	21,076	19,420	20,229	1.7%	4.2%
Crop, livestock, forestry & fisheries production	12,330	14,189	18,980	21,009	21,538	23,547	15.2%	9.3%
Forest products manufacturing	10,739	11,591	13,601	14,906	15,360	13,972	5.0%	–9.0%
Nature-based recreation	4,607	5,196	5,052	5,910	4,820	3,667	–3.4%	64.0%
Mining	3,717	2,755	3,812	5,007	4,625	7,583	17.3%	64.0%
Value-Added Impacts (*2008 million dollars*)	**76,485**	**76,178**	**85,510**	**90,126**	**89,726**	**93,384**	**3.7%**	**4.1%**
Food & kindred products distribution	37,557	35,498	39,970	42,650	44,097	48,613	4.9%	10.2%
Food & kindred products manufacturing	12,036	12,373	15,453	14,693	14,118	11,167	–1.2%	–20.9%
Agricultural inputs & services	11,299	10,942	11,142	11,811	10,567	11,903	0.9%	12.6%
Crop, livestock, forestry & fisheries production	6,454	7,273	8,534	8,877	9,384	10,419	10.2%	11.0%
Forest products manufacturing	4,715	5,300	5,858	6,407	6,684	5,558	3.0%	–16.9%
Nature-based recreation	2,845	3,116	3,141	3,670	2,896	2,322	–3.1%	–19.8%
Mining	1,580	1,676	1,711	2,018	1,980	3,401	19.2%	71.8%
Employment Impacts (*full-time & part-time jobs*)	**1,695,234**	**1,687,153**	**1,746,184**	**1,820,541**	**1,774,877**	**1,869,541**	**1.7%**	**5.3%**
Food & kindred products distribution	1,003,342	961,456	988,417	1,047,971	1,022,024	1,106,477	1.7%	8.3%
Food & kindred products manufacturing	251,691	262,253	252,062	252,074	238,237	264,964	0.9%	11.2%
Agricultural inputs & services	150,512	162,287	173,416	185,254	200,945	213,274	6.9%	6.1%
Crop, livestock, forestry & fisheries production	148,588	153,751	184,244	174,727	165,849	135,200	–1.5%	–18.5%
Forest products manufacturing	69,825	73,547	77,512	80,141	80,236	70,696	0.2%	–11.9%
Nature-based recreation	48,409	51,815	49,943	54,929	45,850	41,724	–2.3%	–9.0%
Mining	22,866	22,043	20,590	25,444	21,737	37,207	10.5%	71.2%

Source: *IMPLAN Professional* data for Florida (MIG, Inc. 2008).
* Data were unavailable for 2005Impact estimates include multiplier effects.Values expressed in 2008 U.S. million dollars using GDP implicit price deflator (U.S. Commerce Department).

Table 5. Economic impacts during 2001–2007 by agricultural commodity groups in Florida.

Commodity Group	Years 2001–2007*						Average Annual Percentage Change	
	2001	2002	2003	2004	2006	2007	2001–07	2006–07
Output Impacts (*2008 million dollars*)								
Environmental horticulture (nursery & greenhouse, landscape services)	8,245	9,017	10,003	10,443	12,351	12,913	9.4%	4.6%
Fruit & vegetable farming & processing	11,248	14,016	13,779	14,035	12,713	13,248	3.0%	4.2%
Forestry, wood & paper products manufacturing	12,414	13,166	15,184	16,963	17,635	16,462	5.4%	–6.7%
Sugarcane farming, refined sugar & confections	4,122	4,401	4,995	4,813	3,870	4,033	–0.4%	4.2%
Livestock & dairy farming & animal products manufacturing	5,159	4,903	5,230	5,707	5,466	5,228	0.2%	–4.3%
Fishing & seafood products	1,135	1,224	1,161	1,332	946	873	–3.8%	–7.7%
Grain & oilseed farming & processing	422	204	193	239	322	386	–1.4%	20.1%
Value-Added Impacts (*2008 million dollars*)								
Environmental horticulture (nursery & greenhouse, landscape services)	6,003	6,222	6,647	6,264	7,541	7,682	4.7%	4.6%
Fruit & vegetable farming & processing	6,449	7,657	7,770	7,828	6,675	6,613	0.4%	4.2%
Forestry, wood & paper products manufacturing	5,625	5,932	6,551	7,071	7,367	7,051	4.2%	–6.7%
Sugarcane farming, refined sugar & confections	1,835	1,846	2,009	1,896	1,454	1,491	–3.1%	4.2%
Livestock & dairy farming & animal products manufacturing	1,438	1,214	1,265	1,417	1,135	1,217	–2.6%	–4.3%
Fishing & seafood products	431	477	451	413	226	297	–5.2%	–7.7%
Grain & oilseed farming & processing	241	94	81	100	139	146	–6.5%	20.1%
Employment Impacts (*full-time & part-time jobs*)								
Environmental horticulture (nursery & greenhouse, landscape services)	123,243	127,115	127,478	132,098	150,234	158,829	4.8%	–17.9%
Fruit & vegetable farming & processing	88,309	112,013	102,815	97,577	93,389	104,082	3.0%	11.4%
Forestry, wood & paper products manufacturing	86,179	82,016	86,493	89,960	91,902	89,407	0.6%	–2.7%
Sugarcane farming, refined sugar & confections	34,906	48,038	52,778	47,022	33,019	36,837	0.9%	11.6%
Livestock & dairy farming & animal products manufacturing	39,770	32,244	31,118	33,030	27,684	27,960	–4.9%	1.0%
Fishing & seafood products	12,895	14,530	13,905	12,364	10,730	10,986	–2.5%	2.4%
Grain & oilseed farming & processing	5,157	1,287	1,143	1,324	1,667	1,936	–10.4%	16.2%

Source: *IMPLAN Professional* data for Florida (MIG, Inc. 2008).
* Data were unavailable for 2005Impact estimates include multiplier effects.Values expressed in 2008 U.S. million dollars using GDP implicit price deflator (U.S. Commerce Department).