
**The Economic Impact of
Georgia's Deepwater Ports
On Georgia's Economy in FY 2009**

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Executive Summary

This summary highlights some of the findings regarding the economic impact of Georgia's deepwater ports on Georgia's economy in fiscal year 2009. The ensuing sections contain the comprehensive technical report.

The statewide economic impact of Georgia's deepwater ports in fiscal year 2009 includes:

- **\$61.7 billion in sales (8.6 percent of Georgia's total sales);**
- **\$26.8 billion in state GDP (6.8 percent of Georgia's total GDP);**
- **\$15.5 billion in income (4.6 percent of Georgia's total personal income);**
- **295,443 full- and part-time jobs (6.7 percent of Georgia's total employment);**
- **\$3.5 billion in federal taxes;**
- **\$1.5 billion in state taxes; and**
- **\$1.1 billion in local taxes.**

These economic impacts demonstrate that continued emphasis on imports and exports through Georgia's deepwater ports translates into jobs, higher incomes, greater production of goods and services, and revenue collections for government. Ports operations help to preserve Georgia's manufacturing base, and foster growth of the state's massive logistics, distribution, and warehousing cluster.

Output Impacts

Measured in the simplest and broadest terms, the total economic impact of Georgia's deepwater ports on Georgia's economy is \$61.7 billion, which is 8.6 percent of Georgia's output in FY 2009. Out of the total, \$36.5 billion represents initial spending, or direct economic impact; \$25.1 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2009 total output impact (\$61.7 billion) by initial spending (\$36.5 billion) yields an average multiplier value of 1.688. On average, therefore, every dollar initially spent by the ports industry and ports users generates an additional 69 cents for the state's economy.

State GDP (Value Added) Impacts

Measured in terms of GDP or value added, Georgia's deepwater ports contribute \$26.8 billion to the state's economy in fiscal year 2009, which is 6.8 percent of Georgia's total GDP. Out of the total, \$13.2 billion represents the direct effects of initial spending, or the direct economic impact; \$13.6 billion is indirect and induced spending, or the re-spending (multiplier) impact.

Income Impacts

Measured in terms of income, Georgia's deepwater ports contributed \$15.5 billion to the state's economy in fiscal year 2009, which is 4.6 percent of Georgia's total personal income. Of the total, \$7.8 billion represents the

direct effects of initial spending, or the direct economic impact; \$7.7 billion is indirect and induced spending, or the re-spending (multiplier) impact.

Employment Impacts

The economic impact of Georgia's deepwater ports probably is most easily understood in terms of its effects on employment. Measured in these terms, Georgia's deepwater ports support 295,443 full- and part-time jobs, which is 6.7 percent of Georgia's total employment (as defined by a survey of households). This means that one job out of every fifteen is in some way dependent on the ports. Of the FY 2009 total employment impact, 128,733 jobs represent the direct effects of initial spending, or the direct economic impact; 166,710 jobs constitute the indirect and induced effect of spending, or the re-spending impact.

Tax Impacts

State: The total economic impact of Georgia's deepwater ports on tax collections by state government in fiscal year 2009 is \$1.5 billion.

Local: The total economic impact of Georgia's deepwater ports on tax collections by local governments in fiscal year 2009 is \$1.1 billion.

Federal: The total economic impact of Georgia's deepwater ports on tax collections by the federal government in fiscal year 2009 is \$3.5 billion.

Deepwater ports are one of Georgia's strongest economic engines, fostering the development of virtually every industry. The ports are especially supportive of other forms of transportation, manufacturing, wholesale/distribution centers, and agriculture. The outstanding performance of Georgia's deepwater ports relative to other American ports reflects strong competitive advantages that allowed Georgia's ports to expand their share of activities. These advantages are largely the result of strategic investments in port facilities by the State of Georgia over many years. As the state and national economies gain momentum, Georgia's deepwater ports will thrive, generating even more substantial economic impacts in future fiscal years.

Introduction

Georgia's deepwater ports industry consists of public marine terminals in Savannah and Brunswick owned by the Georgia Ports Authority as well as private marine terminals. Georgia's deepwater ports are thriving, and Savannah's port is one of the fastest growing container ports in the world. The superb performance of Georgia's ports relative to other ports reflects strong comparative advantages that allowed them to expand their shares of regional and national waterborne cargo traffic. These comparative advantages are the result of a series of strategic expansions over many years.

It is obvious that Georgia's deepwater ports create substantial economic impacts on the state in terms of output (sales), state GDP, income, employment, and tax revenues for federal, state, and local governments. Nonetheless, this study provides a quantitative assessment of the changes in overall economic activity as a result of the presence and operations of Georgia's deepwater ports in fiscal year 2009.

The facilities owned by the Georgia Ports Authority in Savannah and Brunswick will be referred to as the Port of Savannah and the Port of Brunswick, respectively; and cargo volumes, expenditures, and impact estimates for these facilities will be reported separately from those for private facilities/docks. The amounts expressed in this report (including the executive summary and appendices) are reported in current dollars (2009).

Economic Impact Highlights

The fundamental finding of this study is that the strategic decisions by state government to invest public resources in the two deepwater ports have contributed to substantial economic activity in Georgia. The statewide economic impact of the deepwater ports in fiscal year 2009 includes:

- \$61.7 billion in sales (8.6 percent of Georgia's total sales);
- \$26.8 billion in state GDP (6.8 percent of Georgia's total GDP);
- \$15.5 billion in income (4.6 percent of Georgia's total personal income);
- 295,443 full- and part-time jobs (6.7 percent of Georgia's total employment);
- \$3.5 billion in federal taxes;
- \$1.5 billion in state taxes; and
- \$1.1 billion in local taxes.

Measured in the simplest and broadest possible terms, the total economic impact of Georgia's deepwater ports on Georgia's economy is \$61.7 billion. This amount represents the combined impact of the ports industry and ports users on output, which can be thought of as the equivalent of business revenue, sales, or gross receipts. The \$61.7 billion output impact accounts for 8.6 percent of Georgia's total output in FY 2009. Out of the \$61.7 billion, \$3.2 billion (5 percent) represents the results from the ports industry and \$58.5 billion (95 percent) represents the results from ports users.

Of the FY 2009 total output impact, \$36.5 billion represents initial spending, or direct economic impact; and \$25.1 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2009 total output impact (\$61.7 billion) by initial spending (\$36.5 billion) yields an average multiplier value of 1.688. On average, therefore, every dollar initially spent by either the ports industry and ports users generates an additional 69 cents for the economy.

Expressed in other dimensions, the ports industry and port users together support \$26.8 billion in state GDP and \$15.5 billion in income, which account for 6.8 percent and 4.6 percent of Georgia's GDP and total personal income, respectively. The total economic impact on employment is 295,443 full- and part-time jobs. The combined impact of the ports industry and ports users on state tax collections is \$1.5 billion. The combined impact of the ports industry and ports users on local tax collections is \$1.1 billion. The combined impact on federal tax collections is \$3.5 billion.

The distribution of total economic impacts of cargo-based activity at the Georgia Ports Authority's facilities in Savannah and Brunswick by mode of cargo indicates that containerized cargo accounts for 91 percent of the reported economic impacts. Breakbulk cargo accounts for 4 percent of the reported impacts, and auto/vehicle cargo accounts for 3 percent of the reported impacts. Liquid bulk and dry bulk cargoes each account for about 1 percent of reported impacts.

The Concept of Port Economic Impact

The total economic impact of Georgia's deepwater ports consists of (1) direct spending by the ports industry, (2) direct spending by ports users, and (3) the secondary or indirect and induced spending—often referred to as the multiplier effects—created as direct expenditures by either the ports industry or ports users are re-spent.

The ports industry is defined to include economic activity (spending) that involves the transportation of waterborne cargo and ports services, including the ports themselves, the companies engaged in deepwater transportation as well as companies that provide ship services, and companies that provide inland transportation of waterborne cargo. Ports investment (capital expenditures) for additions and/or improvements to Georgia's deepwater ports also are included as part of the ports industry. This definition of the ports industry is identical to the definition used by the U.S. Department of Transportation, Maritime Administration in the MARAD Port Economic Impact Kit. Thus, the ports industry includes activities that take place on the vessel, at the terminal, and during the inland movement of cargo. Since the firms and enterprises that provide these activities locate in Georgia because of the existence of the ports, all of their activity (spending) can be counted as direct economic impact.

Ports users are mainly manufacturers, wholesalers, distributors, and warehousing and storage firms that use the ports to transport materials and/or products. Although most users are importers and exporters, some ship materials or products to and/or from domestic locations. All of the economic activity (spending) generated by ports users whose decision to locate, remain, and/or expand in Georgia hinges on the presence of these deepwater ports can be counted as direct economic impact. But since most ports users are only partially dependent on the presence of Georgia's deepwater ports, only a portion of their total economic activity is counted as direct economic impact. For example, firms that use Georgia's deepwater ports due to cost advantages over other ports or other modes of transportation are only partially dependent on Georgia's ports. Also, users that only ship a portion of their production and materials through Georgia's deepwater ports are only partially dependent on the ports. To avoid double counting, ports users' activity is defined to exclude their transportation expenditures associated with the waterborne cargo that is handled by Georgia's ports industry.

Secondary spending often is referred to as the multiplier effect of direct spending. There are two types of secondary spending: indirect spending and induced spending. Indirect spending refers to the changes in inter-industry purchases as Georgia's industries respond to the additional demands triggered by spending by either the ports industry or ports users. It consists of the ripples of activity that are created when the ports industry or ports users purchase goods or services from other industries located in the state. Induced spending refers to the additional demands triggered by spending by households as their income increases due to changes in production. Basically, the induced impact captures the ripples of activity that are created when households spend more due to the increases in their earnings that were generated by the direct and indirect spending.

The sum of the direct, indirect, and induced economic impacts is the total economic impact, which often is expressed in terms of output (sales), state GDP, income, or employment. Output is gross receipts or sales, plus or minus inventory. Total output impacts are the most inclusive, largest, measure of economic impact. Because of their

size, output impacts typically are emphasized in economic impact studies and receive much media attention. One problem with output as a measure of economic impact, however, is that it includes the value of inputs produced by other industries, which means that there inevitably is some double counting of economic activity. The other measures of economic impact (GDP, income, and employment) are free from double counting and provide a much more realistic measure of the true economic impact of Georgia's deepwater ports.

State GDP is value added, which consists of employee compensation, proprietor income, other property income, and indirect business taxes. Value added is equivalent to gross output (sales or receipts and other operating income, commodity taxes, and inventory change) minus intermediate inputs (consumption of goods and services purchased from other industries or imported). It is often referred to as the state-level counterpart of the nation's gross domestic product (GDP). Income is all forms of employment income, including wages, salaries, and proprietors' incomes. It does not include non-wage compensation (e.g., pensions and health insurance), transfer payments (e.g., welfare or social security benefits), or unearned income (e.g., dividends, interest, and rent). Employment includes total wage and salary employees as well as self-employed individuals. It encompasses both full- and part-time jobs and is measured in annual average jobs.

Methodology

Estimating the economic impact of Georgia's deepwater ports involved two distinct steps. First, data regarding tonnage by type and capital expenditures were obtained from the Georgia Ports Authority. The tonnage and capital expenditure data were imported into the U.S. Department of Transportation's MARAD Port Economic Impact Kit to estimate the direct, indirect, induced, and total economic impacts of the ports industry. Second, ports users' spending was estimated. Ports users were surveyed in 2003 to determine the degree to which they depend on Georgia's deepwater ports. To help correct for non-response and/or incomplete responses and to update the analysis, several types of government and administrative data were used to assess the proportion of revenue or sales in various industries that could be attributed to ports usage. The IMPLAN Version 3.0 economic impact assessment software system was used to estimate the indirect and induced economic impacts of the ports-related portion of spending by users.

Estimating the Ports Industry's Economic Impact

A revised version of the U.S. Department of Transportation's MARAD port economic impact model that was built specifically for Georgia was used to estimate the direct, indirect, and induced economic impact of spending by the ports industry. A detailed discussion of the model, including its structure, methods, and use can be found in the two-volume *MARAD Port Economic Impact Kit*.

The Georgia Ports Authority provided the fiscal year 2009 data on cargo volume (import and export) by mode of transportation for the Savannah and Brunswick facilities that the MARAD model required. The cargo volume reported for the Port of Savannah includes data for the Garden City and Ocean terminals. The cargo volume reported for the Port of Brunswick includes data for Colonel's Island, Brunswick East River, Logistec (Marine Port Terminals), and the Mayor's Point Terminal. Table 1 summarizes cargo volume for cars, containerized cargo, breakbulk cargo, dry bulk cargo, and liquid bulk cargo. Cargo volume is expressed on a per-vehicle basis for auto/vehicle cargo; a per-TEU (Twenty Foot Equivalent Unit) basis for containerized cargo; and a per-short ton (2,000 pounds) for breakbulk, dry bulk, and liquid bulk. In addition, the Georgia Ports Authority provided estimates of cargo volume for the private facilities/docks based on an analysis of data obtained from PIERS, and the estimates are summarized in Table 2. The Georgia Ports Authority also provided capital expenditures (ports investment) in FY 2009 for the facilities that it owns. Capital expenditures by the private facilities/docks are not included in this analysis, however.

Estimating the Ports Users' Economic Impact

A confidential survey of the entire population of current users of the Georgia Ports Authority's facilities was conducted in 2003 to identify the industries that utilize the ports, their sales, and the extent to which they depend on the

ports. *The Economic Impact of Georgia's Deepwater Ports on Georgia's Economy in FY 2003* (April 2004) contains both the survey instrument and a brief summary of responses. Secondary sources of information supplemented and updated the information obtained from the survey. These secondary sources include: (1) The U.S. Department of Commerce, Bureau of Economic Analysis' historical data on gross domestic product and output, gross state product, and personal income (estimates for 2009 were prepared by the Selig Center). (2) The U.S. Department of Labor's and the Georgia Department of Labor's historical data on employment by industry. (3) U.S. Department of Transportation, Maritime Administration, Office of Ports and Domestic Shipping on the economic impact of ports users at the national level. (4) A study of the economic impacts of the U.S. Deepwater Port System prepared for the American Association of Port Authorities. (5) The Georgia Department of Community Affairs and the Department of Industry Trade and Tourism's summary information from their survey of manufacturers regarding their international trade activity and current and future exports of their products.

Based on an analysis of both the survey and secondary information sources, it was determined that port-related sales (output) totaled \$34.5 billion in Georgia in fiscal year 2009, or about 4.8 percent of Georgia's total output that year. Manufacturers were estimated to account for about 75 percent of port-related sales, while wholesale/distribution/warehousing/storage activities accounted for about 19 percent of port-related sales, and agriculture, forestry, and mining accounted for the remaining 6 percent.

The IMPLAN Version 3.0 modeling system was used to estimate the indirect and induced economic impact of ports users' direct expenditures. A detailed discussion of the IMPLAN modeling system, including its structure, methods, and use, can be found at www.implan.com.

The Results

The total economic impact of Georgia's deepwater ports on output, GDP, income, and employment is summarized in Table 3. The direct, indirect plus induced, and the total economic impacts of Georgia's deepwater ports in terms of output, income, and gross state product are reported in Table 4. Similarly, Table 5 and Table 6 report the employment and tax impacts, respectively. Table 7 reports the overall multiplier values for output, employment, income, and GDP. Table 8 reports the total economic impacts of cargo-based activity by mode of cargo at the Georgia Ports Authority's operations in Savannah and Brunswick. Table 9 shows the ports industry's employment impact by occupation. Table 10 details the employment impact of port users by industry. More detailed tabulations of the economic impact of Georgia's deepwater ports are included in Appendix 1.

■ Output Impacts ■

Measured in the broadest terms, the total economic impact of the Port of Savannah and the Port of Brunswick on Georgia's economy is \$61.7 billion, which is 8.6 percent of Georgia's output in FY 2009.

Out of the total, \$3.2 billion (5 percent) represents the results from the ports industry, of which the GPA's operations at the Port of Savannah contribute 76 percent. Ports users' total output impact, however, is nineteen times greater than that of the ports industry – \$58.5 billion. Indeed, ports users account for almost 95 percent of the total output impact of Georgia's deepwater ports.

Of the FY 2009 total output impact, \$36.5 billion represents initial spending, or direct economic impact; \$25.1 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2009 total output impact (\$61.7 billion) by initial spending (\$36.5 billion) yields an average multiplier value of 1.688. On average, therefore, every dollar initially spent by either the ports industry or ports users generates an additional 69 cents for the state's economy.

■ GDP (Value Added) Impacts ■

Measured in terms of GDP or value added, Georgia's deepwater ports contributed \$26.8 billion to the state's

economy in FY 2009, which is 6.8 percent of Georgia's total GDP. Out of the total GDP impact, \$1.5 billion (6 percent) represents the results from the ports industry. The GPA's operations at the Port of Savannah contribute 77 percent of this \$1.5 billion. But the \$25.2 billion GDP impact attributed to ports users is sixteen times greater than that of the port industry, so users account for 94 percent of the total GDP impact of Georgia's deepwater ports.

Of the FY 2009 total GDP impact, \$13.2 billion represents the direct effects of initial spending, or the direct economic impact; \$13.6 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2009 total GDP impact (\$26.8 billion) by the direct GDP impact (\$13.2 billion) yields an average multiplier value of 2.028. On average, therefore, every dollar of direct GDP produced by the ports industry and ports users yields an additional 103 cents for the state's economy.

■ Income Impacts ■

Measured in terms of income, Georgia's deepwater ports contributed \$15.5 billion to the state's economy in fiscal year 2009, which is 4.6 percent of Georgia's total personal income. Out of the total, \$1.1 billion (7 percent) represents the results from the ports industry. The GPA's operations at the Port of Savannah contribute 77 percent of this \$1.1 billion, but ports users' \$14.4 billion income impact is almost thirteen times greater. Indeed, users account for 93 percent of the total income impact of Georgia's deepwater ports.

Of the FY 2009 total income impact, \$7.8 billion represents the direct effects of initial spending, or the direct economic impact; \$7.7 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2009 total income impact (\$15.5 billion) by the direct income impact (\$7.8 billion) yields an average multiplier value of 1.994. On average, therefore, every dollar of direct income produced by the ports industry and ports users generates an additional 99 cents for the state's economy.

■ Employment Impacts ■

The economic impact of Georgia's deepwater ports probably is most easily understood in terms of its effects on employment. Measured in these terms, Georgia's deepwater ports support 295,443 full- and part-time jobs, which equal 6.7 percent of Georgia's total employment – based on the household survey definition of employment.

This means that one job out of every fifteen is in some way dependent on the ports. Out of the 295,443 jobs, 28,234 (10 percent) represent the results from the ports industry. The GPA's operations at the Port of Savannah contribute 77 percent of these 28,234 jobs, but ports users' 267,209-job impact is nine times greater, so users account for 90 percent of the total employment impact of Georgia's deepwater ports.

Of the FY 2009 total employment impact, 128,733 jobs represent the direct effects of initial spending, or the direct economic impact; 166,710 jobs constitute the indirect and induced effect of spending, or the re-spending (multiplier) impact. Dividing the FY 2009 total job impact (295,422 jobs) by the direct job impact (128,720 jobs) yields an average multiplier value of 2.295. On average, therefore, each job created directly by the ports industry and ports users yields an additional 1.3 jobs in the state.

■ State Tax Impact ■

Spending by the ports industry and ports users generate substantial tax revenue for Georgia's state government. The total economic impact of Georgia's deepwater ports on tax collections by state government in fiscal year 2009 is \$1.5 billion.

■ Local Tax Impact ■

Spending by the ports industry and ports users generate substantial tax revenue for Georgia's local governments. The total economic impact of Georgia's deepwater ports on tax collections by local governments in fiscal year 2009 is \$1.1 billion.

■ Federal Tax Impact ■

Spending by the ports industry and ports users generate substantial tax revenue for the federal government. The total economic impact of Georgia's deepwater ports on tax collections by the federal government in fiscal year 2009 is \$3.5 billion.

Comparisons to Previous Estimates

In 2007, the Georgia Ports Authority retained the University of Georgia's Terry College of Business to estimate the economic impact of Georgia's deepwater ports on the state's economy. Economic impact estimates for FY 2006 were published in *The Economic Impact of Georgia's Deepwater Ports on Georgia's Economy* (2007). The methods used were very similar to those used in this study. The FY 2006 impact of Georgia's deepwater ports were \$55.8 billion in sales, \$24.8 billion in state GDP, \$14.9 billion in income, and 286,476 full- and part-time jobs.

In 2004, the Georgia Ports Authority retained the University of Georgia's Terry College of Business and Savannah State University to estimate the economic impact of Georgia's deepwater ports on the state's economy. Economic impact estimates for FY 2003 were published in *The Economic Impact of Georgia's Deepwater Ports on Georgia's Economy in FY 2003* (April 2004). The study found that the FY 2003 impact of Georgia's deepwater ports were \$35.4 billion in sales, \$17.1 billion in gross state product, \$10.8 billion in income, and 275,968 full- and part-time jobs.

In 1997, Booz-Allen & Hamilton, Inc. conducted the study and published its results (for 1996) in *Economic Impacts of Georgia's Deepwater Ports of Savannah and Brunswick* (March 20, 1998). Instead of using actual cargo volumes and standard macroeconomic input-output modeling systems (e.g., MARAD Port Economic Impact Kit, IMPLAN, RIMS, or REMI) to measure direct, indirect, and induced economic impacts, Booz-Allen & Hamilton relied primarily on direct survey methods, which they said is "somewhat unique." Due to the unique character of their methods as well as the use of non-conventional definitions of standard economic impact terms, it is very difficult to make meaningful direct comparisons of their results to the results of this study, or to those of any other port economic impact study.

Booz-Allen & Hamilton found that the total economic impact of Georgia's deepwater ports on output (sales) and employment were \$22.3 billion and 76,672 jobs, respectively. Their estimates of the economic impact on tax collections by state and local governments was \$569 million, and that the economic impact on wages was \$1.7 billion. The estimates produced by the Terry College of Business (based on data for FY 2003) were considerably larger. The order of magnitude of Booz-Allen & Hamilton's output impact (\$22.3 billion), however, appears to be somewhat reasonable considering that: (1) the Port of Savannah and the Port of Brunswick both experienced exceptionally rapid growth in cargo volumes from 1996-2003 (implying that direct spending by the ports industry was much smaller in 1996 than it was in 2003); (2) Georgia's overall economy was much smaller in 1996 than it was in 2003 (implying that ports-related impacts were much smaller in 1996 than in 2003); (3) the survey-based approach did not capture all of the direct economic impacts; (4) the survey-based approach is incapable of capturing many of the indirect economic impacts; and (5) the survey-based approach does not capture any of the induced economic impacts.

In 1999, Georgia Southern University applied more conventional input-output modeling techniques to re-estimate the ports' 1996 economic impact. But it appears that they basically relied on Booz-Allen & Hamilton's estimate of direct economic impact. Nonetheless, Georgia Southern's use of the REMI model to re-estimate both the indirect and induced economic impacts more fully captured the indirect and induced economic impacts of the direct spending (as estimated by Booz-Allen & Hamilton). Consequently, their impact estimates were somewhat higher than those produced by Booz-Allen & Hamilton.

Closing Comment

This study investigates the economic impact of Georgia's deepwater ports, and finds substantial economic impacts in terms of output (gross receipts or sales), state GDP, income, employment, state and local tax revenues, and federal tax revenues. The findings are based on analytical methods that are standard in regional economics and economic consulting.

Table 1

**Cargo Volume by Mode of Transportation
at the Georgia Ports Authority's Facilities in Savannah and Brunswick
(Import and Export) in FY 2009**

Cargo Type	Mode	Cargo Volume ¹			Percent of Total by Mode
		Total	Savannah	Brunswick	
Autos	Long Dist. Truck	120,278	5,945	114,334	41
	Short Dist. Truck	85,750	0	85,750	29
	Rail	<u>87,236</u>	<u>1,486</u>	<u>85,750</u>	<u>30</u>
	Total	293,265	7,431	285,834	100
Containerized	Long Dist. Truck	986,992	986,991	1	41
	Short Dist. Truck	962,975	962,975	0	40
	Rail	<u>456,303</u>	<u>456,303</u>	<u>0</u>	<u>19</u>
	Total	2,406,271	2,406,270	1	100
Breakbulk	Long Dist. Truck	793,915	527,295	266,620	42
	Short Dist. Truck	619,891	410,341	209,550	33
	Rail	<u>459,677</u>	<u>237,372</u>	<u>222,305</u>	<u>25</u>
	Total	1,873,483	1,175,008	698,475	100
Dry Bulk	Long Dist. Truck	29,289	0	29,289	2
	Short Dist. Truck	502,499	65,260	437,239	36
	Rail	<u>857,997</u>	<u>0</u>	<u>857,997</u>	<u>62</u>
	Total	1,389,785	65,260	1,324,525	100
Liquid Bulk	Long Dist. Truck	0	0	0	0
	Short Dist. Truck	176,943	169,132	7,811	19
	Rail	<u>739,263</u>	<u>721,036</u>	<u>18,227</u>	<u>81</u>
	Total	916,206	890,168	26,038	100

¹ Cargo volume is expressed on a per-vehicle basis for auto/vehicle cargo; a per-TEU ("Twenty-Foot Equivalent Unit") basis for containerized cargo, a per-short ton (2,000 pounds) basis for breakbulk, dry bulk, and liquid bulk cargo. Cargo volume is for the public facilities owned by the Georgia Ports Authority and does not include cargo volume for private facilities/docks.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu) based on data provided by the Georgia Ports Authority for FY 2009, 2010.

Table 2

**Cargo Volume for Private Facilities/Docks
in Savannah and Brunswick
(Import and Export) in FY 2009**

Cargo Type	Cargo Volume ¹
	Total
Breakbulk	1,811,668
Dry Bulk	3,314,093
Liquid Bulk	<u>5,226,785</u>
Total	10,352,546

¹Cargo volume is expressed on a per-short ton (2,000 pounds) basis. Cargo volume is for the privately owned facilities/docks and does not include cargo volume for facilities owned by the Georgia Ports Authority.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu) based on data provided by the Georgia Ports Authority for FY 2009, 2010.

Table 3

**Summary of the Economic Impact
of Georgia's Deepwater Ports on Georgia
in Fiscal Year 2009
(millions of 2009 dollars)**

	Total Economic Impact on:			
	Output	State GDP	Income	Employment (jobs)
Ports Industry	3,165	1,544	1,090	28,234
Savannah Cargo-Based Activity	2,417	1,186	837	21,628
Brunswick Cargo-Based Activity	111	55	36	912
Ports Investment	76	41	32	712
Private Facilities/Docks	561	262	185	4,982
Ports Users	58,490	25,208	14,407	267,209
Total Output/Revenue Impact	61,655	26,752	15,497	295,443

Note: The ports industry refers to firms/enterprises located in Georgia because of the existence of the ports. Savannah and Brunswick cargo-based activity refers to impacts generated by the public facilities owned by the Georgia Ports Authority. Private facilities/docks refers to impacts generated by privately owned facilities/docks. Ports users are firms/enterprises that utilize ports facilities (primarily importers and exporters).

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu), 2010.

Table 4

**Economic Impact of Georgia's Deepwater Ports
on Output (Revenue), Income, and State GDP
in Georgia, Fiscal Year 2009
(millions of 2009 dollars)**

	Direct Economic Impact on Output/Revenue	Indirect & Induced Economic Impact on Output/Revenue	Total Economic Impact on Output/Revenue
Ports Industry	2,060	1,104	3,165
Savannah Cargo-Based Activity	1,575	842	2,417
Brunswick Cargo-Based Activity	73	38	111
Ports Investment	46	30	76
Private Facilities/Docks	366	194	561
Ports Users	34,461	24,029	58,490
Total Output/Revenue Impact	36,521	25,133	61,655
	Direct Economic Impact on Income	Indirect & Induced Economic Impact on Income	Total Economic Impact on Income
Ports Industry	729	361	1,089
Savannah Cargo-Based Activity	561	276	837
Brunswick Cargo-Based Activity	24	12	36
Ports Investment	22	10	32
Private Facilities/Docks	122	63	185
Ports Users	7,043	7,365	14,407
Total Income Impact	7,772	7,726	15,497
	Direct Economic Impact on Gross State Product	Indirect & Induced Economic Impact on Gross State Product	Total Economic Impact on State GDP
Ports Industry	1,004	540	1,544
Savannah Cargo-Based Activity	775	412	1,186
Brunswick Cargo-Based Activity	36	19	55
Ports Investment	26	15	41
Private Facilities/Docks	167	94	262
Ports Users	12,185	13,022	25,208
Total State GDP	13,189	13,562	26,752

Note: The ports industry refers to firms/enterprises located in Georgia because of the existence of the ports. Savannah and Brunswick cargo-based activity and refers to impacts generated by the public facilities owned by the Georgia Ports Authority. Private facilities/docks refers to impacts generated by privately owned facilities/docks. Ports users are firms enterprises that utilize ports facilities (primarily importers and exporters).

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu), 2010.

Table 5

**Economic Impact of Georgia's Deepwater Ports
on Employment in Georgia, Fiscal Year 2009
(full- and part-time jobs)**

	Direct Economic Impact on Employment (full- and part-time jobs)	Indirect & Induced Economic Impact on Employment (full- and part-time jobs)	Total Economic Impact on Employment (full- and part-time jobs)
Ports Industry	18,421	9,813	28,234
Savannah Cargo-Based Activity	14,131	7,499	21,628
Brunswick Cargo-Based Activity	577	334	912
Ports Investment	446	266	712
Private Facilities/Docks	3,267	1,714	4,982
Ports Users	110,312	156,897	267,209
Total Employment Impact	128,733	166,710	295,443

Note: The ports industry refers to firms/enterprises located in Georgia because of the existence of the ports. Savannah and Brunswick cargo-based activity refers to impacts generated by the public facilities owned by the Georgia Ports Authority. Private facilities/docks refers to impacts generated by privately owned facilities/docks. Ports users are firms/enterprises that utilize ports facilities (primarily importers and exporters).

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu), 2010.

Table 6

**Economic Impact of Georgia's Deepwater Ports
on Tax Collections in Georgia, Fiscal Year 2009
(millions of 2009 dollars)**

	Federal Taxes	State Taxes	Local Taxes
Ports Industry	333.3	62.3	64.1
Savannah Cargo-Based Activity	256.6	48.3	50.0
Brunswick Cargo-Based Activity	11.3	2.1	2.2
Ports Investment	9.3	1.6	1.5
Private Facilities/Docks	56.6	10.3	10.4
Ports Users	3,211.5	1,435.4	1,082.9
Total	3,545.1	1,497.7	1,147.0

Note: The ports industry refers to firms/enterprises located in Georgia because of the existence of the ports. Savannah and Brunswick cargo-based activity refer to impacts generated by the public facilities owned by the Georgia Ports Authority. Private facilities/docks refers to impacts generated by privately owned facilities/docks. Ports users are firms/enterprises that utilize ports facilities (primarily importers and exporters).

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu), 2010.

Table 7

**Overall Multipliers for
Output, Employment, Income, and State GDP,
Fiscal Year 2009**

	Output Multiplier Value	Employment Multiplier Value	Income Multiplier Value	GDP Multiplier Value
Ports Industry	1.536	1.533	1.495	1.538
Savannah Cargo-Based Activity	1.535	1.531	1.492	1.530
Brunswick Cargo-Based Activity	1.521	1.581	1.500	1.528
Ports Investment	1.652	1.596	1.455	1.577
Private Facilities/Docks	1.533	1.525	1.516	1.569
Ports Users	1.697	2.422	2.046	2.069
Total	1.688	2.295	1.994	2.028

Note: The ports industry refers to firms/enterprises located in Georgia because of the existence of the ports. Savannah and Brunswick cargo-based activity and refer to impacts generated by the public facilities owned by the Georgia Ports Authority. Private facilities/docks refers to impacts generated by privately owned facilities/docks. Ports users are firms/enterprises that utilize ports facilities (primarily importers and exporters).

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu), 2010.

Table 8

**Distribution of Total Economic Impacts of Cargo-Based Activity
at the Georgia Ports Authority's Facilities in Savannah and Brunswick by Mode of Cargo,
Fiscal Year 2009**

Model/Impact	Output/Revenue (Mil. \$2009)	State GDP (Mil. \$2009)	Income (Mil. \$2009)	Employment (jobs)
Containerized	2,305	1,131	797	20,552
Breakbulk	97	48	36	1,015
Auto/Vehicle	77	38	25	641
Dry Bulk	29	13	9	207
Liquid Bulk	20	10	6	125
Total	2,529	1,241	873	22,540
Percent of Total				
Containerized	91.2	91.2	91.3	91.2
Breakbulk	3.9	3.9	4.2	4.5
Auto/Vehicle	3.0	3.1	2.9	2.8
Dry Bulk	1.1	1.1	1.0	0.9
Liquid Bulk	0.8	0.8	0.7	0.6
Total	100.0	100.0	100.0	100.0

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu), 2010.

Table 9

**Ports Industry Employment Impact by Occupation in Georgia,
Fiscal Year 2009 (full- and part-time jobs)**

<u>Occupational Category</u>	<u>Ports Industry Impact (full- and part-time jobs)</u>
Executive, administrative and managerial	2,321
Managerial and administrative	1,745
Management support	576
Professional specialty	858
Engineers	134
Architects and surveyors	14
Life scientists	8
Computer, math, and operations research	143
Physical scientists	21
Religious workers	48
Social scientists	10
Social and recreation workers	33
Lawyers and judicial workers	24
Teachers, librarians, and counselors	142
Health diagnosing	13
Health assessment and treatment	71
Writers, artists, and entertainers	106
All other professionals	91
Technicians and related support	270
Health	97
Engineering	101
Other technicians	74
Marketing and sales	2,134
Cashiers	487
Counter and rental clerks	100
Insurance sales agents	36
Marketing and sales worker supervisors	263
Models, demonstrators, product promoters	20
Parts salespersons	23
Real estate agents and brokers	13
Retail salespersons	541
Sales engineers	4
Securities, commodities, financial service sales	19
Travel agents	5
All other sales and related	621
Administrative support	4,606
Adjusters, investigators, and collectors	223
Communications equipment operators	42
Computer operators	21
Information clerks	172
Mail clerks and messengers	137
Postal clerks and mail carriers	32
Material recording, scheduling, dispatch, distributing	1,183
Records processing	839
Secretaries, stenographers, typists	455
Other administrative support	1,501

(continued)

Table 9

**Ports Industry Employment Impact by Occupation in Georgia,
Fiscal Year 2009 (full- and part-time jobs)
(continued)**

Occupational Category	Ports Industry Impact (full- and part-time jobs)
Service	2,078
Cleaning and building service	298
Food preparation and service	1,259
Health service	100
Personal service	67
Private household workers	34
Protective service	308
 Agriculture, forestry, and fishing	 120
Production, craft, and repair	3,358
Blue collar worker supervisors	745
Construction trades	348
Extractive and related workers	24
Mechanics, installers, and repairers	1,338
Machinery mechanics, installers, and repairers	122
Vehicle and mobile equipment mechanics	596
Other mechanics, installers, and repairers	187
 Precision production	 237
 Plant and systems	 23
Operators, fabricators, and laborers	12,229
Numerical control machine tool operators	2
Combination machine tool setters, etc.	2
Machine setters, operators, and tenders	258
Hand Workers, including assemblers	276
Transportation and material moving machine/vehicle	9,339
Helpers, laborers, and material movers, hand	2,349
 Total all occupations	 28,234

Note: The ports industry refers to firms/enterprises located in Georgia because of the existence of the ports.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu), 2010.

Table 10

**Ports Users Employment Impact by Industry in Georgia,
Fiscal Year 2009 (full- and part-time jobs)**

Impacted Industry	Employment (jobs)
Ag, Forestry, Fishing & Hunting	17,290
Mining	2,989
Utilities	1,016
Construction	2,055
Manufacturing	66,529
Wholesale Trade	38,193
Retail Trade	19,106
Transportation and Warehousing	22,459
Information	3,411
Finance & Insurance	8,218
Real Estate & Rental	9,408
Professional, Scientific, & Tech. Services	11,564
Management	5,162
Administrative & Waste Services	14,987
Educational Services	2,601
Health & Social Services	14,180
Arts, Entertainment & Recreation	2,917
Accommodations & Food Services	11,710
Other Services	11,306
Government	2,108
Total	267,209

Note: Ports users are firms/enterprises that utilize ports facilities (primarily importers and exporters).

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu), 2010.

Table A-1

**The Economic Impact of Port Industry Activity
at the Georgia Ports Authority's Facilities in Savannah and Brunswick
on Georgia in Fiscal Year 2009
(thousands of 2009 dollars)**

	Model Output (000 of 2009\$)	Model Employment (jobs)	Model Income (000 of 2009\$)	Model GSP (000 of 2009\$)
Total Economic Impact				
Agriculture	2,770.4	10.0	265.5	459.2
Agri. Serv., Forestry, & Fish	1,088.6	21.0	486.9	600.9
Mining	4,033.7	40.0	578.4	1,392.3
Construction	31,905.1	96.0	4,388.4	9,845.0
Manufacturing	166,939.6	516.0	26,237.1	48,396.9
Trans. & Public Utilities	1,745,815.1	15,574.0	622,960.8	865,672.0
Wholesale	64,581.8	374.0	26,262.3	27,439.5
Retail Trade	140,700.9	2,520.0	51,733.0	81,901.9
Finance, Ins., & Real Estate	155,146.8	900.0	49,687.5	98,885.8
Services	194,229.1	2,328.0	83,482.6	94,777.1
Government	18,894.2	132.0	6,021.0	10,488.1
Total	2,526,105.3	22,519.0	872,104.1	1,239,858.7
Distribution of Economic Impact				
1. Direct Impact	1,646,814.7	14,695.0	584,119.6	809,806.1
2. Indirect & Induced Impacts	879,291.0	7,825.0	287,984.6	430,053.0
3. Total Economic Impact	2,526,105.3	22,519.0	872,104.1	1,239,858.7
4. Multipliers (e.g., 3/1)	1.534	1.532	1.493	1.531
Composition of Gross State Product				
1. Wages (Net of Taxes)				771,168.7
2. Taxes, Total				194,438.8
a. Local Taxes				32,316.6
b. State Taxes				29,055.6
c. Federal Taxes				133,065.9
3. Profits, dividends, rent and other				274,251.6
4. Total Gross State Product (1+2+3)				1,239,858.7
Tax Accounts				
Total				370,143.9
Local				52,225.6
State				50,435.8
Federal				267,482.8
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				13.7
Income				529,170.1
State Taxes				30,603.2
Local Taxes				31,689.1
Gross State Product				752,314.0
Initial Expenditure in Dollars				1,648,060,063.7

Note: Employment includes full- and part-time jobs. Detail may not sum to totals due to rounding.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, the University of Georgia (www.selig.uga.edu), using the MARAD Port Economic Impact Kit for Georgia, 2010.

Table A-2

**The Economic Impact of Port Industry Activity
at the Georgia Ports Authority's Facilities in Savannah
on Georgia in Fiscal Year 2009
(thousands of 2009 dollars)**

Total Economic Impact	Model Output (000 of 2009\$)	Model Employment (jobs)	Model Income (000 of 2009\$)	Model GSP (000 of 2009\$)
Agriculture	2,650.4	10.0	254.2	439.5
Agri. Serv., Forestry, & Fish	1,054.4	21.0	471.5	581.1
Mining	3,749.2	37.0	538.4	1,294.8
Construction	29,983.5	91.0	4,120.9	9,254.2
Manufacturing	157,585.4	492.0	24,989.7	45,902.5
Trans. & Public Utilities	1,677,194.4	15,017.0	600,076.2	831,410.9
Wholesale	61,862.9	358.0	25,156.7	26,284.2
Retail Trade	135,004.6	2,418.0	49,639.0	78,589.0
Finance, Ins., & Real Estate	148,025.8	861.0	47,615.5	94,268.6
Services	184,837.1	2,206.0	79,041.8	90,108.5
Government	15,470.3	112.0	4,865.1	8,251.8
Total	2,417,417.8	21,628.0	836,769.4	1,186,385.3
Distribution of Economic Impact				
1. Direct Impact	1,575,431.2	14,131.0	560,889.0	774,660.9
2. Indirect & Induced Impacts	841,986.9	7,499.0	275,880.7	411,724.5
3. Total Economic Impact	2,417,417.8	21,628.0	836,769.4	1,186,385.3
4. Multipliers (e.g., 3/1)	1.534	1.531	1.492	1.531
Composition of Gross State Product				
1. Wages (Net of Taxes)				740,038.3
2. Taxes, Total				186,446.0
a. Local Taxes				30,935.2
b. State Taxes				27,833.0
c. Federal Taxes				127,677.6
3. Profits, dividends, rent and other				259,901.0
4. Total Gross State Product (1+2+3)				1,186,385.3
Tax Accounts				
Total				355,032.1
Local				50,037.5
State				48,346.9
Federal				256,648.2
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				13.7
Income				530,770.0
State Taxes				30,666.9
Local Taxes				31,739.2
Gross State Product				752,534.4
Initial Expenditure in Dollars				1,576,519,687.9

Note: Employment includes full- and part-time jobs. Detail may not sum to totals due to rounding.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, the University of Georgia (www.selig.uga.edu), using the MARAD Port Economic Impact Kit for Georgia, 2010.

Table A-3

**The Economic Impact of Port Industry Activity
at the Georgia Ports Authority's Facilities in Brunswick
on Georgia in Fiscal Year 2009
(thousands of 2009 dollars)**

	Model Output (000 of 2009\$)	Model Employment (jobs)	Model Income (000 of 2009\$)	Model GSP (000 of 2009\$)
Total Economic Impact				
Agriculture	120.0	0.0	11.3	19.7
Agri. Serv., Forestry, & Fish	34.3	0.0	15.5	19.8
Mining	284.5	3.0	40.0	97.4
Construction	1,921.6	5.0	267.5	590.9
Manufacturing	9,354.2	24.0	1,247.5	2,494.4
Trans. & Public Utilities	68,620.7	557.0	22,884.5	34,261.0
Wholesale	2,718.9	16.0	1,105.6	1,155.3
Retail Trade	5,696.3	102.0	2,094.0	3,313.0
Finance, Ins., & Real Estate	7,121.0	39.0	2,072.0	4,617.2
Services	9,392.0	122.0	4,440.9	4,668.6
Government	3,423.9	20.0	1,155.9	2,236.3
Total	108,687.5	891.0	35,334.7	53,473.5
Distribution of Economic Impact				
1. Direct Impact	71,383.5	564.0	23,230.5	35,145.2
2. Indirect & Induced Impacts	37,304.1	326.0	12,103.9	18,328.5
3. Total Economic Impact	108,687.5	891.0	35,334.7	53,473.5
4. Multipliers (e.g., 3/1)	1.523	1.580	1.521	1.522
Composition of Gross State Product				
1. Wages (Net of Taxes)				31,130.4
2. Taxes, Total				7,992.8
a. Local Taxes				1,381.4
b. State Taxes				1,222.6
c. Federal Taxes				5,388.3
3. Profits, dividends, rent and other				14,350.6
4. Total Gross State Product (1+2+3)				53,473.5
Tax Accounts				
Total				15,111.7
Local				2,188.1
State				2,088.9
Federal				10,834.6
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				12.5
Income				493,912.6
State Taxes				29,199.2
Local Taxes				30,585.5
Gross State Product				747,458.5
Initial Expenditure in Dollars				71,540,375.9

Note: Employment includes full- and part-time jobs. Detail may not sum to totals due to rounding.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, the University of Georgia (www.selig.uga.edu), using the MARAD Port Economic Impact Kit for Georgia, 2010.

Table A-4

**The Economic Impact of Auto/Vehicle Cargo at the
Georgia Ports Authority's Facilities in Savannah and Brunswick
on Georgia in Fiscal Year 2009
(thousands of 2009 dollars)**

	Model Output (000 of 2009\$)	Model Employment (jobs)	Model Income (000 of 2009\$)	Model GSP (000 of 2009\$)
Total Economic Impact				
Agriculture	85.5	0.0	8.1	14.1
Agri. Serv., Forestry, & Fish	24.3	0.0	10.8	14.2
Mining	86.5	1.0	13.0	30.3
Construction	1,439.4	4.0	200.4	442.6
Manufacturing	4,428.5	15.0	783.0	1,364.6
Trans. & Public Utilities	50,809.8	415.0	16,581.0	25,087.1
Wholesale	1,595.0	9.0	648.7	677.7
Retail Trade	4,022.3	72.0	1,478.8	2,339.6
Finance, Ins., & Real Estate	5,328.1	29.0	1,495.1	3,478.6
Services	6,254.9	77.0	2,893.7	3,065.3
Government	2,821.9	16.0	954.4	1,852.7
Total	76,896.1	641.0	25,066.9	38,366.6
Distribution of Economic Impact				
1. Direct Impact	50,115.7	405.0	16,307.6	25,108.8
2. Indirect & Induced Impacts	26,780.5	235.0	8,759.3	13,257.9
3. Total Economic Impact	76,896.1	641.0	25,066.9	38,366.6
4. Multipliers (e.g., 3/1)	1.534	1.583	1.537	1.528
Composition of Gross State Product				
1. Wages (Net of Taxes)				22,050.0
2. Taxes, Total				5,704.4
a. Local Taxes				979.6
b. State Taxes				866.0
c. Federal Taxes				3,858.7
3. Profits, dividends, rent and other				10,612.2
4. Total Gross State Product (1+2+3)				38,366.6
Tax Accounts				
Total				10,754.7
Local				1,551.9
State				1,480.6
Federal				7,722.3
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				12.8
Income				499,103.6
State Taxes				29,480.5
Local Taxes				30,899.5
Gross State Product				763,911.6
Initial Expenditure in Dollars				50,223,852.7

Note: Employment includes full- and part-time jobs. Detail may not sum to totals due to rounding.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, the University of Georgia (www.selig.uga.edu), using the MARAD Port Economic Impact Kit for Georgia, 2010.

Table A-5

**The Economic Impact of Breakbulk Cargo at the
Georgia Ports Authority's Facilities in Savannah and Brunswick
on Georgia in Fiscal Year 2009
(thousands of 2009 dollars)**

Total Economic Impact	Model Output (000 of 2009\$)	Model Employment (jobs)	Model Income (000 of 2009\$)	Model GSP (000 of 2009\$)
Agriculture	115.1	0.0	11.0	18.9
Agri. Serv., Forestry, & Fish	43.6	1.0	19.6	24.0
Mining	212.2	2.0	30.0	72.8
Construction	1,209.7	3.0	165.7	373.7
Manufacturing	7,725.2	21.0	1,091.0	2,126.9
Trans. & Public Utilities	54,862.1	516.0	19,726.5	26,982.9
Wholesale	2,520.0	14.0	1,024.7	1,070.6
Retail Trade	5,801.4	103.0	2,133.5	3,377.2
Finance, Ins., & Real Estate	6,340.5	36.0	2,002.6	4,052.6
Services	17,188.8	306.0	9,537.4	9,243.1
Government	1,477.0	9.0	489.3	916.4
Total	97,495.9	1,015.0	36,231.7	48,259.4
Distribution of Economic Impact				
1. Direct Impact	63,439.6	708.0	25,052.1	31,504.1
2. Indirect & Induced Impacts	34,056.4	307.0	11,179.5	16,755.6
3. Total Economic Impact	97,495.9	1,015.0	36,231.7	48,259.4
4. Multipliers (e.g., 3/1)	1.537	1.434	1.446	1.532
Composition of Gross State Product				
1. Wages (Net of Taxes)				32,231.9
2. Taxes, Total				7,884.3
a. Local Taxes				1,318.5
b. State Taxes				1,189.3
c. Federal Taxes				5,376.4
3. Profits, dividends, rent and other				8,143.5
4. Total Gross State Product (1+2+3)				48,259.4
Tax Accounts				
Total				15,183.9
Local				2,145.7
State				2,077.5
Federal				10,960.7
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				16.0
Income				570,550.0
State Taxes				32,714.2
Local Taxes				33,789.5
Gross State Product				759,954.4
Initial Expenditure in Dollars				63,503,087.8

Note: Employment includes full- and part-time jobs. Detail may not sum to totals due to rounding.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, the University of Georgia (www.selig.uga.edu), using the MARAD Port Economic Impact Kit for Georgia, 2010.

Table A-6

**The Economic Impact of Containerized Cargo at the
Georgia Ports Authority's Facilities in Savannah and Brunswick
on Georgia in Fiscal Year 2009
(thousands of 2009 dollars)**

	Model Output (000 of 2009\$)	Model Employment (jobs)	Model Income (000 of 2009\$)	Model GSP (000 of 2009\$)
Total Economic Impact				
Agriculture	2,521.3	10.0	242.0	418.3
Agri. Serv., Forestry, & Fish	1,008.9	20.0	451.2	555.8
Mining	3,411.3	34.0	491.2	1,179.6
Construction	28,470.6	87.0	3,912.3	8,787.3
Manufacturing	147,001.7	468.0	23,667.1	43,157.1
Trans. & Public Utilities	1,613,092.4	14,454.0	577,232.1	799,323.1
Wholesale	58,751.9	341.0	23,891.7	24,962.6
Retail Trade	128,556.8	2,303.0	47,268.1	74,836.5
Finance, Ins., & Real Estate	141,016.4	820.0	45,390.4	89,795.4
Services	167,817.4	1,913.0	69,803.2	81,042.6
Government	13,840.9	103.0	4,325.9	7,243.6
Total	2,305,489.7	20,552.0	796,675.2	1,131,301.7
Distribution of Economic Impact				
1. Direct Impact	1,502,027.2	13,397.0	533,341.0	738,436.3
2. Indirect & Induced Impacts	803,462.5	7,155.0	263,334.4	392,865.4
3. Total Economic Impact	2,305,489.7	20,552.0	796,675.2	1,131,301.7
4. Multipliers (e.g., 3/1)	1.535	1.534	1.494	1.532
Composition of Gross State Product				
1. Wages (Net of Taxes)				704,357.7
2. Taxes, Total				177,733.7
a. Local Taxes				29,480.4
b. State Taxes				26,518.1
c. Federal Taxes				121,735.1
3. Profits, dividends, rent and other				249,210.3
4. Total Gross State Product (1+2+3)				1,131,301.7
Tax Accounts				
Total				338,242.2
Local				47,667.1
State				46,049.2
Federal				244,526.0
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				13.7
Income				530,050.4
State Taxes				30,637.8
Local Taxes				31,714.3
Gross State Product				752,686.9
Initial Expenditure in Dollars				1,503,017,744.2

Note: Employment includes full- and part-time jobs. Detail may not sum to totals due to rounding.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, the University of Georgia (www.selig.uga.edu), using the MARAD Port Economic Impact Kit for Georgia, 2010.

Table A-7

**The Economic Impact of Dry Bulk Cargo at the
Georgia Ports Authority's Facilities in Savannah and Brunswick
on Georgia in Fiscal Year 2009
(thousands of 2009 dollars)**

	Model Output (000 of 2009\$)	Model Employment (jobs)	Model Income (000 of 2009\$)	Model GSP (000 of 2009\$)
Total Economic Impact				
Agriculture	27.5	0.0	2.5	4.4
Agri. Serv., Forestry, & Fish	6.9	0.0	3.1	3.9
Mining	185.0	2.0	25.3	62.7
Construction	414.0	1.0	57.9	127.3
Manufacturing	4,449.8	7.0	397.6	999.0
Trans. & Public Utilities	15,158.7	115.0	5,248.3	7,759.1
Wholesale	984.3	6.0	400.2	418.3
Retail Trade	1,317.1	24.0	484.1	765.5
Finance, Ins., & Real Estate	1,429.5	9.0	458.3	908.0
Services	1,765.8	19.0	747.2	849.4
Government	557.1	3.0	187.0	358.1
Total	26,295.7	186.0	8,011.3	12,255.7
Distribution of Economic Impact				
1. Direct Impact	17,675.9	113.0	5,294.1	8,125.3
2. Indirect & Induced Impacts	8,619.8	74.0	2,717.2	4,130.5
3. Total Economic Impact	26,295.7	186.0	8,011.3	12,255.7
4. Multipliers (e.g., 3/1)	1.488	1.646	1.513	1.508
Composition of Gross State Product				
1. Wages (Net of Taxes)				7,064.7
2. Taxes, Total				1,805.7
a. Local Taxes				319.1
b. State Taxes				282.3
c. Federal Taxes				1,204.0
3. Profits, dividends, rent and other				3,385.5
4. Total Gross State Product (1+2+3)				12,255.7
Tax Accounts				
Total				3,419.6
Local				502.0
State				478.8
Federal				2,438.9
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				10.5
Income				452,038.1
State Taxes				27,018.5
Local Taxes				28,326.2
Gross State Product				691,527.8
Initial Expenditure in Dollars				17,722,579.4

Note: Employment includes full- and part-time jobs. Detail may not sum to totals due to rounding.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, the University of Georgia (www.selig.uga.edu), using the MARAD Port Economic Impact Kit for Georgia, 2010.

Table A-8

**The Economic Impact of Liquid Bulk Cargo at the
Georgia Ports Authority's Facilities in Savannah and Brunswick
on Georgia in Fiscal Year 2009
(thousands of 2009 dollars)**

<u>Total Economic Impact</u>	Model Output (000 of 2009\$)	Model Employment (jobs)	Model Income (000 of 2009\$)	Model GSP (000 of 2009\$)
Agriculture	20.9	0.0	2.0	3.5
Agri. Serv., Forestry, & Fish	5.0	0.0	2.2	3.0
Mining	138.7	1.0	18.9	47.0
Construction	371.3	1.0	52.1	114.1
Manufacturing	3,334.3	5.0	298.4	749.2
Trans. & Public Utilities	11,892.1	74.0	4,172.9	6,519.8
Wholesale	730.5	4.0	297.0	310.4
Retail Trade	1,003.3	18.0	368.6	583.1
Finance, Ins., & Real Estate	1,032.2	6.0	341.2	651.3
Services	1,202.1	13.0	501.1	576.8
Government	197.2	1.0	64.4	117.2
Total	19,927.8	125.0	6,119.0	9,675.3
Distribution of Economic Impact				
1. Direct Impact	13,556.2	72.0	4,124.8	6,631.6
2. Indirect & Induced Impacts	6,371.7	54.0	1,994.3	3,043.6
3. Total Economic Impact	19,927.8	125.0	6,119.0	9,675.3
4. Multipliers (e.g., 3/1)	1.470	1.736	1.483	1.459
Composition of Gross State Product				
1. Wages (Net of Taxes)				5,464.5
2. Taxes, Total				1,310.7
a. Local Taxes				219.0
b. State Taxes				199.9
c. Federal Taxes				891.8
3. Profits, dividends, rent and other				2,900.1
4. Total Gross State Product (1+2+3)				9,675.3
Tax Accounts				
Total				2,543.5
Local				358.8
State				349.8
Federal				1,834.9
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				9.2
Income				450,163.4
State Taxes				25,730.7
Local Taxes				26,399.9
Gross State Product				711,797.0
Initial Expenditure in Dollars				13,592,799.7

Note: Employment includes full- and part-time jobs. Detail may not sum to totals due to rounding.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, the University of Georgia (www.selig.uga.edu), using the MARAD Port Economic Impact Kit for Georgia, 2010.

Table A-9

**The Economic Impact of Port Industry Activity at
Private Facilities/Docks in Savannah and Brunswick
on Georgia in Fiscal Year 2009
(thousands of 2009 dollars)**

	Model Output (000 of 2009\$)	Model Employment (jobs)	Model Income (000 of 2009\$)	Model GSP (000 of 2009\$)
Total Economic Impact				
Agriculture	594.3	2.0	56.7	98.2
Agri. Serv., Forestry, & Fish	161.6	2.0	71.3	92.2
Mining	1,626.5	17.0	226.5	554.7
Construction	6,321.1	19.0	868.2	1,951.2
Manufacturing	49,072.1	113.0	5,934.9	12,565.3
Trans. & Public Utilities	364,618.0	3,215.0	122,906.4	170,830.3
Wholesale	16,739.8	97.0	6,807.3	7,112.4
Retail Trade	30,342.7	543.0	11,153.9	17,657.6
Finance, Ins., & Real Estate	32,731.9	191.0	10,646.4	20,814.6
Services	52,701.3	743.0	24,751.3	26,648.1
Government	5,691.9	37.0	1,852.7	3,362.0
Total	560,601.3	4,982.0	185,275.8	261,686.4
Distribution of Economic Impact				
1. Direct Impact	366,233.8	3,267.0	122,202.1	167,283.8
2. Indirect & Induced Impacts	194,367.5	1,714.0	63,073.8	94,402.7
3. Total Economic Impact	560,601.3	4,982.0	185,275.8	261,686.4
4. Multipliers (e.g., 3/1)	1.531	1.525	1.516	1.564
Composition of Gross State Product				
1. Wages (Net of Taxes)				165,278.8
2. Taxes, Total				39,861.4
a. Local Taxes				6,126.0
b. State Taxes				5,725.4
c. Federal Taxes				28,010.1
3. Profits, dividends, rent and other				56,546.1
4. Total Gross State Product (1+2+3)				261,686.4
Tax Accounts				
Total				77,189.5
Local				10,355.4
State				10,267.5
Federal				56,566.5
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				13.6
Income				505,322.9
State Taxes				28,003.8
Local Taxes				28,243.4
Gross State Product				713,725.7
Initial Expenditure in Dollars				366,648,432.2

Note: Employment includes full- and part-time jobs. Detail may not sum to totals due to rounding.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, the University of Georgia (www.selig.uga.edu), using the MARAD Port Economic Impact Kit for Georgia, 2010.

Table A-10

**The Economic Impact of Port Investment (Capital Expenditures) at the
Georgia Ports Authority's Facilities in Savannah and Brunswick
on Georgia in Fiscal Year 2009
(thousands of 2009 dollars)**

	Model Output (000 of 2009\$)	Model Employment (jobs)	Model Income (000 of 2009\$)	Model GSP (000 of 2009\$)
Total Economic Impact				
Agriculture	106.9	0.8	10.9	19.3
Agri. Serv., Forestry, & Fish	116.4	1.6	44.1	65.8
Mining	1,624.7	8.8	547.1	873.1
Construction	24,043.8	301.0	13,653.8	16,781.7
Manufacturing	16,417.4	87.5	4,256.7	6,193.4
Trans. & Public Utilities	4,157.5	20.9	1,072.5	1,802.0
Wholesale	2,992.8	16.9	1,217.0	1,271.6
Retail Trade	5,299.8	94.7	1,955.4	3,107.1
Finance, Ins., & Real Estate	5,123.7	29.7	1,644.6	3,268.8
Services	15,922.2	146.9	7,466.6	7,167.1
Government	381.5	3.2	115.0	177.8
Total	76,186.7	711.9	31,983.7	40,727.6
Distribution of Economic Impact				
1. Direct Impact	45,700.1	446.2	21,898.7	26,017.3
2. Indirect & Induced Impacts	30,486.6	265.7	10,085.1	14,710.3
3. Total Economic Impact	76,186.7	711.9	31,983.7	40,727.6
4. Multipliers (e.g., 3/1)	1.667	1.596	1.461	1.565
Composition of Gross State Product				
1. Wages (Net of Taxes)				29,418.1
2. Taxes, Total				5,994.8
a. Local Taxes				771.4
b. State Taxes				812.4
c. Federal Taxes				4,411.0
3. Profits, dividends, rent and other				5,314.7
4. Total Gross State Product (1+2+3)				40,727.6
Tax Accounts				
Total				12,438.6
Local				1,501.5
State				1,596.5
Federal				9,340.6
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				13.5
Income				606,573.0
State Taxes				30,278.0
Local Taxes				28,476.0
Gross State Product				772,401.0
Initial Expenditure in Dollars				52,728,560.0

Note: Employment includes full- and part-time jobs. Detail may not sum to totals due to rounding.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, the University of Georgia (www.selig.uga.edu), using the MARAD Port Economic Impact Kit for Georgia, 2010.

Table A-11

**The Economic Impact of Port-Related Activity
on Georgia in Fiscal Year 2009
(thousands of 2009 dollars)**

	Model Output (000 of 2009\$)	Model Employment (jobs)	Model Income (000 of 2009\$)	Model GDP (000 of 2009\$)
Total Economic Impact				
Agriculture	2,650,449	17,290	465,211	784,175
Mining	685,582	2,989	252,591	398,054
Construction	193,599	2,054	91,519	104,868
Manufacturing	29,344,818	66,529	4,391,122	8,034,651
Trans, Info, Utilities	3,111,905	23,475	1,221,192	2,083,480
Retail & Wholesale Trade	9,139,441	57,299	3,488,865	5,977,741
Services	13,031,836	95,464	4,362,359	7,681,744
Government	332,518	2,108	135,094	143,002
Total	58,490,147	267,208	14,407,954	25,207,715
Distribution of Economic Impact				
1. Direct Impact	34,461,103	110,312	7,043,330	12,185,366
2. Indirect & Induced Impacts	24,029,044	156,897	7,364,625	13,022,349
3. Total Economic Impact	58,490,147	267,208	14,407,955	25,207,715
4. Multipliers (e.g., 3/1)	1.697	2.422	2.046	2.069

Note: Employment includes full- and part-time jobs. Detail may not sum to totals due to rounding.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, the University of Georgia (www.selig.uga.edu), using the 2008 IMPLAN State Package for Georgia, 2010.

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