
**The Economic Impact of
Georgia's Deepwater Ports
On Georgia's Economy in FY 2011**

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Jeffrey M. Humphreys, Director
Selig Center for Economic Growth
Terry College of Business
The University of Georgia

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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 2011. The ensuing sections contain the comprehensive technical report.

The statewide economic impact of Georgia's deepwater ports in fiscal year 2011 includes:

- **\$66.9 billion in sales (9.5 percent of Georgia's total sales);**
- **\$32.4 billion in state GDP (7.8 percent of Georgia's total GDP);**
- **\$18.5 billion in income (5.2 percent of Georgia's total personal income);**
- **352,146 full- and part-time jobs (8.3 percent of Georgia's total employment);**
- **\$4.5 billion in federal taxes;**
- **\$1.4 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 \$66.9 billion, which is 9.5 percent of Georgia's output in FY 2011. Out of the total, \$39.3 billion represents initial spending, or direct economic impact; \$27.6 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2011 total output impact (\$66.9 billion) by initial spending (\$39.3 billion) yields an average multiplier value of 1.704. On average, therefore, every dollar initially spent by the ports industry and ports users generates an additional 70 cents for the state's economy.

State GDP (Value Added) Impacts

Measured in terms of GDP or value added, Georgia's deepwater ports contribute \$32.4 billion to the state's economy in fiscal year 2011, which is 7.8 percent of Georgia's total GDP. Out of the total, \$16.3 billion represents the direct effects of initial spending, or the direct economic impact; \$16.2 billion is indirect and induced spending, or the re-spending (multiplier) impact.

Income Impacts

Measured in terms of income, Georgia's deepwater ports contributed \$18.5 billion to the state's economy in fiscal year 2011, which is 5.2 percent of Georgia's total personal income. Of the total, \$9.4 billion represents the

direct effects of initial spending, or the direct economic impact; \$9.1 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 352,146 full- and part-time jobs, which is 8.3 percent of Georgia's total employment (as defined by a survey of households). This means that one job out of every twelve is in some way dependent on the ports. Of the FY 2011 total employment impact, 153,884 jobs represent the direct effects of initial spending, or the direct economic impact; 198,263 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 2011 is \$1.4 billion.

Local: The total economic impact of Georgia's deepwater ports on tax collections by local governments in fiscal year 2011 is \$1.1 billion.

Federal: The total economic impact of Georgia's deepwater ports on tax collections by the federal government in fiscal year 2011 is \$4.5 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.

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 2011.

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 (2011) dollars.

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 2011 includes:

- \$66.9 billion in sales (9.5 percent of Georgia's total sales);
- \$32.4 billion in state GDP (7.8 percent of Georgia's total GDP);
- \$18.5 billion in income (5.2 percent of Georgia's total personal income);
- 352,146 full- and part-time jobs (8.3 percent of Georgia's total employment);
- \$4.5 billion in federal taxes;
- \$1.4 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 \$66.9 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 \$66.9 billion output impact accounts for 9.5 percent of Georgia's total output in FY 2011. Out of the \$66.9 billion, \$3.9 billion (6 percent) represents the results from the ports industry and \$63 billion (94 percent) represents the results from ports users.

Of the FY 2011 total output impact, \$39.3 billion represents initial spending, or direct economic impact; and \$27.6 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2011 total output impact (\$66.9 billion) by initial spending (\$39.3 billion) yields an average multiplier value of 1.704. On average, therefore, every dollar initially spent by either the ports industry and ports users generates an additional 70 cents for the economy.

Expressed in other dimensions, the ports industry and port users together support \$32.4 billion in state GDP and \$18.5 billion in income, which account for 7.8 percent and 5.2 percent of Georgia's GDP and total personal income, respectively. The total economic impact on employment is 352,146 full- and part-time jobs. The combined impact of

the ports industry and ports users on state tax collections is \$1.4 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 \$4.5 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 92 percent of the reported economic impacts. Auto/vehicle cargo accounts for 4 percent of the reported impacts, and breakbulk 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. Finally, the statewide economic impact estimates were allocated to individual counties based on each county's economic structure and PIERS trade data regarding county-level imports and exports (measured in terms of short tons and estimated value).

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 2011 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 2011 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 2011 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. (6) Data provided by PIERS on the volume and estimated value of imports and exports for Georgia.

Based on an analysis of both the survey and secondary information sources, it was determined that port-related sales (output) totaled \$37 billion in Georgia in fiscal year 2011, or about 5.2 percent of Georgia's total output that year. Manufacturers were estimated to account for about 71 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 10 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. Table 11 reports the total employment impact by county. 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 \$66.9 billion, which is 9.5 percent of Georgia's output in FY 2011.

Out of the total, \$3.9 billion (6 percent) represents the results from the ports industry, of which the GPA's operations at the Port of Savannah contribute 88 percent. Ports users' total output impact, however, is sixteen times greater than that of the ports industry—\$63 billion. Indeed, ports users account for 94 percent of the total output impact of Georgia's deepwater ports.

Of the FY 2011 total output impact, \$39.3 billion represents initial spending, or direct economic impact; \$27.6 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2011 total output impact (\$66.9 billion) by initial spending (\$39.3 billion) yields an average multiplier value of 1.704. On average, therefore, every dollar initially spent by either the ports industry or ports users generates an additional 70 cents for the state's economy.

■ GDP (Value Added) Impacts ■

Measured in terms of GDP or value added, Georgia's deepwater ports contributed \$32.4 billion to the state's economy in FY 2011, which is 7.8 percent of Georgia's total GDP. Out of the total GDP impact, \$1.9 billion (6 percent) represents the results from the ports industry. The GPA's operations at the Port of Savannah contribute 78 percent of this amount. But the \$30.5 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 2011 total GDP impact, \$16.3 billion represents the direct effects of initial spending, or the direct economic impact; \$16.2 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2011 total GDP impact (\$32.4 billion) by the direct GDP impact (\$16.3 billion) yields an average multiplier value of 1.993. On average, therefore, every dollar of direct GDP produced by the ports industry and ports users yields an additional 99 cents for the state's economy.

■ Income Impacts ■

Measured in terms of income, Georgia's deepwater ports contributed \$18.5 billion to the state's economy in fiscal year 2011, which is 5.2 percent of Georgia's total personal income. Out of the total, \$1.3 billion (7 percent) represents the results from the ports industry. The GPA's operations at the Port of Savannah contribute 78 percent of this amount, but ports users' \$17.1 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 2011 total income impact, \$9.4 billion represents the direct effects of initial spending, or the direct economic impact; \$9.1 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2011 total income impact (\$18.5 billion) by the direct income impact (\$9.4 billion) yields an average multiplier value of 1.976. On average, therefore, every dollar of direct income produced by the ports industry and ports users generates an additional 98 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 352,146 full- and part-time jobs, which equal 8.3 percent of Georgia's total employment – based on the household survey definition of employment.

This means that one job out of every twelve is in some way dependent on the ports. Out of the 352,146, 33,297 (9 percent) represent the results from the ports industry. The GPA's operations at the Port of Savannah contribute 78 percent of these 33,297 jobs, but ports users' 318,849-job impact is almost ten times greater, so users account for 91 percent of the total employment impact of Georgia's deepwater ports.

Of the FY 2011 total employment impact, 153,884 jobs represent the direct effects of initial spending, or the direct economic impact; 198,263 jobs constitute the indirect and induced effect of spending, or the re-spending (multiplier) impact. Dividing the FY 2011 total job impact (352,146 jobs) by the direct job impact (153,884 jobs) yields an average multiplier value of 2.288. 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 2011 is \$1.4 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 2011 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 2011 is \$4.5 billion.

Comparisons to Previous Estimates

In 2010, 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 2009 were published in *The Economic Impact of Georgia's Deepwater Ports on Georgia's Economy in FY 2009* (2010). The methods used were very similar to those used in this study. The FY 2009 impacts of Georgia's deepwater ports were \$61.7 billion in sales, \$26.8 billion in state GDP, \$15.5 billion in income, and 295,443 full- and part-time jobs.

In 2007, 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 2006 were published in *The Economic Impact of Georgia's Deepwater Ports on Georgia's Economy* (2007). The study found that 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 asked 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* (2004). The study found that the FY 2003 impact of Georgia's deepwater ports were \$35.4 billion in sales, \$17.1 billion in state GDP, \$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 2011**

Cargo Type	Cargo Volume ¹			Percent of Total by Mode	
	Mode	Total	Savannah		Brunswick
Autos	Long Dist. Truck	149,610	10,007	139,602	31
	Short Dist. Truck	139,602	0	139,602	29
	<u>Rail</u>	<u>188,638</u>	<u>2,502</u>	<u>186,136</u>	<u>39</u>
	Total	477,850	12,509	465,341	100
Containerized	Long Dist. Truck	1,201,096	1,201,096	0	41
	Short Dist. Truck	1,171,926	1,171,926	0	40
	<u>Rail</u>	<u>554,224</u>	<u>554,224</u>	<u>0</u>	<u>19</u>
	Total	2,927,246	2,927,246	0	100
Breakbulk	Long Dist. Truck	778,605	498,876	279,729	35
	Short Dist. Truck	713,741	388,275	325,466	32
	<u>Rail</u>	<u>704,923</u>	<u>225,256</u>	<u>479,668</u>	<u>32</u>
	Total	2,197,270	1,112,407	1,084,863	100
Dry Bulk	Long Dist. Truck	72,857	0	72,857	7
	Short Dist. Truck	313,815	7,166	306,649	29
	<u>Rail</u>	<u>683,390</u>	<u>0</u>	<u>683,390</u>	<u>64</u>
	Total	1,070,063	7,166	1,062,897	100
Liquid Bulk	Long Dist. Truck	0	0	0	0
	Short Dist. Truck	121,719	111,284	10,435	20
	<u>Rail</u>	<u>498,595</u>	<u>474,247</u>	<u>24,348</u>	<u>80</u>
	Total	620,314	585,531	34,783	100

¹ Cargo Volume is expressed on a per-vehicle basis for auto/vehicle cargo; a per-TEU ("Twenty-Foot Equivalent") 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. Breakbulk includes autos.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu), 2012.

Table 2

**Cargo Volume for Private Facilities/Docks
in Savannah and Brunswick
(Import and Export) in FY 2011**

Cargo Type	Cargo Volume ¹
	Total
Breakbulk	2,191,951
Dry Bulk	4,943,897
Liquid Bulk	<u>5,473,565</u>
Total	12,609,413

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), 2012.

Table 3

**Summary of the Economic Impact
of Georgia's Deepwater Ports on Georgia
in Fiscal Year 2011
(millions of 2011 dollars)**

	Total Economic Impact on:			
	Output	State GDP	Income	Employment (jobs)
Ports Industry	3,917	1,907	1,344	33,297
Savannah Cargo-Based Activity	3,043	1,493	1,053	25,970
Brunswick Cargo-Based Activity	163	81	54	1,285
Ports Investment	26	14	11	231
Private Facilities/Docks	685	319	226	5,811
Ports Users	62,980	30,519	17,180	318,849
Total Output/Revenue Impact	66,897	32,426	18,524	352,146

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), 2012.

Table 4

**Economic Impact of Georgia's Deepwater Ports
on Output (Revenue), Income, and State GDP
in Georgia, Fiscal Year 2011
(millions of 2011 dollars)**

	Direct Economic Impact on Output/Revenue	Indirect & Induced Economic Impact on Output/Revenue	Total Economic Impact on Output/Revenue
Ports Industry	2,552	1,363	3,917
Savannah Cargo-Based Activity	1,983	1,060	3,043
Brunswick Cargo-Based Activity	107	56	163
Ports Investment	15	10	26
Private Facilities/Docks	447	237	685
Ports Users	36,702	26,277	62,980
Total Output/Revenue Impact	39,254	27,640	66,897
	Direct Economic Impact on Income	Indirect & Induced Economic Impact on Income	Total Economic Impact on Income
Ports Industry	897	445	1,344
Savannah Cargo-Based Activity	706	347	1,053
Brunswick Cargo-Based Activity	35	18	54
Ports Investment	7	3	11
Private Facilities/Docks	149	77	226
Ports Users	8,478	8,702	17,180
Total Income Impact	9,375	9,147	18,524
	Direct Economic Impact on Gross State Product	Indirect & Induced Economic Impact on Gross State Product	Total Economic Impact on State GDP
Ports Industry	1,242	666	1,907
Savannah Cargo-Based Activity	975	518	1,493
Brunswick Cargo-Based Activity	54	28	81
Ports Investment	9	5	14
Private Facilities/Docks	204	115	319
Ports Users	15,024	15,495	30,519
Total State GDP	16,266	16,161	32,426

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), 2012.

Table 5

**Economic Impact of Georgia's Deepwater Ports
on Employment in Georgia, Fiscal Year 2011
(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	21,736	11,562	33,297
Savannah Cargo-Based Activity	16,961	9,009	25,970
Brunswick Cargo-Based Activity	814	471	1,285
Ports Investment	146	86	231
Private Facilities/Docks	3,815	1,996	5,811
Ports Users	132,148	186,701	318,849
Total Employment Impact	153,884	198,263	352,146

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), 2012.

Table 6

**Economic Impact of Georgia's Deepwater Ports
on Tax Collections in Georgia, Fiscal Year 2011
(millions of 2011 dollars)**

	Federal Taxes	State Taxes	Local Taxes
Ports Industry	411.7	77.2	79.5
Savannah Cargo-Based Activity	323.1	60.9	63.0
Brunswick Cargo-Based Activity	16.4	3.2	3.3
Ports Investment	3.1	0.5	0.5
Private Facilities/Docks	69.1	12.6	12.7
Ports Users	4,053.1	1,367.1	1,031.4
Total	4,464.8	1,444.3	1,110.9

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), 2012.

Table 7

**Overall Multipliers for
Output, Employment, Income, and State GDP,
Fiscal Year 2011**

	Output Multiplier Value	Employment Multiplier Value	Income Multiplier Value	GDP Multiplier Value
Ports Industry	1.535	1.532	1.498	1.535
Savannah Cargo-Based Activity	1.535	1.531	1.492	1.531
Brunswick Cargo-Based Activity	1.523	1.579	1.543	1.500
Ports Investment	1.733	1.582	1.571	1.556
Private Facilities/Docks	1.532	1.523	1.517	1.564
Ports Users	1.716	2.413	2.026	2.031
Total	1.704	2.288	1.976	1.993

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), 2012.

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 2011**

Model/Impact	Output/Revenue (Mil. \$2011)	State GDP (Mil. \$2011)	Income (Mil. \$2011)	Employment (jobs)
Containerized	2,940	1,443	1,016	25,005
Breakbulk	98	49	37	976
Auto/Vehicle	130	65	42	1,018
Dry Bulk	25	11	8	170
Liquid Bulk	14	7	4	86
Total	3,206	1,575	1,107	27,255
Percent of Total				
Containerized	91.7	91.6	91.8	91.7
Breakbulk	3.1	3.1	3.3	3.6
Auto/Vehicle	4.0	4.1	3.8	3.7
Dry Bulk	0.8	0.7	0.7	0.6
Liquid Bulk	0.4	0.4	0.4	0.3
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), 2012.

Table 9

**Ports Industry Employment Impact by Occupation in Georgia,
Fiscal Year 2011 (full- and part-time jobs)**

Occupational Category	Port Industry Impact (full- and part-time jobs)
Executive, administrative and managerial	2,723
Managerial and administrative	2,050
Management support	673
Professional specialty	979
Engineers	142
Architects and surveyors	8
Life scientists	10
Computer, math, and operations research	168
Physical scientists	23
Religious workers	56
Social scientists	11
Social and recreation workers	39
Lawyers and judicial workers	28
Teachers, librarians, and counselors	167
Health diagnosing	16
Health assessment and treatment	83
Writers, artists, and entertainers	121
All other professionals	109
Technicians and related support	296
Health	114
Engineering	96
Other technicians	87
Marketing and sales	2,511
Cashiers	574
Counter and rental clerks	119
Insurance sales agents	42
Marketing and sales worker supervisors	309
Models, demonstrators, product promoters	22
Parts salespersons	27
Real estate agents and brokers	14
Retail salespersons	636
Sales engineers	4
Securities, commodities, financial service sales	22
Travel agents	6
All other sales and related	732
Administrative support	5,460
Adjusters, investigators, and collectors	264
Communications equipment operators	50
Computer operators	24
Information clerks	204
Mail clerks and messengers	162
Postal clerks and mail carriers	37
Material recording, scheduling, dispatch, distributing	1,412
Records processing	993
Secretaries, stenographers, typists	532
Other administrative support	1,779

(continued)

Table 9 (continued)

**Ports Industry Employment Impact by Occupation in Georgia,
Fiscal Year 2011 (full- and part-time jobs)**

Occupational Category	Port Industry Impact (full- and part-time jobs)
Service	2,444
Cleaning and building service	353
Food preparation and service	1,489
Health service	118
Personal service	79
Private household workers	39
Protective service	350
Agriculture, forestry, and fishing	136
Production, craft, and repair	3,867
Blue collar worker supervisors	879
Construction trades	320
Extractive and related workers	26
Mechanics, installers, and repairers	1,583
Machinery mechanics, installers, and repairers	138
Vehicle and mobile equipment mechanics	705
Other mechanics, installers, and repairers	216
Precision production	277
Plant and systems	26
Operators, fabricators, and laborers	14,578
Numerical control machine tool operators	2
Combination machine tool setters, etc.	2
Machine setters, operators, and tenders	293
Hand workers, including assemblers	321
Transportation and material moving machine/vehicle	11,169
Helpers, laborers, and material movers, hand	2,790
Total all occupations	33,297

Note: The port 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), 2012.

Table 10

**Ports Users Employment Impact by Industry in Georgia,
Fiscal Year 2011 (full- and part-time jobs)**

Impacted Industry	Employment (jobs)
Ag, forestry, fishing & hunting	25,347
Mining	1,297
Utilities	1,411
Construction	6,887
Manufacturing	67,763
Wholesale trade	39,454
Retail trade	22,001
Transportation and warehousing	34,015
Information	3,498
Finance & insurance	12,472
Real estate & rental	10,927
Professional, scientific, & tech. services	12,629
Management	5,580
Administrative & waste services	16,311
Educational services	3,973
Health & social services	19,914
Arts, entertainment & recreation	3,786
Accommodations & food services	14,183
Other services	14,709
Government	2,693
Total	318,849

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), 2012.

Table 11

**Total Economic Impact of Georgia's Deepwater Ports
On County-Level Employment in Georgia, Fiscal Year 2011
(full- and part-time jobs)**

County	Total Economic Impact on Employment	County	Total Economic Impact on Employment
Appling	505	Dade	275
Atkinson	213	Dawson	488
Bacon	320	Decatur	761
Baker	51	DeKalb	22,660
Baldwin	1,090	Dodge	411
Banks	541	Dooly	314
Barrow	1,421	Dougherty	3,473
Bartow	3,552	Douglas	2,786
Ben Hill	498	Early	655
Berrien	354	Echols	74
Bibb	7,310	Effingham	2,057
Bleckley	251	Elbert	759
Brantley	320	Emanuel	594
Brooks	240	Evans	392
Bryan	3,480	Fannin	518
Bulloch	3,266	Fayette	4,045
Burke	569	Floyd	3,360
Butts	416	Forsyth	3,479
Calhoun	97	Franklin	762
Camden	1,007	Fulton	57,625
Candler	238	Gilmer	691
Carroll	2,907	Glascock	40
Catoosa	1,337	Glynn	3,529
Charlton	155	Gordon	1,803
Chatham	37,319	Grady	530
Chattahoochee	700	Greene	453
Chattooga	631	Gwinnett	23,193
Cherokee	3,655	Habersham	1,006
Clarke	4,180	Hall	5,592
Clay	47	Hancock	109
Clayton	11,953	Haralson	552
Clinch	174	Harris	507
Cobb	24,538	Hart	525
Coffee	1,200	Heard	259
Colquitt	1,115	Henry	3,952
Columbia	2,380	Houston	3,583
Cook	325	Irwin	194
Coweta	2,848	Jackson	1,464
Crawford	257	Jasper	215
Crisp	534	Jeff Davis	340

(continued)

Table 11 (continued)

**Total Economic Impact of Georgia's Deepwater Ports
On County-Level Employment in Georgia, Fiscal Year 2011
(full- and part-time jobs)**

County	Total Economic Impact on Employment	County	Total Economic Impact on Employment
Jefferson	524	Richmond	10,168
Jenkins	122	Rockdale	2,291
Johnson	161	Schley	121
Jones	311	Screven	328
Lamar	358	Seminole	165
Lanier	121	Spalding	1,648
Laurens	2,110	Stephens	691
Lee	425	Stewart	81
Liberty	4,134	Sumter	762
Lincoln	148	Talbot	83
Long	81	Taliaferro	22
Lowndes	3,219	Tattnall	651
Lumpkin	526	Taylor	174
McDuffie	609	Telfair	221
McIntosh	184	Terrell	199
Macon	341	Thomas	1,321
Madison	415	Tift	1,229
Marion	158	Toombs	900
Meriwether	599	Towns	263
Miller	135	Treutlen	96
Mitchell	678	Troup	3,186
Monroe	397	Turner	174
Montgomery	157	Twiggs	99
Morgan	543	Union	549
Murray	956	Upson	529
Muscogee	5,607	Walker	1,210
Newton	1,509	Walton	1,756
Oconee	593	Ware	1,649
Oglethorpe	192	Warren	99
Paulding	1,823	Washington	3,895
Peach	594	Wayne	3,281
Pickens	575	Webster	35
Pierce	362	Wheeler	85
Pike	282	White	542
Polk	944	Whitfield	5,523
Pulaski	163	Wilcox	122
Putnam	523	Wilkes	240
Quitman	23	Wilkinson	297
Rabun	395	Worth	322
Randolph	126	Total for Georgia	352,146

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu), 2012).

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 2011
(thousands of 2011 dollars)**

	Model Output (000 of 2011\$)	Model Employment (jobs)	Model Income (000 of 2011\$)	Model GSP (000 of 2011\$)
Total Economic Impact				
Agriculture	3,516.1	14.0	337.2	583.0
Agri. Serv., Forestry, & Fish	1,381.5	26.0	617.6	763.0
Mining	4,968.0	48.0	713.7	1,716.2
Construction	40,654.7	117.0	5,592.4	12,544.4
Manufacturing	209,015.0	625.0	33,179.5	60,908.3
Trans. & Public Utilities	2,220,564.9	18,893.0	791,903.7	1,101,054.8
Wholesale	81,524.8	451.0	33,152.3	34,638.3
Retail Trade	178,518.2	3,052.0	65,637.6	103,915.2
Finance, Ins., & Real Estate	197,276.9	1,090.0	63,092.1	125,774.2
Services	244,387.3	2,772.0	104,586.2	119,045.7
Government	24,576.8	167.0	7,845.9	13,716.1
Total	3,206,384.5	27,255.0	1,106,658.4	1,574,659.3
Distribution of Economic Impact				
1. Direct Impact	2,089,906.3	17,775.0	741,027.1	1,028,478.3
2. Indirect & Induced Impacts	1,116,478.5	9,480.0	365,748.8	546,180.7
3. Total Economic Impact	3,206,384.5	27,255.0	1,106,658.4	1,574,659.3
4. Multipliers (e.g., 3/1)	1.534	1.533	1.493	1.531
Composition of Gross State Product				
1. Wages (net of taxes)				978,468.3
2. Taxes, total				246,841.7
a. Local Taxes				41,033.1
b. State Taxes				36,884.3
c. Federal Taxes				168,923.8
3. Profits, dividends, rent and other				349,349.9
4. Total Gross State Product (1+2+3)				1,574,659.3
Tax Accounts				
Total				469,803.1
Local				66,296.2
State				64,015.0
Federal				339,492.2
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				13.0
Income				529,126.0
State Taxes				30,607.5
Local Taxes				31,698.2
Gross State Product				752,891.0
Initial Expenditure in Dollars				2,091,483,809.7

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, 2012.

Table A-2

**The Economic Impact of Port Industry Activity
at the Georgia Ports Authority's Facilities in Savannah
on Georgia in Fiscal Year 2011
(thousands of 2011 dollars)**

	Model Output (000 of 2011\$)	Model Employment (jobs)	Model Income (000 of 2011\$)	Model GSP (000 of 2011\$)
Total Economic Impact				
Agriculture	3,334.6	13.0	319.8	553.1
Agri. Serv., Forestry, & Fish	1,329.2	25.0	594.4	732.7
Mining	4,633.4	45.0	665.9	1,601.0
Construction	37,672.2	109.0	5,177.0	11,627.1
Manufacturing	196,686.1	591.0	31,375.2	57,468.7
Trans. & Public Utilities	2,115,983.2	18,089.0	757,080.9	1,048,603.3
Wholesale	77,719.8	430.0	31,604.8	33,021.6
Retail Trade	169,912.7	2,903.0	62,474.2	98,910.0
Finance, Ins., & Real Estate	186,360.1	1,033.0	59,948.4	118,681.8
Services	230,203.1	2,595.0	97,851.8	111,993.4
Government	19,207.5	137.0	6,032.4	10,204.2
Total	3,043,041.8	25,970.0	1,053,125.6	1,493,397.2
Distribution of Economic Impact				
1. Direct Impact	1,982,818.4	16,961.0	705,685.2	974,936.7
2. Indirect & Induced Impacts	1,060,223.3	9,009.0	347,440.5	518,460.3
3. Total Economic Impact	3,043,041.8	25,970.0	1,053,125.6	1,493,397.2
4. Multipliers (e.g., 3/1)	1.535	1.531	1.492	1.532
Composition of Gross State Product				
1. Wages (net of taxes)				931,297.4
2. Taxes, total				234,740.0
a. Local Taxes				38,944.8
b. State Taxes				35,036.5
c. Federal Taxes				160,758.4
3. Profits, dividends, rent and other				327,360.0
4. Total Gross State Product (1+2+3)				1,493,397.2
Tax Accounts				
Total				446,916.2
Local				62,985.8
State				60,854.6
Federal				323,075.9
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				13.1
Income				530,764.7
State Taxes				30,670.1
Local Taxes				31,744.2
Gross State Product				752,657.1
Initial Expenditure in Dollars				1,984,166,608.2

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, 2012.

Table A-3

**The Economic Impact of Port Industry Activity
at the Georgia Ports Authority's Facilities in Brunswick
on Georgia in Fiscal Year 2011
(thousands of 2011 dollars)**

	Model Output (000 of 2011\$)	Model Employment (jobs)	Model Income (000 of 2011\$)	Model GSP (000 of 2011\$)
Total Economic Impact				
Agriculture	181.5	1.0	17.4	29.9
Agri. Serv., Forestry, & Fish	52.2	1.0	23.2	30.3
Mining	334.6	3.0	47.8	115.2
Construction	2,982.5	8.0	415.4	917.3
Manufacturing	12,328.9	34.0	1,804.2	3,439.6
Trans. & Public Utilities	104,581.7	804.0	34,822.8	52,451.4
Wholesale	3,805.0	21.0	1,547.5	1,616.7
Retail Trade	8,605.5	149.0	3,163.4	5,005.1
Finance, Ins., & Real Estate	10,916.9	57.0	3,143.7	7,092.4
Services	14,184.2	177.0	6,734.4	7,052.3
Government	5,369.4	30.0	1,813.5	3,512.0
Total	163,342.7	1,285.0	53,532.8	81,262.2
Distribution of Economic Impact				
1. Direct Impact	107,087.8	814.0	35,341.9	53,541.6
2. Indirect & Induced Impacts	56,255.2	471.0	18,308.3	27,720.4
3. Total Economic Impact	163,342.7	1,285.0	53,532.8	81,262.2
4. Multipliers (e.g., 3/1)	1.525	1.579	1.515	1.518
Composition of Gross State Product				
1. Wages (net of taxes)				47,170.9
2. Taxes, Total				12,101.7
a. Local Taxes				2,088.3
b. State Taxes				1,847.9
c. Federal Taxes				8,165.4
3. Profits, dividends, rent and other				21,989.9
4. Total Gross State Product (1+2+3)				81,262.2
Tax Accounts				
Total				22,886.9
Local				3,310.4
State				3,160.4
Federal				16,416.3
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				12.0
Income				498,827.9
State Taxes				29,449.0
Local Taxes				30,847.3
Gross State Product				757,215.0
Initial Expenditure in Dollars				107,317,201.4

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, 2012.

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 2011
(thousands of 2011 dollars)**

	Model Output (000 of 2011\$)	Model Employment (jobs)	Model Income (000 of 2011\$)	Model GSP (000 of 2011\$)
Total Economic Impact				
Agriculture	144.6	1.0	13.7	23.8
Agri. Serv., Forestry, & Fish	41.3	1.0	18.4	24.0
Mining	146.9	1.0	21.9	51.7
Construction	2,501.9	7.0	348.6	769.2
Manufacturing	7,533.7	26.0	1,333.7	2,321.7
Trans. & Public Utilities	85,394.6	655.0	28,024.8	42,710.2
Wholesale	2,649.5	14.0	1,077.5	1,125.8
Retail Trade	6,786.4	116.0	2,494.7	3,947.3
Finance, Ins., & Real Estate	8,985.7	46.0	2,517.8	5,866.6
Services	10,510.6	123.0	4,881.8	5,154.0
Government	4,809.9	27.0	1,627.0	3,159.6
Total	129,504.8	1,018.0	42,360.0	65,153.9
Distribution of Economic Impact				
1. Direct Impact	84,561.7	641.0	27,784.5	42,896.6
2. Indirect & Induced Impacts	44,943.2	378.0	14,693.0	22,257.1
3. Total Economic Impact	129,504.8	1,018.0	42,360.0	65,153.9
4. Multipliers (e.g., 3/1)	1.531	1.588	1.525	1.519
Composition of Gross State Product				
1. Wages (net of taxes)				37,268.3
2. Taxes, total				9,633.4
a. Local Taxes				1,663.5
b. State Taxes				1,468.1
c. Federal Taxes				6,501.9
3. Profits, dividends, rent and other				18,252.1
4. Total Gross State Product (1+2+3)				65,153.9
Tax Accounts				
Total				18,167.8
Local				2,630.5
State				2,506.5
Federal				13,030.9
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				12.0
Income				499,845.0
State Taxes				29,576.2
Local Taxes				31,040.3
Gross State Product				768,811.2
Initial Expenditure in Dollars				84,746,238.1

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, 2012.

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 2011
(thousands of 2011 dollars)**

<u>Total Economic Impact</u>	Model Output (000 of 2011\$)	Model Employment (jobs)	Model Income (000 of 2011\$)	Model GSP (000 of 2011\$)
Agriculture	116.1	0.0	11.1	19.2
Agri. Serv., Forestry, & Fish	44.0	1.0	19.7	24.4
Mining	214.6	2.0	30.3	73.5
Construction	1,221.9	3.0	167.4	377.3
Manufacturing	7,805.0	21.0	1,101.3	2,148.0
Trans. & Public Utilities	55,233.0	495.0	19,870.4	27,184.0
Wholesale	2,539.8	14.0	1,032.8	1,079.1
Retail Trade	5,850.1	100.0	2,151.4	3,405.4
Finance, Ins., & Real Estate	6,393.8	35.0	2,019.1	4,086.9
Services	17,367.6	294.0	9,641.3	9,340.9
Government	1,493.0	10.0	494.7	926.6
Total	98,278.9	976.0	36,539.8	48,665.5
Distribution of Economic Impact				
1. Direct Impact	63,953.5	681.0	25,272.1	31,776.9
2. Indirect & Induced Impacts	34,325.3	296.0	11,267.6	16,888.3
3. Total Economic Impact	98,278.9	976.0	36,539.8	48,665.5
4. Multipliers (e.g., 3/1)	1.537	1.433	1.446	1.531
Composition of Gross State Product				
1. Wages (net of taxes)				32,505.2
2. Taxes, total				7,952.2
a. Local Taxes				1,330.9
b. State Taxes				1,199.8
c. Federal Taxes				5,421.2
3. Profits, dividends, rent and other				8,208.2
4. Total Gross State Product (1+2+3)				48,665.5
Tax Accounts				
Total				15,313.8
Local				2,165.1
State				2,095.7
Federal				11,053.1
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				15.2
Income				570,773.1
State Taxes				32,736.7
Local Taxes				33,819.9
Gross State Product				760,183.5
Initial Expenditure in Dollars				64,018,069.6

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, 2012.

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 2011
(thousands of 2011 dollars)**

	Model Output (000 of 2011\$)	Model Employment (jobs)	Model Income (000 of 2011\$)	Model GSP (000 of 2011\$)
Total Economic Impact				
Agriculture	3,215.0	13.0	308.5	533.4
Agri. Serv., Forestry, & Fish	1,286.4	24.0	575.3	708.8
Mining	4,349.8	42.0	626.4	1,504.0
Construction	36,294.9	105.0	4,987.5	11,202.2
Manufacturing	187,440.9	569.0	30,177.5	55,029.1
Trans. & Public Utilities	2,056,969.6	17,586.0	736,040.8	1,019,191.8
Wholesale	74,922.7	415.0	30,467.5	31,833.2
Retail Trade	163,928.2	2,802.0	60,273.6	95,427.2
Finance, Ins., & Real Estate	179,819.9	997.0	57,880.4	114,504.5
Services	214,001.3	2,328.0	89,011.7	103,345.6
Government	17,649.4	126.0	5,516.3	9,236.8
Total	2,939,878.2	25,005.0	1,015,865.2	1,442,516.6
Distribution of Economic Impact				
1. Direct Impact	1,915,307.6	16,301.0	680,061.9	941,537.5
2. Indirect & Induced Impacts	1,024,570.6	8,704.0	335,803.4	500,979.2
3. Total Economic Impact	2,939,878.2	25,005.0	1,015,865.2	1,442,516.6
4. Multipliers (e.g., 3/1)	1.535	1.534	1.494	1.532
Composition of Gross State Product				
1. Wages (net of taxes)				898,146.5
2. Taxes, total				226,635.5
a. Local Taxes				37,590.5
b. State Taxes				33,813.6
c. Federal Taxes				155,231.3
3. Profits, dividends, rent and other				317,734.7
4. Total Gross State Product (1+2+3)				1,442,516.6
Tax Accounts				
Total				431,304.9
Local				60,780.8
State				58,718.3
Federal				311,805.7
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				13.0
Income				530,043.2
State Taxes				30,637.2
Local Taxes				31,713.3
Gross State Product				752,655.1
Initial Expenditure in Dollars				1,916,570,583.2

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, 2012.

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 2011
(thousands of 2011 dollars)**

	Model Output (000 of 2011\$)	Model Employment (jobs)	Model Income (000 of 2011\$)	Model GSP (000 of 2011\$)
Total Economic Impact				
Agriculture	25.6	0.0	2.5	4.2
Agri. Serv., Forestry, & Fish	6.1	0.0	2.6	3.7
Mining	158.3	2.0	21.7	53.7
Construction	372.3	1.0	52.0	114.7
Manufacturing	3,866.9	6.0	354.7	877.2
Trans. & Public Utilities	14,474.7	106.0	4,990.0	7,321.4
Wholesale	892.4	5.0	362.8	379.0
Retail Trade	1,237.7	22.0	454.9	719.3
Finance, Ins., & Real Estate	1,340.7	8.0	431.2	851.5
Services	1,649.5	17.0	693.5	793.3
Government	484.3	3.0	162.2	309.7
Total	24,508.5	170.0	7,528.2	11,427.6
Distribution of Economic Impact				
1. Direct Impact	16,417.7	104.0	4,967.6	7,544.5
2. Indirect & Induced Impacts	8,090.9	66.0	2,560.5	3,883.1
3. Total Economic Impact	24,508.5	170.0	7,528.2	11,427.6
4. Multipliers (e.g., 3/1)	1.493	1.635	1.515	1.515
Composition of Gross State Product				
1. Wages (net of taxes)				6,650.0
2. Taxes, total				1,685.4
a. Local Taxes				292.0
b. State Taxes				260.3
c. Federal Taxes				1,133.0
3. Profits, dividends, rent and other				3,092.3
4. Total Gross State Product (1+2+3)				11,427.6
Tax Accounts				
Total				3,202.1
Local				463.9
State				445.0
Federal				2,293.3
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				10.3
Income				457,434.4
State Taxes				27,036.7
Local Taxes				28,187.4
Gross State Product				694,376.8
Initial Expenditure in Dollars				16,457,390.5

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, 2012.

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 2011
(thousands of 2011 dollars)**

	Model Output (000 of 2011\$)	Model Employment (jobs)	Model Income (000 of 2011\$)	Model GSP (000 of 2011\$)
Total Economic Impact				
Agriculture	14.9	0.0	1.4	2.5
Agri. Serv., Forestry, & Fish	3.7	0.0	1.6	2.1
Mining	98.5	1.0	13.5	33.3
Construction	263.7	1.0	37.0	81.0
Manufacturing	2,368.4	3.0	212.2	532.3
Trans. & Public Utilities	8,493.0	51.0	2,977.7	4,647.3
Wholesale	520.4	3.0	211.7	221.1
Retail Trade	715.8	12.0	263.0	416.0
Finance, Ins., & Real Estate	736.8	4.0	243.6	464.8
Services	858.4	10.0	357.8	411.9
Government	140.3	1.0	45.7	83.5
Total	14,214.1	86.0	4,365.3	6,895.8
Distribution of Economic Impact				
1. Direct Impact	9,665.7	48.0	2,941.0	4,722.8
2. Indirect & Induced Impacts	4,548.4	36.0	1,424.2	2,172.9
3. Total Economic Impact	14,214.1	86.0	4,365.3	6,895.8
4. Multipliers (e.g., 3/1)	1.471	1.792	1.484	1.460
Composition of Gross State Product				
1. Wages (net of taxes)				3,898.3
2. Taxes, total				935.1
a. Local Taxes				156.2
b. State Taxes				142.5
c. Federal Taxes				636.4
3. Profits, dividends, rent and other				2,062.6
4. Total Gross State Product (1+2+3)				6,895.8
Tax Accounts				
Total				1,814.6
Local				255.8
State				249.6
Federal				1,309.3
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				8.9
Income				450,424.8
State Taxes				25,752.0
Local Taxes				26,398.9
Gross State Product				711,529.7
Initial Expenditure in Dollars				9,691,528.2

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, 2012.

Table A-9

**The Economic Impact of Port Industry Activity at
Private Facilities/Docks in Savannah and Brunswick
on Georgia in Fiscal Year 2011
(thousands of 2011 dollars)**

	Model Output (000 of 2011\$)	Model Employment (jobs)	Model Income (000 of 2011\$)	Model GSP (000 of 2011\$)
Total Economic Impact				
Agriculture	726.8	3.0	69.2	119.9
Agri. Serv., Forestry, & Fish	198.9	4.0	87.9	113.4
Mining	2,057.9	20.0	286.1	701.5
Construction	7,725.3	23.0	1,061.1	2,384.5
Manufacturing	61,384.1	133.0	7,334.6	15,628.8
Trans. & Public Utilities	442,510.9	3,732.0	149,213.6	207,201.6
Wholesale	20,578.1	114.0	8,368.2	8,743.3
Retail Trade	37,036.6	632.0	13,614.7	21,552.4
Finance, Ins., & Real Estate	40,025.6	223.0	12,998.0	25,458.9
Services	65,155.2	881.0	30,745.3	32,991.5
Government	7,323.8	46.0	2,390.8	4,361.5
Total	684,723.0	5,811.0	226,169.7	319,257.3
Distribution of Economic Impact				
1. Direct Impact	447,405.2	3,815.0	149,185.9	204,002.3
2. Indirect & Induced Impacts	237,318.2	1,996.0	76,983.7	115,255.2
3. Total Economic Impact	684,723.0	5,811.0	226,169.7	319,257.3
4. Multipliers (e.g., 3/1)	1.530	1.523	1.516	1.565
Composition of Gross State Product				
1. Wages (net of taxes)				201,640.0
2. Taxes, total				48,778.7
a. Local Taxes				7,280.6
b. State Taxes				7,029.7
c. Federal Taxes				34,207.4
3. Profits, dividends, rent and other				68,838.6
4. Total Gross State Product (1+2+3)				319,257.3
Tax Accounts				
Total				94,345.8
Local				12,704.8
State				12,574.3
Federal				69,066.8
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				13.0
Income				504,921.8
State Taxes				28,072.0
Local Taxes				28,363.3
Gross State Product				712,739.1
Initial Expenditure in Dollars				447,930,096.0

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, 2012.

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 2011
(thousands of 2011 dollars)**

	Model Output (000 of 2011\$)	Model Employment (jobs)	Model Income (000 of 2011\$)	Model GSP (000 of 2011\$)
Total Economic Impact				
Agriculture	35.5	0.0	3.6	6.4
Agri. Serv., Forestry, & Fish	41.1	0.8	16.6	23.6
Mining	862.1	4.6	294.5	463.7
Construction	9,943.7	114.9	5,503.2	6,807.8
Manufacturing	6,288.1	30.6	1,620.2	2,276.3
Trans. & Public Utilities	1,846.0	10.0	496.7	816.7
Wholesale	984.0	5.4	400.1	418.1
Retail Trade	1,777.0	29.9	655.7	1,042.8
Finance, Ins., & Real Estate	1,572.8	9.2	535.8	990.8
Services	2,290.3	23.7	982.9	1,086.0
Government	134.5	0.8	40.6	62.7
Total	25,775.1	231.2	10,549.9	13,995.0
Distribution of Economic Impact				
1. Direct Impact	15,296.1	145.5	7,109.4	8,977.1
2. Indirect & Induced Impacts	10,479.0	85.8	3,440.4	5,017.9
3. Total Economic Impact	25,775.1	231.2	10,549.9	13,995.0
4. Multipliers (e.g., 3/1)	1.685	1.592	1.484	1.559
Composition of Gross State Product				
1. Wages (net of taxes)				9,622.5
2. Taxes, total				2,058.5
a. Local Taxes				267.5
b. State Taxes				278.3
c. Federal Taxes				1,512.7
3. Profits, dividends, rent and other				2,314.0
4. Total Gross State Product (1+2+3)				13,995.0
Tax Accounts				
Total				4,184.0
Local				508.4
State				536.9
Federal				3,138.8
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				12.6
Income				573,363.0
State Taxes				29,179.0
Local Taxes				27,629.0
Gross State Product				760,598.0
Initial Expenditure in Dollars				18,400,000.0

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, 2012.

Table A-11

**The Economic Impact of Port-Related Activity
on Georgia in Fiscal Year 2011
(thousands of 2011 dollars)**

	Model Output (000 of 2011\$)	Model Employment (jobs)	Model Income (000 of 2011\$)	Model GDP (000 of 2011\$)
Total Economic Impact				
Agriculture	3,670,279	25,347	1,308,487	1,292,122
Mining	300,889	1,297	97,381	187,787
Construction	846,192	6,887	296,854	371,194
Manufacturing	30,233,358	67,763	4,515,684	9,675,214
Trans, Info, Utilities	4,299,632	35,425	1,758,624	2,750,201
Retail & Wholesale Trade	8,224,105	61,455	3,741,518	6,448,684
Services	14,934,514	117,981	5,273,376	9,628,293
Government	470,559	2,693	188,456	165,417
Total	62,979,529	318,849	17,180,380	30,518,914
Distribution of Economic Impact				
1. Direct Impact	36,702,364	132,148	8,477,954	15,023,996
2. Indirect & Induced Impacts	26,277,165	186,701	8,702,426	15,494,918
3. Total Economic Impact	62,979,529	318,849	17,180,380	30,518,914
4. Multipliers (e.g., 3/1)	1.716	2.413	2.026	2.031

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 2010 IMPLAN State Package for Georgia, 2012.

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