

# **The Economic Impact of Georgia's Deepwater Ports on Georgia's Economy in FY 2024**

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## **Executive Summary: The Economic Impact of Georgia's Deepwater Ports on Georgia's Economy in FY 2024**

*This summary highlights some of the findings regarding the economic impact of Georgia's deepwater ports on Georgia's economy in fiscal year 2024. The ensuing sections contain the comprehensive technical report.*

**The statewide economic impact of Georgia's deepwater ports in fiscal year 2024 includes:**

- **\$174 billion in sales (11 percent of Georgia's total sales);**
- **\$77 billion in state GDP (9 percent of Georgia's total GDP);**
- **\$43 billion in income (7 percent of Georgia's total personal income);**
- **650,964 full- and part-time jobs (12 percent of Georgia's total employment);**
- **\$10 billion in federal taxes;**
- **\$3 billion in state taxes; and**
- **\$3 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 foster growth of Georgia's manufacturing, agriculture, warehousing, transportation, distribution, logistics, forestry, and mining industries.

### **■ Output (Sales) Impacts**

Measured in the simplest and broadest terms, the total economic impact of Georgia's deepwater ports on Georgia's economy is \$174 billion, which is 11 percent of Georgia's output. Out of the total, \$99 billion represents direct economic impact; \$75 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the total output impact (\$174 billion) by direct spending (\$99 billion) yields an average multiplier value of 1.76. On average, therefore, every dollar in direct spending by the ports industry and ports users generates an additional 76 cents for the state's economy.

### **■ State GDP (Value Added) Impacts**

Measured in terms of GDP or value added, Georgia's deepwater ports contribute \$77 billion to the state's economy, which is 9 percent of Georgia's total GDP. Out of the total, \$36 billion represents the direct effects of initial spending, or the direct economic impact; \$42 billion is indirect and induced spending, or the re-spending (multiplier) impact.

## ■ **Income Impacts**

Measured in terms of income, Georgia's deepwater ports contributed \$43 billion to the state's economy, which is 7 percent of Georgia's total personal income. Of the total, \$20 billion represents the direct effects of initial spending, or the direct economic impact; \$23 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 650,964 full- and part-time jobs, which is 12 percent of Georgia's total employment. This means that about one job out of every eight is in some way dependent on the ports. Of the total employment impact, 298,244 jobs represent the direct effects of initial spending, or the direct economic impact; 352,720 jobs constitute the indirect and induced effect of spending, or the re-spending impact on employment.

## ■ **State Tax Impact**

The total economic impact of Georgia's deepwater ports on tax collections by state government is \$3 billion.

## ■ **Local Tax Impact**

The total economic impact of Georgia's deepwater ports on tax collections by local governments is \$3 billion.

## ■ **Federal Tax Impacts**

The total economic impact of Georgia's deepwater ports on tax collections by the federal government is \$10 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, logistics, wholesale/distribution centers, warehousing, manufacturing, agriculture, forestry, and mining. 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 over many 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 because of the presence and operations of Georgia's deepwater ports in fiscal year 2024.

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 2024 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 2024 includes:

- \$174 billion in sales (11 percent of Georgia's total sales);
- \$77 billion in state GDP (9 percent of Georgia's total GDP);
- \$43 billion in income (7 percent of Georgia's total personal income);
- 650,964 full- and part-time jobs (12 percent of Georgia's total employment);
- \$10 billion in federal taxes;
- \$3 billion in state taxes; and
- \$3 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 \$174 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 \$174 billion output impact accounts for 11 percent of Georgia's total output. Out of the \$174 billion, \$12 billion (7 percent) represents the results from the ports industry and \$162 billion (93 percent) represents the results from ports users.

Of the total output impact, \$99 billion represents direct economic impact; and \$75 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the total output impact (\$174 billion) by direct spending (\$99 billion) yields an average multiplier value of 1.76. On average, therefore, every dollar initially spent by either the ports industry and ports users generates an additional 76 cents for the economy.

Expressed in other dimensions, the ports industry and port users together support \$77 billion in state GDP and \$43 billion in income, which account for 9 percent and 7 percent of Georgia's GDP and total personal income, respectively. The total economic impact on employment is 650,964 full- and part-time jobs, or almost one job out of every eight. The combined impact of the ports industry and ports users on state tax collections is \$3

billion. The combined impact of the ports industry and ports users on local tax collections is \$3 billion. On federal tax collections it is \$10 billion.

Container traffic is the primary source of economic impact. Indeed, 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 94 percent of the output impacts. Auto/vehicle cargo accounts for 4 percent of the output impacts. Dry bulk accounts for about 1 percent of the output impacts. Breakbulk and liquid bulk cargo each account for less than 1 percent of output 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 is 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, agricultural/forestry/mining firms, 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. In addition, 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 better measure of the 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 several steps. First, data regarding tonnage by type and capital expenditures were obtained from the Georgia Ports Authority. The tonnage data were imported into the U.S. Department of Transportation's MARAD Port Economic Impact Kit to estimate direct spending by the ports industry for each cargo mode. The IMPLAN economic impact assessment software system was used to estimate the indirect and induced economic impacts of direct spending for each mode of cargo and capital expenditures. Second, ports users' spending was estimated. Port-level exports and imports commodity data were extracted from USA Trade Online for the Port of Savannah and the Port of Brunswick. In addition, data from surveys of ports users were used 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. Once initial spending by port users was estimated, IMPLAN was used to estimate the direct, 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).

### **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 spending by the ports industry for each mode of cargo. A general 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 2024 data on cargo volume (import and export) by mode of transportation for the Savannah and Brunswick facilities.

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 Mayor's Point Terminal, Colonel's Island, and the Brunswick East River/Lanier docks. Table 1 summarizes cargo volume for autos, 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 (Table 2). The Georgia Ports Authority also provided capital expenditures (ports investment) in FY 2024 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**

Commodity-level data for vessel borne imports and exports were extracted on April 14, 2025, from USA Trade Online for the Port of Savannah and the Port of Brunswick. Vessel borne exports were adjusted to account for origin of movement (Georgia) and vessel borne imports were adjusted to account for state of destination (Georgia). In addition, data and insights from two surveys were used to estimate the port users' economic impacts. For example, in Spring/Summer 2014, the Selig Center collaborated with the Georgia Governor's Development Council and the Center of Innovation for Logistics to survey representatives from strategic industries (as well as economic development and transportation experts) regarding Georgia's ports and their impact on transportation competitiveness. In addition, a confidential survey of the entire population of 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 data/information obtained from USA Trade Online and the two surveys. These 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. (2) The U.S. Department of Labor's and the Georgia Department of Labor's data on employment. (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) Studies 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) County-level data provided by PIERS regarding the volume of imports and exports for Georgia.

Based on an analysis of data from the Georgia Ports Authority, USA Trade Online, PIERS, surveys, and secondary information sources, it was determined that port-related sales (output) totaled \$100 billion. Manufacturers account for 77 percent of port-related sales, while wholesale, warehousing, and storage activities accounted for 15 percent of port-related sales. Agriculture, forestry, fishing, and mining accounted for the remaining 8 percent.

The IMPLAN modeling system was used to estimate the direct, indirect and induced economic impact of ports users' initial spending. IMPLAN estimated that \$100 billion in initial spending by port users represents \$93 billion in direct spending to Georgia's economy. A detailed discussion of the IMPLAN modeling system, including its structure, methods, and use, can be found at [www.implan.com](http://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 economic impacts per 1,000 TEUs of container cargo at the Port of Savannah. Table 10 reports the total employment impact by county.

### **■ Output Impacts**

Measured in the broadest terms, the total economic impact of Georgia's deepwater ports on the state's economy is \$174 billion, which is 11 percent of Georgia's output. Out of the total, \$12 billion (7 percent) represents the results from the ports industry, of which the GPA's operations at the Port of Savannah contribute 78 percent. Ports users' total output impact – \$162 billion – is thirteen times greater than that of the ports industry. Indeed, ports users account for 93 percent of the total output impact of Georgia's deepwater ports. The ports exist to serve port users so it is not surprising that the majority of the economic impacts are generated by ports users rather than the industry itself.

Of the total output impact, \$99 billion represents direct economic impact; \$75 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the total output impact (\$174 billion) by direct spending (\$99 billion) yields an average multiplier value of 1.76. On average, therefore, every dollar spent by either the ports industry or ports users generates an additional 76 cents for the state's economy.

### **■ State GDP (Value Added) Impacts**

Measured in terms of State GDP or value added, Georgia's deepwater ports contributed \$77 billion to the state's economy, which equals 9 percent of Georgia's total GDP. Out of the total GDP impact, \$7 billion (9 percent) represents the results from the ports industry. The GPA's operations at the Port of Savannah contribute 78 percent of this amount. However, the \$71 billion GDP impact attributed to ports users is about eleven times greater than that of the port industry, so users account for 91 percent of the total GDP impact of Georgia's deepwater ports.

Of the total GDP impact, \$36 billion represents the direct effects of initial spending, or the direct economic impact; \$42 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the total GDP impact (\$77 billion) by the direct GDP impact (\$36 billion) yields an average multiplier value of 2.17. On average, therefore, every dollar of direct GDP produced by the ports industry and ports users yields an additional 117 cents in GDP for the state's economy.

#### ■ **Income Impacts**

Measured in terms of income, Georgia's deepwater ports contributed \$43 billion to the state's economy, which is 7 percent of Georgia's total personal income. Out of the total, \$4 billion (10 percent) represents the results from the ports industry. The GPA's operations at the Port of Savannah contribute 79 percent of this amount, but ports users' \$39 billion income impact is more than nine times greater. Indeed, users account for 90 percent of the total income impact of Georgia's deepwater ports.

Of the total income impact, \$20 billion represents the direct effects of initial spending, or the direct economic impact; \$23 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the total income impact (\$43 billion) by the direct income impact (\$20 billion) yields an average multiplier value of 2.13. On average, therefore, every dollar of direct income produced by the ports industry and ports users generates an additional 113 cents in income 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 650,964 full- and part-time jobs, which equals 12 percent of

Georgia's total employment – based on the household survey definition of employment. This means that one job out of every eight is in some way dependent on Georgia's ports. The finding supports the finding by the American Association of Ports Authorities that U.S. Ports supported 21.8 million jobs in 2023, accounting for about 1 in 8 jobs within the American workforce.

Out of the 650,964 jobs, 90,896 (14 percent) represent the results from the ports industry. The GPA's operations at the Port of Savannah contribute 85 percent of these 90,896 jobs, but ports users' 560,068 job impact is more than six times greater, so users account for 86 percent of the total employment impact of Georgia's deepwater ports.

Of the total employment impact, 298,244 jobs represent the direct effects of initial spending, or the direct economic impact; 352,720 jobs constitute the indirect and induced effect of spending, or the re-spending (multiplier) impact. Dividing the total job impact (650,964 jobs) by the direct job impact (298,244 jobs) yields an average multiplier value of 2.18. On average, therefore, each job created directly by the ports industry and ports users yields an additional 1.2 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 is \$3 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 is \$3 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 is \$10 billion.

## Comparisons to Previous Estimates

In 2024, 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 2023 were published in *The Economic Impact of Georgia's Deepwater Ports on Georgia's Economy in FY 2023* (June 2024). The methods were similar to those used in this study, but the current study uses IMPLAN to estimate the indirect, induced, or total impacts of direct spending by the port industry. IMPLAN's definition of employment is broader than employment defined by the U.S. Department of Labor.

The FY 2023 impacts of Georgia's deepwater ports were \$171 billion in sales, \$72 billion in state GDP, \$40 billion in income, and 609,197 full- and part-time jobs. The output impact estimated for FY 2024 therefore is 2 percent higher than reported for FY 2023. The employment impact is 7 percent higher in FY 2024 than in FY 2023, but most of that percentage gain reflects differences in methods and/or definitions. For example, IMPLAN employment is defined more broadly than employment defined by the U.S. Department of Labor.

In the 2022 report, the FY 2021 impacts of Georgia's deepwater ports were 561,087 full- and part-time jobs, \$140 billion in sales, \$59 billion in state GDP, and \$33 billion in income.

In the 2020 report, the FY 2019 impacts of Georgia's deepwater ports were 496,719 full- and part-time jobs, \$122 billion in sales, \$51 billion in state GDP, and \$29 billion in income.

In the 2018 report, the FY 2017 impacts of Georgia's deepwater ports were 439,220 full- and part-time jobs, \$106 billion in sales, \$44 billion in state GDP, and \$25 billion in income.

In the 2015 report, the FY 2014 impacts of Georgia's deepwater ports were 369,193 full- and part-time jobs, \$84 billion in sales, \$33 billion in state GDP, and \$20 billion in income.



In the 2012 report, the FY 2011 impacts of Georgia's deepwater ports were 352,146 full- and part-time jobs, \$66.9 billion in sales, \$32.4 billion in state GDP, and \$18.5 billion in income.

In the 2010 report, 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 the 2007 report, 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 the 2004 report, 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 a 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 other port economic impact studies.

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. However, it appears that they 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 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.

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