The Economic Impact of Georgia's Deepwater Ports On Georgia's Economy in FY 2021

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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 2021. The ensuing sections contain the comprehensive technical report.

The statewide economic impact of Georgia's deepwater ports in fiscal year 2021 includes:

- **$140 billion in sales (12 percent of Georgia's total sales);**
- **$59 billion in state GDP (9 percent of Georgia's total GDP);**
- **$33 billion in income (6 percent of Georgia's total personal income);**
- **561,087 full- and part-time jobs (11 percent of Georgia's total employment);**
- **$7.4 billion in federal taxes;**
- **$2 billion in state taxes; and**
- **$1.8 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 $140 billion, which is 12 percent of Georgia's output in FY 2021. Out of the total, $83 billion represents initial spending, or direct economic impact; $58 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2021 total output impact ($140 billion) by initial spending ($83 billion) yields an average multiplier value of 1.70. 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 $59 billion to the state's economy in fiscal year 2021, which is 9 percent of Georgia's total GDP. Out of the total, $29 billion represents the direct effects of initial spending, or the direct economic impact; $30 billion is indirect and induced spending, or the re-spending (multiplier) impact.

Income Impacts

Measured in terms of income, Georgia's deepwater ports contributed $33 billion to the state's economy in fiscal year 2021, which is 6 percent of Georgia's total personal income. Of the total, $16 billion represents the direct effects

of initial spending, or the direct economic impact; $17 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 561,087 full- and part-time jobs, which is 11 percent of Georgia's total employment. This means that one job out of every nine is in some way dependent on the ports. Of the FY 2021 total employment impact, 250,192 jobs represent the direct effects of initial spending, or the direct economic impact; 310,898 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 2021 is $2 billion.

Local: The total economic impact of Georgia's deepwater ports on tax collections by local governments in fiscal year 2021 is $1.8 billion.

Federal: The total economic impact of Georgia's deepwater ports on tax collections by the federal government in fiscal year 2021 is $7.4 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 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 2021.

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 (2021) 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 2021 includes:

- $140 billion in sales (12 percent of Georgia's total sales);
- $59 billion in state GDP (9 percent of Georgia's total GDP);
- $33 billion in income (6 percent of Georgia's total personal income);
- 561,087 full- and part-time jobs (11 percent of Georgia's total employment);
- $7.4 billion in federal taxes;
- $2 billion in state taxes; and
- $1.8 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 $140 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 $140 billion output impact accounts for 12 percent of Georgia's total output in FY 2021. Out of the $140 billion, $7 billion (5 percent) represents the results from the ports industry and $133 billion (95 percent) represents the results from ports users.

Of the FY 2021 total output impact, $83 billion represents initial spending, or direct economic impact; and $58 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2021 total output impact ($140 billion) by direct spending ($83 billion) yields an average multiplier value of 1.70. 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 $59 billion in state GDP and $33 billion in income, which account for 9 percent and 6 percent of Georgia's GDP and total personal income, respectively. The total economic impact on employment is 561,087 full- and part-time jobs. The combined impact of the ports industry and ports users on state tax collections is $2 billion. The combined impact of the ports industry and ports users on local tax collections is $1.8 billion. On federal tax collections it is $7.4 billion.

Container traffic is the primary source of economic impact. 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 reported economic impacts. Auto/vehicle cargo accounts for 4 percent of the reported impacts, and breakbulk and dry bulk cargo each accounts for 1 percent of the reported impacts. Liquid bulk cargo accounts for less than 1 percent of reported impacts.

The Concept of Ports 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 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 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 indvidual 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, indirect, and induced economic impact of spending by the ports industry. 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 2021 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/Lanier Docks, 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 (Table 2). The Georgia Ports Authority also provided capital expenditures (ports investment) in FY 2021 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

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 Georgia's strategic industries (as well as economic development and transportation experts) regarding Georgia's ports and their impact on transportation competitiveness. Also, 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 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 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) 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 on the volume and estimated value of imports and exports for Georgia.

Based on an analysis of the surveys and secondary information sources, it was determined that port-related sales (output) totaled $84 billion in Georgia in fiscal year 2021. Manufacturers were estimated to account for about 81 percent of port-related sales, while wholesale/distribution/warehousing/storage activities accounted for about 12 percent of port-related sales, and agriculture, forestry, and mining accounted for the remaining 7 percent.

The IMPLAN modeling system was used to estimate the indirect and induced economic impact of ports users' direct expenditures in fiscal year 2021. 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 economic impacts per 1,000 TEUs of container cargo at the Port of Savannah. Table 10 details the total employment impact by county. More detailed tabulations of the economic impact of Georgia's deepwater ports are included in the Appendix.

■ 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 $140 billion, which is 12 percent of Georgia's output in FY 2021.

Out of the total, $7 billion (5 percent) represents the results from the ports industry, of which the GPA's operations at the Port of Savannah contribute 89 percent. Ports users' total output impact, however, is eighteen times greater than that of the ports industry—$133 billion. Indeed, ports users account for 95 percent of the total output impact of Georgia's deepwater ports.

Of the FY 2021 total output impact, $83 billion represents initial spending, or direct economic impact; $58 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2021 total output impact ($140 billion) by direct spending ($83 billion) yields an average multiplier value of 1.70. 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.

■ State GDP (Value Added) Impacts ■

Measured in terms of GDP or value added, Georgia's deepwater ports contributed $59 billion to the state's economy in FY 2021, which is 9 percent of Georgia's total GDP. Out of the total GDP impact, $4 billion (6 percent) represents the results from the ports industry. The GPA's operations at the Port of Savannah contribute 87 percent of this amount. However, the $56 billion GDP impact attributed to ports users is about 16 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 2021 total GDP impact, $29 billion represents the direct effects of initial spending, or the direct economic impact; $30 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2021 total GDP impact ($59 billion) by the direct GDP impact ($29 billion) yields an average multiplier value of 2.05. On average, therefore, every dollar of direct GDP produced by the ports industry and ports users yields an additional 105 cents for the state's economy.

■ Income Impacts ■

Measured in terms of income, Georgia's deepwater ports contributed $33 billion to the state's economy in fiscal year 2021, which is 6 percent of Georgia's total personal income. Out of the total, $3 billion (8 percent) represents the results from the ports industry. The GPA's operations at the Port of Savannah contribute 89 percent of this amount, but ports users' $30 billion income impact is over twelve times greater. Indeed, users account for 92 percent of the total income impact of Georgia's deepwater ports.

Of the FY 2021 total income impact, $16 billion represents the direct effects of initial spending, or the direct economic impact; $17 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2021 total income impact ($33 billion) by the direct income impact ($16 billion) yields an average multiplier value of 2.12. On average, therefore, every dollar of direct income produced by the ports industry and ports users generates an additional 112 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 561,087 full- and part-time jobs, which equal 11 percent of Georgia's total employment—based on the household survey definition of employment.

This means that more than one job out of every nine is in some way dependent on the ports. Out of the 561,087 jobs, 51,442 (9 percent) represent the results from the ports industry. The GPA's operations at the Port of Savannah contribute 89 percent of these 51,442 jobs, but ports users' 509,645-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 2021 total employment impact, 250,192 jobs represent the direct effects of initial spending, or the direct economic impact; 310,898 jobs constitute the indirect and induced effect of spending, or the re-spending (multiplier) impact. Dividing the FY 2021 total job impact (561,087 jobs) by the direct job impact (250,192 jobs) yields an average multiplier value of 2.24. 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 in fiscal year 2021 is $2 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 2021 is $1.8 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 2021 is $7.4 billion.

Comparisons to Previous Estimates

In 2020, 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 2019 were published in *The Economic Impact of Georgia's Deepwater Ports: FY 2019* (July 2020). The methods used were very similar to those used in this study. 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. The job impact therefore is 13 percent higher in FY2021 than in FY2019.

In 2018, the economic impact estimates for FY 2017 were published in *The Economic Impact of Georgia's Deepwater Ports: FY 2017* (2018). 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 2012, the economic impact estimates for FY 2011 were published in *The Economic Impact of Georgia's Deepwater Ports: FY 2011* (2012). The methods used were very similar to those used in this study. 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 2015, the FY 2014 impacts of Georgia's deepwater ports were $84 billion in sales, $33 billion in state GDP, $20 billion in income, and 369,193 full- and part-time jobs. In 2012, the FY 2011 impact of Georgia's deepwater ports were $66.9 billion in sales, $32.4 billion in state GDP, $18.5 billion in income, and 352,146 full- and part-time jobs.

In 2010, the FY 2009 impact 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 2004, the FY 2003 impact of the 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 di-

rect 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.

Table 1

Cargo Volume by Mode of Transportation at the Georgia Ports Authority's Facilities in Savannah and Brunswick (Import and Export) in FY 2021

Cargo Type	Mode	GPA Total	Savannah	Brunswick	Percent of Total by Mode
Autos					
	Long Dist. Truck	15,554	15,554	0	2
	Short Dist. Truck	529,324	15,229	514,095	74
	Rail	172,985	1,620	171,365	24
	Total	717,863	32,403	685,460	100
Containerized					
	Long Dist. Truck	2,078,521	2,078,521	0	39
	Short Dist. Truck	2,246,766	2,246,766	0	42
	Rail	1,006,105	1,006,105	0	19
	Total	5,331,392	5,331,392	0	100
Breakbulk					
	Long Dist. Truck	293,759	279,969	13,790	40
	Short Dist. Truck	340,463	312,884	27,579	46
	Rail	107,267	95,599	11,668	14
	Total	741,489	688,452	53,037	100
Dry Bulk					
	Long Dist. Truck	920,296	0	920,296	80
	Short Dist. Truck	0	0	0	0
	Rail	230,074	0	230,074	20
	Total	1,150,370	0	1,150,370	100
Liquid Bulk					
	Long Dist. Truck	123,789	7,241	116,548	18
	Short Dist. Truck	240,208	237,830	2,378	36
	Rail	311,908	311,908	0	46
	Total	675,905	556,979	118,926	100

Note: 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 does not include autos, which are reported separately.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu), 2022.

Table 2

Cargo Volume for Private Facilities/Docks in Savannah and Brunswick (Import and Export) in FY 2021

Cargo Type	Cargo Volume[1] Total
Breakbulk	2,881,262
Dry Bulk	64,825
Liquid Bulk	835,368
Total	3,781,845

[1]Cargo 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 (based on data provided by PIERS), Terry College of Business, The University of Georgia (www.selig.uga.edu), 2022.

Table 3

Summary of the Economic Impact of Georgia's Deepwater Ports on Georgia in Fiscal Year 2021 (millions of 2021 dollars)

	Total Economic Impact on:			
	Output	State GDP	Income	Employment (jobs)
Ports Industry	7,309	3,590	2,515	51,442
Savannah Cargo-Based Activity	6,475	3,178	2,239	45,744
Brunswick Cargo-Based Activity	328	157	106	2,244
Ports Investment	198	103	57	985
Private Facilities/Docks	309	151	112	2,469
Ports Users	133,174	55,664	30,509	509,645
Total Output/Revenue Impact	140,483	59,254	33,024	561,087

Note: The ports industry refers to firms/enterprises located in Georgia because of the ports' existence. Savannah and Brunswick cargo-based activity and port investment 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), 2022.

Table 4

Economic Impact of Georgia's Deepwater Ports on Output (Revenue), Income, and State GDP in Georgia, Fiscal Year 2021 (millions of 2021 dollars)

	Direct Economic Impact on Output/Revenue	Indirect & Induced Economic Impact on Output/Revenue	Total Economic Impact on Output/Revenue
Ports Industry	4,739	2,570	7,309
Savannah Cargo-Based Activity	4,219	2,256	6,475
Brunswick Cargo-Based Activity	213	115	328
Ports Investment	106	92	198
Private Facilities/Docks	201	107	309
Ports Users	77,800	55,374	133,174
Total Output/Revenue Impact	82,540	57,944	140,483

	Direct Economic Impact on Income	Indirect & Induced Economic Impact on Income	Total Economic Impact on Income
Ports Industry	1,675	840	2,515
Savannah Cargo-Based Activity	1,500	739	2,239
Brunswick Cargo-Based Activity	68	38	106
Ports Investment	30	28	57
Private Facilities/Docks	77	35	112
Ports Users	13,870	16,639	30,509
Total Income Impact	15,544	17,479	33,024

	Direct Economic Impact on State GDP	Indirect & Induced Economic Impact on State GDP	Total Economic Impact on State GDP
Ports Industry	2,326	1,264	3,590
Savannah Cargo-Based Activity	2,075	1,103	3,178
Brunswick Cargo-Based Activity	101	57	157
Ports Investment	52	52	103
Private Facilities/Docks	99	53	151
Ports Users	26,654	29,009	55,664
Total State GDP	28,980	30,273	59,254

Note: The ports industry refers to firms/enterprises located in Georgia because of the ports' existence. Savannah and Brunswick cargo-based activity and port investment 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), 2022.

Table 5

Economic Impact of Georgia's Deepwater Ports on Employment in Georgia, Fiscal Year 2021 (full- and part-time jobs)

	Direct Economic Impact on Employment	Indirect & Induced Economic Impact on Employment	Total Economic Impact on Employment
Ports Industry	33,464	17,981	51,442
Savannah Cargo-Based Activity	29,838	15,906	45,744
Brunswick Cargo-Based Activity	1,442	804	2,244
Ports Investment	478	507	985
Private Facilities/Docks	1,706	764	2,489
Ports Users	216,728	292,917	509,645
Total Employment Impact	250,192	310,898	561,087

Note: The ports industry refers to firms/enterprises located in Georgia because of the ports' existence. Savannah and Brunswick cargo-based activity and ports investment 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), 2022.

Table 6

Economic Impact of Georgia's Deepwater Ports on Tax Collections in Georgia, Fiscal Year 2021 (millions of 2021 dollars)

	Federal Taxes	State Taxes	Local Taxes
Ports Industry	766.3	145.8	150.7
Savannah Cargo-Based Activity	687.1	129.5	134.1
Brunswick Cargo-Based Activity	32.7	6.1	6.3
Ports Investment	12.5	3.8	3.6
Private Facilities/Docks	34.0	6.4	6.6
Ports Users	6,651.3	1,847.6	1,628.0
Total	7,417.6	1,993.4	1,778.7

Note: The ports industry refers to firms/enterprises located in Georgia because of the ports' existence. Savannah and Brunswick cargo-based activity and ports investment 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), 2022.

Table 7

Overall Multipliers for Output, Employment, Income, and State GDP, Fiscal Year 2021

	Multiplier Values			
	Output	Employment	Income	State GDP
Ports Industry	1.542	1.537	1.501	1.543
Savannah Cargo-Based Activity	1.535	1.533	1.493	1.532
Brunswick Cargo-Based Activity	1.540	1.556	1.551	1.563
Ports Investment	1.863	2.061	1.934	2.000
Private Facilities/Docks	1.534	1.447	1.455	1.534
Ports Users	1.712	2.352	2.200	2.088
Total	1.702	2.243	2.124	2.045

Note: The ports industry refers to firms/enterprises located in Georgia because of the ports' existence. Savannah and Brunswick cargo-based activity and ports investment 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), 2022.

Table 8

Distribution of Total Economic Impacts of Cargo-Based Activity at the Ports of Savannah and Brunswick by Mode of Cargo, Fiscal Year 2021

Mode/Impact	Output/Revenue (Mil. $2021)	State GDP (Mil. $2021)	Income (Mil. $2021)	Employment (jobs)
Containerized	6,378	3,131	2,205	45,009
Breakbulk	70	35	26	579
Auto/Vehicle	249	121	80	1,695
Dry Bulk	71	33	23	482
Liquid Bulk	35	16	11	223
Total	6,803	3,335	2,345	47,988
Percent of Total				
Containerized	93.8	93.9	94.0	93.8
Breakbulk	1.0	1.0	1.1	1.2
Auto/Vehicle	3.7	3.6	3.4	3.5
Dry Bulk	1.0	1.0	1.0	1.0
Liquid Bulk	0.5	0.5	0.5	0.5
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), 2022.

Table 9

Economic Impact of 1,000 TEUs of Container Traffic on Georgia's Economy, Fiscal Year 2021 (thousands of 2021 dollars and jobs)

Economic Impact	Total	Ports Users	Ports Industry
Output/Revenue	24,615	23,418	1,196
State GDP/Value Added	10,388	9,801	587
Income	5,794	5,381	414
Employment (jobs)	98	90	8
Local Taxes	302	286	15
State Taxes	339	325	14
Federal Taxes	1,236	1,173	63

The estimates represent the total economic impact (direct, indirect, and induced) of 1,000 TEUs of container traffic at the Port of Savannah of the Ports Industry and Ports Users in combination. The estimates are scalable (up or down) within reasonable limits.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), 2022.

Table 10

Economic Impact of Georgia's Deepwater Ports
On County-Level Employment in Georgia, Fiscal Year 2021
(full- and part-time jobs)

County	Employment	County	Employment
Appling	686	Dade	491
Atkinson	267	Dawson	906
Bacon	409	Decatur,	843
Baker	71	DeKalb	35,378
Baldwin	1,539	Dodge	570
Banks	453	Dooly	356
Barrow	2,294	Dougherty	4,390
Bartow	5,775	Douglas	5,671
Ben Hill	621	Early	504
Berrien	410	Echols	56
Bibb	10,908	Effingham	4,819
Bleckley	322	Elbert	758
Brantley	479	Emanuel,	814
Brooks	377	Evans	463
Bryan	2,302	Fannin	779
Bulloch	5,236	Fayette	5,646
Burke	1,238	Floyd	4,212
Butts	836	Forsyth	8,495
Calhoun	123	Franklin	883
Camden	1,564	Fulton	103,667
Candler	393	Gilmer	840
Carroll	4,574	Glascock	54
Catoosa	1,711	Glynn	6,414
Charlton	216	Gordon	2,684
Chatham	51,919	Grady	686
Chattahoochee	1,283	Greene	700
Chattooga	568	Gwinnett	44,048
Cherokee	8,111	Habersham	1,406
Clarke	6,625	Hall	9,682
Clay	63	Hancock	172
Clayton	15,478	Haralson	785
Clinch	244	Harris	726
Cobb	42,029	Hart	758
Coffee	1,829	Heard	248
Colquitt	1,537	Henry	8,620
Columbia	4,473	Houston	6,199
Cook	443	Irwin	242
Coweta	5,005	Jackson	3,998
Crawford	187	Jasper	323
Crisp	789	Jeff Davis	4,766

(continued)

Table 10 (Continued)

Economic Impact of Georgia's Deepwater Ports
On County-Level Employment in Georgia, Fiscal Year 2021
(full- and part-time jobs)

County	Employment	County	Employment
Jefferson	719	Richmond	10,472
Jenkins	178	Rockdale	3,730
Johnson	185	Schley	120
Jones	554	Screven	1,003
Lamar	481	Seminole	252
Lanier	182	Spalding	2,440
Laurens	1,889	Stephens	844
Lee	788	Stewart	140
Liberty	5,387	Sumter	1,400
Lincoln	167	Talbot	114
Long	179	Taliaferro	34
Lowndes	5,152	Tattnall	1,428
Lumpkin	887	Taylor	183
McDuffie	746	Telfair	270
McIntosh	393	Terrell	241
Macon	366	Thomas	1,888
Madison	533	Tift	2,072
Marion	127	Toombs	1,313
Meriwether	557	Towns	376
Miller	177	Treutlen	145
Mitchell	631	Troup	5,079
Monroe	827	Turner	252
Montgomery	209	Twiggs	272
Morgan	870	Union	791
Murray	1,355	Upson	692
Muscogee	9,227	Walker	1,691
Newton	3,520	Walton	2,679
Oconee	1,532	Ware	1,508
Oglethorpe	286	Warren	173
Paulding	3,448	Washington	3,095
Peach	918	Wayne	2,663
Pickens	910	Webster	68
Pierce	469	Wheeler	122
Pike	402	White	956
Polk	1,161	Whitfield	7,670
Pulaski	304	Wilcox	173
Putnam	680	Wilkes	290
Quitman	47	Wilkinson	375
Rabun	570	Worth	410
Randolph	212	**Georgia Total**	**561,090**

Note: The allocation of port users' jobs to the counties is partially based on the location of the company on the bill of lading and is not necessarily the origin/destination of the cargo.

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu), 2022.

Table A-1

The Economic Impact of Ports Industry Activity at the Georgia Ports Authority's Facilities in Savannah and Brunswick on Georgia in Fiscal Year 2021 (thousands of 2021 dollars)

Total Economic Impact	Model Output (000 of 2021$)	Model Employment (jobs)	Model Income (000 of 2021$)	Model GSP (000 of 2021$)
Agriculture	7,444.6	24.0	713.8	1,234.2
Agri. Serv., Forestry, & Fish	2,939.6	44.0	1,314.6	1,622.8
Mining	10,298.1	82.0	1,481.7	3,559.1
Construction	85,221.0	205.0	11,717.6	26,297.6
Manufacturing	438,171.2	1,096.0	70,031.9	128,145.7
Trans. & Public Utilities	4,735,593.4	33,550.0	1,688,042.4	2,342,772.3
Wholesale	173,066.0	795.0	70,377.6	73,532.2
Retail Trade	378,368.8	5,368.0	139,118.7	220,251.2
Finance, Ins., & Real Estate	418,011.5	1,916.0	133,825.7	266,462.8
Services	504,501.6	4,629.0	212,415.5	244,430.5
Government	49,313.1	279.0	15,672.8	27,159.5
Total	6,802,929.9	47,988.0	2,344,710.8	3,335,468.4
Distribution of Economic Impact				
1. Direct Impact	4,431,977.0	31,280.0	1,567,833.4	2,175,749.4
2. Indirect & Induced Impacts	2,370,952.9	16,710.0	776,877.3	1,159,719.0
3. Total Economic Impact	6,802,929.9	47,988.0	2,344,710.8	3,335,468.4
4. Multipliers (e.g., 3/1)	1.535	1.534	1.496	1.533
Composition of Gross State Product				
1. Wages (Net of Taxes)				2,072,669.0
2. Taxes, Total				523,431.3
a. Local Taxes				86,920.5
b. State Taxes				78,145.3
c. Federal Taxes				358,365.7
3. Profits, dividends, rent and other				739,367.8
4. Total Gross State Product (1+2+3)				3,335,468.4
Tax Accounts				
Total				995,827.2
Local				140,445.9
State				135,627.3
Federal				719,753.8
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				10.8
Income				528,657.8
State Taxes				30,579.6
Local Taxes				31,666.1
Gross State Product				752,042.2
Initial Expenditure in Dollars				4,435,214,206.7

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, 2022.

Table A-2

The Economic Impact of Ports Industry Activity at the Georgia Ports Authority's Facilities in Savannah on Georgia in Fiscal Year 2021 (thousands of 2021 dollars)

Total Economic Impact	Model Output (000 of 2021$)	Model Employment (jobs)	Model Income (000 of 2021$)	Model GSP (000 of 2021$)
Agriculture	7,090.4	23.0	680.3	1,176.1
Agri. Serv., Forestry, & Fish	2,843.6	43.0	1,272.1	1,566.8
Mining	9,785.3	78.0	1,407.6	3,381.6
Construction	80,252.8	193.0	11,029.7	24,768.6
Manufacturing	417,272.1	1,045.0	66,770.8	122,104.1
Trans. & Public Utilities	4,516,564.0	32,045.0	1,617,031.3	2,239,722.5
Wholesale	165,192.6	758.0	67,175.7	70,186.9
Retail Trade	361,204.4	5,124.0	132,809.1	210,265.6
Finance, Ins., & Real Estate	396,426.9	1,822.0	127,508.7	252,462.5
Services	478,269.9	4,378.0	200,675.8	231,614.4
Government	39,963.8	236.0	12,524.1	21,091.1
Total	6,474,866.1	45,744.0	2,238,884.9	3,178,340.7
Distribution of Economic Impact				
1. Direct Impact	4,219,010.9	29,838.0	1,499,606.7	2,075,234.6
2. Indirect & Induced Impacts	2,255,855.3	15,906.0	739,278.2	1,103,106.1
3. Total Economic Impact	6,474,866.1	45,744.0	2,238,884.9	3,178,340.7
4. Multipliers (e.g., 3/1)	1.535	1.533	1.493	1.532
Composition of Gross State Product				
1. Wages (net of taxes)				1,979,265.0
2. Taxes, Total				499,663.3
a. Local Taxes				83,021.9
b. State Taxes				74,629.7
c. Federal Taxes				342,011.7
3. Profits, dividends, rent and other				699,412.1
4. Total Gross State Product (1+2+3)				3,178,340.7
Tax Accounts				
Total				950,738.1
Local				134,131.6
State				129,517.4
Federal				687,089.0
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				10.8
Income				530,306.7
State Taxes				30,677.7
Local Taxes				31,770.7
Gross State Product				752,828.0
Initial Expenditure in Dollars				4,221,868,230.5

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, 20202.

Table A-3

The Economic Impact of Ports Industry Activity
at the Georgia Ports Authority's Facilities in Brunswick
on Georgia in Fiscal Year 2021
(thousands of 2021 dollars)

Total Economic Impact	Model Output (000 of 2021$)	Model Employment (jobs)	Model Income (000 of 2021$)	Model GSP (000 of 2021$)
Agriculture	354.2	1.0	33.5	58.1
Agri. Serv., Forestry, & Fish	96.0	1.0	42.5	56.0
Mining	512.8	4.0	74.1	177.5
Construction	4,968.3	12.0	688.0	1,529.0
Manufacturing	20,899.2	51.0	3,261.1	6,041.6
Trans. & Public Utilities	219,029.4	1,505.0	71,011.1	103,049.8
Wholesale	7,873.4	37.0	3,201.9	3,345.3
Retail Trade	17,164.4	244.0	6,309.6	9,985.6
Finance, Ins., & Real Estate	21,584.6	94.0	6,317.0	14,000.3
Services	26,231.7	251.0	11,739.7	12,816.2
Government	9,349.3	43.0	3,148.7	6,068.3
Total	328,063.8	2,244.0	105,825.9	157,127.7
Distribution of Economic Impact				
1. Direct Impact	212,966.1	1,442.0	68,226.7	100,514.8
2. Indirect & Induced Impacts	115,097.6	804.0	37,599.1	56,612.9
3. Total Economic Impact	328,063.8	2,244.0	105,825.9	157,127.7
4. Multipliers (e.g., 3/1)	1.540	1.556	1.551	1.563
Composition of Gross State Product				
1. Wages (net of taxes)				93,404.1
2. Taxes, total				23,767.9
a. Local Taxes				3,898.5
b. State Taxes				3,515.5
c. Federal Taxes				16,354.0
3. Profits, dividends, rent and other				39,955.6
4. Total Gross State Product (1+2+3)				157,127.7
Tax Accounts				
Total				45,089.1
Local				6,314.3
State				6,109.9
Federal				32,664.8
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				10.5
Income				496,029.5
State Taxes				28,638.4
Local Taxes				29,596.5
Gross State Product				736,492.3
Initial Expenditure in Dollars				213,345,976.2

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, 2022.

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 2021 (thousands of 2021 dollars)

Total Economic Impact	Model Output (000 of 2021$)	Model Employment (jobs)	Model Income (000 of 2021$)	Model GSP (000 of 2021$)
Agriculture	273.2	1.0	25.8	44.8
Agri. Serv., Forestry, & Fish	76.9	1.0	34.3	45.0
Mining	270.8	2.0	40.6	95.0
Construction	4,217.0	10.0	585.4	1,296.8
Manufacturing	13,882.7	39.0	2,447.9	4,277.1
Trans. & Public Utilities	165,312.5	1,124.0	53,085.6	78,588.9
Wholesale	5,363.4	25.0	2,181.0	2,278.7
Retail Trade	12,939.1	184.0	4,756.5	7,526.6
Finance, Ins., & Real Estate	17,149.6	73.0	4,833.7	11,194.3
Services	20,341.6	196.0	9,300.6	9,950.5
Government	8,781.7	41.0	2,967.9	5,754.4
Total	248,608.8	1,695.0	80,259.0	121,052.3
Distribution of Economic Impact				
1. Direct Impact	161,145.6	1,085.0	51,614.1	77,796.7
2. Indirect & Induced Impacts	87,463.2	611.0	28,644.9	43,255.6
3. Total Economic Impact	248,608.8	1,695.0	80,259.0	121,052.3
4. Multipliers (e.g., 3/1)	1.543	1.562	1.555	1.556
Composition of Gross State Product				
1. Wages (net of taxes)				70,569.4
2. Taxes, total				18,294.4
a. Local Taxes				3,089.6
b. State Taxes				2,746.4
c. Federal Taxes				12,458.8
3. Profits, dividends, rent and other				32,188.2
4. Total Gross State Product (1+2+3)				121,052.3
Tax Accounts				
Total				34,464.5
Local				4,921.7
State				4,714.0
Federal				24,829.0
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				10.5
Income				497,022.2
State Taxes				29,192.3
Local Taxes				30,478.6
Gross State Product				749,643.6
Initial Expenditure in Dollars				161,479,813.0

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, 2022.

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 2021 (thousands of 2021 dollars)

Total Economic Impact	Model Output (000 of 2021$)	Model Employment (jobs)	Model Income (000 of 2021$)	Model GSP (000 of 2021$)
Agriculture	82.6	0.0	7.9	13.7
Agri. Serv., Forestry, & Fish	31.3	0.0	14.2	17.5
Mining	152.5	1.0	21.6	52.2
Construction	860.6	2.0	117.9	265.6
Manufacturing	5,546.2	12.0	782.5	1,526.4
Trans. & Public Utilities	39,396.1	295.0	14,143.9	19,307.5
Wholesale	1,813.9	9.0	737.7	770.7
Retail Trade	4,164.5	59.0	1,531.6	2,424.3
Finance, Ins., & Real Estate	4,555.3	20.0	1,438.4	2,912.1
Services	12,358.6	174.0	6,855.9	6,645.4
Government	1,061.7	5.0	351.7	658.9
Total	70,023.7	579.0	26,002.1	34,593.8
Distribution of Economic Impact				
1. Direct Impact	45,542.9	404.0	17,965.2	22,550.0
2. Indirect & Induced Impacts	24,480.6	175.0	8,036.9	12,044.0
3. Total Economic Impact	70,023.7	579.0	26,002.1	34,593.8
4. Multipliers (e.g., 3/1)	1.538	1.433	1.447	1.534
Composition of Gross State Product				
1. Wages (net of taxes)				23,129.1
2. Taxes, Total				5,660.8
a. Local Taxes				946.2
b. State Taxes				853.5
c. Federal Taxes				3,860.9
3. Profits, dividends, rent and other				5,804.1
4. Total Gross State Product (1+2+3)				34,593.8
Tax Accounts				
Total				10,899.4
Local				1,539.7
State				1,490.8
Federal				7,868.7
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				12.7
Income				570,361.8
State Taxes				32,701.2
Local Taxes				33,774.6
Gross State Product				758,823.3
Initial Expenditure in Dollars				45,588,793.8

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

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, The University of Georgia (www.selig.uga.edu), using the MARAD Port Economic Impact Kit for Georgia, 2022.

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 2021 (thousands of 2021 dollars)

Total Economic Impact	Model Output (000 of 2021$)	Model Employment (jobs)	Model Income (000 of 2021$)	Model GSP (000 of 2021$)
Agriculture	6,979.9	23.0	669.7	1,157.8
Agri. Serv., Forestry, & Fish	2,806.0	43.0	1,255.1	1,545.6
Mining	9,523.4	76.0	1,370.7	3,292.2
Construction	78,965.1	190.0	10,852.3	24,371.6
Manufacturing	408,766.4	1,028.0	65,669.8	119,860.3
Trans. & Public Utilities	4,459,319.9	31,640.0	1,597,047.6	2,211,692.1
Wholesale	162,549.3	746.0	66,100.9	69,064.0
Retail Trade	355,694.1	5,046.0	130,782.8	207,058.7
Finance, Ins., & Real Estate	390,306.6	1,795.0	125,586.9	248,546.8
Services	464,549.1	4,195.0	193,351.4	224,359.1
Government	38,405.0	228.0	12,006.7	20,117.9
Total	6,377,864.8	45,009.0	2,204,694.1	3,131,066.2
Distribution of Economic Impact				
1. Direct Impact	4,155,609.8	29,340.0	1,476,372.8	2,044,420.8
2. Indirect & Induced Impacts	2,222,255.0	15,669.0	728,321.3	1,086,645.4
3. Total Economic Impact	6,377,864.8	45,009.0	2,204,694.1	3,131,066.2
4. Multipliers (e.g., 3/1)	1.535	1.534	1.493	1.532
Composition of Gross State Product				
1. Wages (net of taxes)				1,948,866.6
2. Taxes, total				492,205.2
a. Local Taxes				81,788.4
b. State Taxes				73,512.5
c. Federal Taxes				336,904.6
3. Profits, dividends, rent and other				689,994.3
4. Total Gross State Product (1+2+3)				3,131,066.2
Tax Accounts				
Total				936,391.4
Local				132,117.5
State				127,561.9
Federal				676,712.0
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				10.8
Income				530,180.8
State Taxes				30,675.8
Local Taxes				31,771.4
Gross State Product				752,953.1
Initial Expenditure in Dollars				4,158,381,371.0

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, 2022.

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 2021 (thousands of 2021 dollars)

Total Economic Impact	Model Output (000 of 2021$)	Model Employment (jobs)	Model Income (000 of 2021$)	Model GSP (000 of 2021$)
Agriculture	72.9	0.0	6.9	12.0
Agri. Serv., Forestry, & Fish	17.0	0.0	7.4	9.9
Mining	217.2	2.0	30.2	74.0
Construction	749.0	2.0	102.8	231.3
Manufacturing	6,329.7	11.0	740.2	1,596.6
Trans. & Public Utilities	48,114.0	338.0	15,957.0	22,050.2
Wholesale	2,204.1	10.0	896.3	936.4
Retail Trade	3,743.9	53.0	1,376.1	2,178.5
Finance, Ins., & Real Estate	4,057.8	19.0	1,325.9	2,578.8
Services	4,933.2	43.0	1,979.9	2,365.2
Government	805.2	4.0	263.7	483.9
Total	71,243.9	482.0	22,686.4	32,516.9
Distribution of Economic Impact				
1. Direct Impact	46,499.2	311.0	14,672.5	20,536.8
2. Indirect & Induced Impacts	24,744.7	172.0	8,013.8	11,980.1
3. Total Economic Impact	71,243.9	482.0	22,686.4	32,516.9
4. Multipliers (e.g., 3/1)	1.532	1.550	1.546	1.583
Composition of Gross State Product				
1. Wages (net of taxes)				20,208.2
2. Taxes, Total				4,910.5
a. Local Taxes				742.6
b. State Taxes				697.9
c. Federal Taxes				3,470.1
3. Profits, dividends, rent and other				7,398.2
4. Total Gross State Product (1+2+3)				32,516.9
Tax Accounts				
Total				9,481.4
Local				1,260.4
State				1,254.1
Federal				6,966.7
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				10.4
Income				487,348.2
State Taxes				26,941.4
Local Taxes				27,076.6
Gross State Product				698,525.3
Initial Expenditure in Dollars				46,550,743.6

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, 2022.

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 2021 (thousands of 2021 dollars)

Total Economic Impact	Model Output (000 of 2021$)	Model Employment (jobs)	Model Income (000 of 2021$)	Model GSP (000 of 2021$)
Agriculture	36.0	0.0	3.5	5.8
Agri. Serv., Forestry, & Fish	8.3	0.0	3.6	4.9
Mining	134.2	1.0	18.6	45.6
Construction	429.3	1.0	59.3	132.3
Manufacturing	3,646.1	6.0	391.5	885.3
Trans. & Public Utilities	23,450.9	153.0	7,808.2	11,133.7
Wholesale	1,135.3	5.0	461.7	482.3
Retail Trade	1,827.4	26.0	671.8	1,063.3
Finance, Ins., & Real Estate	1,942.1	9.0	640.8	1,230.9
Services	2,319.1	21.0	927.6	1,110.3
Government	259.5	1.0	82.8	144.5
Total	35,188.6	223.0	11,069.2	16,239.2
Distribution of Economic Impact				
1. Direct Impact	23,179.4	140.0	7,208.7	10,445.1
2. Indirect & Induced Impacts	12,009.4	83.0	3,860.5	5,793.9
3. Total Economic Impact	35,188.6	223.0	11,069.2	16,239.2
4. Multipliers (e.g., 3/1)	1.518	1.593	1.536	1.555
Composition of Gross State Product				
1. Wages (net of taxes)				9,895.8
2. Taxes, total				2,360.4
a. Local Taxes				353.7
b. State Taxes				335.0
c. Federal Taxes				1,671.3
3. Profits, dividends, rent and other				3,983.0
4. Total Gross State Product (1+2+3)				16,239.2
Tax Accounts				
Total				4,590.4
Local				606.5
State				606.5
Federal				3,377.4
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				9.6
Income				476,842.3
State Taxes				26,125.2
Local Taxes				26,125.2
Gross State Product				699,557.2
Initial Expenditure in Dollars				23,213,485.3

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, 2022.

Table A-9

The Economic Impact of Private Docks in Savannah and Brunswick on Georgia in Fiscal Year 2021 (thousands of 2021 dollars)

Total Economic Impact	Model Output (000 of 2021$)	Model Employment (jobs)	Model Income (000 of 2021$)	Model GSP (000 of 2021$)
Agriculture	358.9	1.0	34.3	59.2
Agri. Serv., Forestry, & Fish	130.4	2.0	58.7	72.7
Mining	767.4	6.0	107.9	262.6
Construction	3,842.2	9.0	527.3	1,186.3
Manufacturing	26,054.7	54.0	3,489.1	6,989.2
Trans. & Public Utilities	176,743.7	1,292.0	62,904.9	86,577.3
Wholesale	8,290.1	39.0	3,371.2	3,522.1
Retail Trade	18,066.9	256.0	6,643.6	10,515.9
Finance, Ins., & Real Estate	19,696.0	90.0	6,246.0	12,578.5
Services	50,407.2	697.0	27,605.7	26,965.1
Government	4,443.5	22.0	1,469.2	2,743.4
Total	308,801.0	2,469.0	112,458.1	151,472.9
Distribution of Economic Impact				
1. Direct Impact	201,335.3	1,706.0	77,288.9	98,735.2
2. Indirect & Induced Impacts	107,465.7	764.0	35,169.1	52,737.5
3. Total Economic Impact	308,801.0	2,469.0	112,458.1	151,472.9
4. Multipliers (e.g., 3/1)	1.534	1.447	1.455	1.534
Composition of Gross State Product				
1. Wages (net of taxes)				100,071.2
2. Taxes, total				24,444.3
a. Local Taxes				4,056.2
b. State Taxes				3,671.2
c. Federal Taxes				16,716.9
3. Profits, dividends, rent and other				26,957.4
4. Total Gross State Product (1+2+3)				151,472.9
Tax Accounts				
Total				47,101.4
Local				6,623.3
State				6,428.1
Federal				34,049.9
Effects Per Million Dollars of Initial Expenditures				
Employment (jobs)				12.2
Income				557,943.5
State Taxes				31,891.9
Local Taxes				32,860.7
Gross State Product				751,509.5
Initial Expenditure in Dollars				201,558,139.1

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, 2022.

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