

Smooth sailing

Economic impact of Georgia's booming ports

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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. Savannah's port is one of the fastest growing container ports in the world, ending the fiscal year 2003 with a 31.5 percent increase in the number of TEUs (Twenty-Foot Equivalent Units), and a record 1.5 million TEUs shipped. Brunswick, which has carved a niche for itself in agricultural cargo and car shipments, experienced a 25.2 percent increase in the shipments of cars and machinery. The superb performance of Georgia's ports relative to other ports reflects strong comparative advantages that allowed them to expand their share 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 of Georgia in terms of output (sales), gross state product (GSP), 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 2003.



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.

For analytical purposes, portions of the study were conducted in inflation-adjusted 2000 dollars, but the amounts expressed in this article are reported in current dollars (fiscal year 2003).

Economic Impact Highlights

The fundamental finding of this study is that the strategic decisions by state government to invest public resources in Georgia's deepwater ports have contributed to substantial economic activity in Georgia. The statewide economic impact of the deepwater ports in fiscal year 2003 includes:

- \$35.4 billion in sales (7percent of Georgia's total sales);
- \$17.1 billion in gross state product (6 percent of Georgia's total GSP);
- \$10.8 billion in income (4 percent of Georgia's total personal income);

- 275,968 full- and part-time jobs (7 percent of Georgia's total employment);
- \$3.2 billion in federal taxes; and
- \$1.4 billion in state and local taxes.

Measured in the simplest and broadest possible terms, the total economic impact of Georgia's deepwater ports on Georgia's economy is \$35.4 billion. This amount represents the combined impact of the port industry and port users on output, which can be thought of as the equivalent of business revenue, sales, or gross receipts. The \$35.4 billion output impact accounts for about 7 percent of Georgia's total output in FY 2003. Out of the \$35.4 billion, \$2.5 billion (7.1 percent) represents the results from the port industry and \$32.9 billion (92.9 percent) represents the results from port users.

Of the FY 2003 total output impact, \$18.6 billion represents initial spending, or direct economic impact; \$16.8 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2003 total output impact (\$35.4 billion) by initial spending (\$18.6 billion) yields

an average multiplier value of 1.902. On average, therefore, every dollar initially spent by either the port industry and port users generates an additional 90 cents for the economy.

Expressed in other dimensions, the ports industry and port users together support \$17.1 billion in GSP and \$10.8 billion in income, which account for about 6 percent and 4 percent of Georgia's total gross state product and total personal income, respectively. The total economic impact on employment is 275,968 full- and part-time jobs. The combined impact of the port industry and port users on state and local tax collections is \$1.4 billion. The combined impact on federal tax collections is \$3.2 billion.

The distribution of total economic impacts of cargo-based activity at the Georgia Ports Authority's facilities in Savannah and Brunswick by mode of cargo indicates that containerized cargo accounts for about 85 percent of the reported economic impacts. Breakbulk cargo accounts for slightly more than 5 percent of the reported impacts, and auto/vehicle cargo accounts for slightly less than 5 percent of the reported impacts. Liquid bulk and dry bulk account for about 3 percent and 2 percent of reported impacts, respectively.

The Concept of Port Economic Impact

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

The port industry is defined to include economic activity (spending) that involves the transportation of waterborne cargo and port services, including the ports themselves, the companies engaged in deepwater transportation, and companies that provide ship services, and companies that provide inland transportation of waterborne cargo. Port investment (capital expenditures) for additional and/or improvements to Georgia's deepwater ports are also included as part of the port industry. This definition of the port industry is identical to the definition used by the US Department of Transportation, Maritime Administration in the MARAD Port Economic Impact Kit. Thus, the 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.

Port users are mainly manufacturers and wholesalers/distributors that use the ports to transport materials and/or products. Although most port users are importers and exporters, some port users ship materials or products to and/or from domestic locations. All of the economic activity (spending) generated by port users whose decision to locate, remain, and/or expand in Georgia hinges on the presence of Georgia's deepwater ports can be counted as direct economic impact.

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But since most port 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 alternative ports or alternative modes of transportation are only partially dependent on Georgia's ports. Also, port 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, port users' activity is defined to exclude their transportation expenditures associated with the waterborne cargo that is handled by Georgia's port industry.

Secondary spending is often 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 port industry or port users. It consists of the ripples of activity that are created when the port industry or port users purchase goods or services from other industries located in Georgia. Induced spending is similar to indirect spending except that it 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), GSP, 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 (GSP, 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.

GSP is value added, which consists of employee compensation, proprietor income, other property income, and indirect business taxes. GSP (or 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,

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 port industry. Second, port users' spending was estimated. Port users were surveyed to determine the degree to which they depend on Georgia's deepwater ports. To help correct for non-responses and/or incomplete responses, 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 port users' utilization of the ports. The IMPLAN Professional 2.0 Social Accounting and Impact Analysis software was used to estimate the indirect and induced economic impacts of the port-related portion of spending by port users.

interest, and rent). Employment includes total wage and salary employees as well as self-employed individuals. It includes both full- and part-time jobs and is measured in annual average jobs.

Estimating the Port Industry's Economic Impact

The U.S. Department of Transportation's MARAD Port Economic Impact Kit was used to estimate the direct, indirect, and induced economic impact of spending by the port industry. The study area (geographic region that was modeled) was defined as the State of Georgia. U.S. estimates of the port-related costs per unit of cargo were used as a proxy for the actual costs at the Ports of Savannah and Brunswick. A detailed discussion of the MARAD Port Economic Impact Kit, including its structure, methods, and use can be found in MARAD Port Economic Impact Kit, volumes 1-2.

The Georgia Ports Authority provided the fiscal year 2003 data that the MARAD model required. Specifically, the Georgia Ports Authority provided cargo volume (import and export) by mode of transportation for the facilities that it owns in Savannah and Brunswick. 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, Logistec

TABLE 1

**Cargo Volume by Mode of Transportation
At the Georgia Ports Authority's Facilities in Savannah and Brunswick
(Import and Export in FY 2003)**

Cargo Type	Mode	Total	Cargo Volume ¹		Percent of Total by Mode
			Savannah	Brunswick	
Autos	Long Dist. Truck	235,993	15,756	220,237	71.43
	Short Dist. Truck	0	0	0	0.00
	Barge	0	0	0	0.00
	Rail	<u>94,387</u>	<u>0</u>	<u>94,387</u>	<u>28.57</u>
Total	330,380	15,756	314,624	100.00	
Containerized	Long Dist. Truck	1,035,410	1,035,410	0	68.24
	Short Dist. Truck	226,033	226,033	0	14.90
	Barge	30,106	30,106	0	1.98
	Rail	<u>225,792</u>	<u>225,792</u>	<u>0</u>	<u>14.88</u>
Total	1,517,340	1,517,340	0	100.00	
Breakbulk	Long Dist. Truck	699,471	607,611	91,860	52.58
	Short Dist. Truck	307,103	193,729	113,374	23.09
	Barge	0	0	0	0.00
	Rail	<u>323,703</u>	<u>207,317</u>	<u>116,385</u>	<u>24.33</u>
Total	1,330,277	1,008,657	321,620	100.00	
Dry Bulk	Long Dist. Truck	0	0	0	0.00
	Short Dist. Truck	789,885	33,133	756,752	67.67
	Barge	0	0	0	0.00
	Rail	<u>450,630</u>	<u>0</u>	<u>450,630</u>	<u>36.33</u>
Total	1,240,515	33,133	1,207,382	100.00	
Liquid Bulk	Long Dist. Truck	612,648	612,648	0	84.43
	Short Dist. Truck	71,191	71,191	0	9.81
	Barge	35,595	35,595	0	4.91
	Rail	<u>6,160</u>	<u>6,160</u>	<u>0</u>	<u>0.85</u>
Total	725,593	725,593	0	100.00	

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

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, the University of Georgia, based on data provided by the Georgia Ports Authority for FY 2003 (April 2004).

(Marine Port Terminals), and the Mayor's Point Terminal. 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, and the estimates are summarized in Table 2. The Georgia Ports Authority also provided capital expenditures (port investment) in FY 2003 for the facilities that it owns. Capital expenditures by the private facilities/docks are not included in this analysis.

Estimating the Port Users' Economic Impact

A confidential survey of the entire population of current users of the Georgia Ports Authority's facilities was conducted to identify the industries that utilize the ports, their sales, and the extent to which they depend on the port. Due to both a low response rate and incomplete responses, secondary sources of information supplemented the information obtained from the survey. These secondary sources include: (1) The U.S. Department of Commerce,

Bureau of Economic Analysis's historical data on gross domestic product and output, gross state product, and personal income (estimates for fiscal year 2003 were prepared by the Selig Center). (2) The U.S. Department of Labor's and the Georgia Department of Labor's historical data on employment by industry. (3) U.S. Department of Transportation, Maritime Administration, Office of Ports and Domestic Shipping data on the economic impact of port users at the national level. (4) The Georgia Department of Community Affairs and the Department of Industry, Trade and Tourism's summary information from their survey of manufacturers about international trade activity and current and future exports of their products.

Based on an analysis of both the survey and secondary information sources, it was determined that port-related sales (output) totaled \$17.2 billion in Georgia in fiscal year 2003, or about 3 percent of Georgia's total output that year. About \$14.1 billion of manufacturing sales and approximately \$3.1 billion in wholesale/distribution sales were determined to be port related.

Type SAM multipliers from the IMPLAN Professional Version 2.0 modeling system were used to estimate the indirect and induced economic impact of port users' direct expenditures. A detailed discussion of the IMPLAN modeling system, including its structure, methods, and use, can be found in the software's users guide.

TABLE 2

**Cargo Volume for Private Facilities/Docks
(Import and Export in FY 2003)**

Cargo Type		Total	Cargo Volume ¹	
			Savannah	Brunswick
Breakbulk	Total	1,278,767	889,481	389,286
Dry Bulk	Total	8,390,762	8,390,762	0
Liquid Bulk	Total	3,803,945	3,744,238	59,707
	Total	13,473,474	13,024,481	448,995

¹Cargo volume is expressed on a per-short ton (2,000 pounds) basis for breakbulk, dry bulk, and liquid bulk cargo. 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 Georgia Ports Authority based on data from PIERS for FY 2003 (March 2004).

The Results

The total economic impact of Georgia's deepwater ports on output, GSP, income, and employment is summarized in Table 3. The direct, indirect and 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 GSP. 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.

■ Output Impacts

Measured in the simplest and broadest terms, the total economic impact of the Port of Savannah and the Port of Brunswick on Georgia's economy is \$35.4 billion, which is about 7 percent of Georgia's output in FY 2003.

Out of the total, \$2.5 billion (7.1 percent) represents the results from the port industry. The GPA's operations at the Port of Savannah contribute 71 percent of this \$2.5 billion. Port users' \$32.9 billion total output impact is thirteen times

greater than that of the port industry (\$32.9 billion for port users compared to \$2.5 billion for the port industry itself). Indeed, port users account for 92.9 percent of the total output impact of Georgia's deepwater ports.

Of the FY 2003 total output impact, \$18.6 billion represents initial spending, or direct economic impact; \$16.8 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2003 total output impact (\$35.4 billion) by initial spending (\$18.6 billion) yields an average multiplier value of 1.902. On average, therefore, every dollar initially spent by either the port industry and port users generates an additional 90 cents for the state's economy. The multipliers associated with port users and cargo-based activities are much higher than the multiplier associated with port-investment, reflecting port users and cargo operations relatively greater degree of interaction with the local economy.

■ GSP (Value Added) Impacts

Measured in terms of GSP or value added, Georgia's deepwater ports contributed \$17.1 billion to the state's economy in FY 2003, which is about 6 percent of Georgia's total GSP. Out of the \$17.1 billion total GSP impact, \$1.3 billion (7.4 percent) represents the results from the port

TABLE 3

**Summary of the Economic Impact
of Georgia's Deepwater Ports,
Fiscal Year 2003
(millions of 2002-03 dollars)**

	Total Economic Impact on:			
	Output	Gross State Product	Income	Employment (jobs)
Port Industry	2,502	1,276	840	26,519
1. Savannah Cargo-Based Activity	1,772	907	598	18,952
2. Brunswick Cargo-Based Activity	130	68	44	1,421
3. Port Investment	43	28	19	577
4. Private Facilities/Docks	557	273	179	5,569
Port Users	32,864	15,863	9,947	249,449
Total Output/Revenue Impact	35,366	17,139	10,787	275,968

Note: The port industry refers to firms/enterprises located in Georgia because of the existence of the ports. 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. Port users refers to firms/enterprises that utilize port facilities (primarily importers and exporters).

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, University of Georgia, April 2004.

TABLE 4

**The Economic Impact of Georgia's Deepwater Ports
on Output (Revenue), Income, and Gross State Product (GSP)
in Georgia, Fiscal Year 2003
(millions of 2002-03 dollars)**

	Direct Economic Impact on Output/Revenue	Indirect & Induced Economic Impact on Output/Revenue	Total Economic Impact on Output/Revenue
Port Industry	1,422	1,079	2,502
1. Savannah Cargo-Based Activity	996	776	1,772
2. Brunswick Cargo-Based Activity	75	54	130
3. Port Investment	31	12	43
4. Private Facilities/Docks	320	237	557
Port Users	17,175	15,689	32,864
Total Output/Revenue Impact	18,597	16,768	35,366
	Direct Economic Impact on Income	Indirect & Induced Economic Impact on Income	Total Economic Impact on Income
The Port Industry	455	382	840
1. Savannah Cargo-Based Activity	322	276	598
2. Brunswick Cargo-Based Activity	25	16	44
3. Port Investment	13	6	19
4. Private Facilities/Docks	95	84	179
The Port Users	4,476	5,471	9,947
Total Income Impact	4,931	5,853	10,787
	Direct Economic Impact on Gross State Product	Indirect & Induced Economic Impact on Gross State Product	Total Economic Impact on Gross State Product
The Port Industry	624	653	1,276
1. Savannah Cargo-Based Activity	441	466	907
2. Brunswick Cargo-Based Activity	35	34	68
3. Port Investment	17	11	28
4. Private Facilities/Docks	131	142	273
The Port Users	7,150	8,713	15,863
Total GSP Impact	7,774	9,366	17,139

Note: The port industry refers to firms/enterprises located in Georgia because of the existence of the ports. 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. Port users refers to firms/enterprises that utilize port facilities (primarily importers and exporters).

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, University of Georgia, April 2004.

TABLE 5

**The Economic Impact of Georgia's Deepwater Ports
on Employment
in Georgia, Fiscal Year 2003
(full- and part-time jobs)**

	Direct Economic Impact on Employment (full- and part-time jobs)	Indirect & Induced Economic Impact on Employment (full- and part-time jobs)	Total Economic Impact on Employment (full- and part-time jobs)
The Port Industry	14,005	12,515	26,519
1. Savannah Cargo-Based Activity	10,005	8,947	18,952
2. Brunswick Cargo-Based Activity	784	637	1,421
3. Port Investment	364	213	577
4. Private Facilities/Docks	2,852	2,718	5,569
The Port Users	106,104	141,345	249,449
Total Employment Impact	120,109	153,860	275,968

Note: The port industry refers to firms/enterprises located in Georgia because of the existence of the ports. 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. Port users refers to firms/enterprises that utilize port facilities (primarily importers and exporters).

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, University of Georgia, April 2004.

industry. The GPA's operations at the Port of Savannah contribute 71 percent of this \$1.3 billion. Port users' \$15.9 billion GSP impact is twelve times greater than that of the port industry—\$15.9 billion for port users compared to \$1.3 billion for the port industry. So, port users account for 92.6 percent of the total GSP impact of Georgia's deepwater ports.

Of the FY 2003 total GSP impact, \$7.8 billion represents the direct effects of initial spending, or the direct economic impact; \$9.4 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2003 total GSP impact (\$17.1 billion) by the direct GSP impact (\$7.8 billion) yields an average multiplier value of 2.205. On average, therefore, every dollar of direct GSP produced by the port industry and port users generates an additional \$1.21 for the state's economy.

■ Income Impacts

Measured in terms of income, Georgia's deepwater ports contributed \$10.8 billion to the state's economy in fiscal year 2003, which is about 4 percent of Georgia's total personal income. Out of the total, \$840 million (7.8 percent) represents the results from the port industry. The GPA's opera-

tions at the Port of Savannah contribute 71 percent of this \$840 million, but port users' \$9.9 billion income impact is almost twelve times greater. Indeed, port users account for 92.2 percent of the total income impact of Georgia's deepwater ports.

Of the FY 2003 total income impact, \$4.9 billion represents the direct effects of initial spending, or the direct economic impact; \$5.9 billion is indirect and induced spending, or the re-spending (multiplier) impact. Dividing the FY 2003 total income impact (\$10.8 billion) by the direct income impact (\$4.9 billion) yields an average multiplier value of 2.188. On average, therefore, each dollar of direct income produced by the port industry and port users creates an additional \$1.19 for the state's economy.

■ Employment Impact

The economic impact of Georgia's ports probably is most easily understood in terms of its effects on employment. Measured in these terms, Georgia's deepwater ports support 275,968 full- and part-time jobs, which is about 7 percent of Georgia's total employment. This means that one job out of every fourteen is in some way dependent on the ports. Out of the 275,968 jobs, 26,519 (9.6 percent) represent the results

TABLE 6

**The Economic Impact of Georgia's Deepwater Ports
on Tax Collections
in Georgia, Fiscal Year 2003
(millions of 2002-03 dollars)**

	Federal Taxes	State & Local Taxes
Port Industry	172.5	75.9
1. Savannah Cargo-Based Activity	123.5	54.0
2. Brunswick Cargo-Based Activity	8.8	3.9
3. Port Investment	3.3	1.5
4. Private Facilities/Docks	36.9	16.5
Port Users	3,009.5	1,315.9
Total	3,182.0	1,391.8

Note: The port industry refers to firms/enterprises located in Georgia because of the existence of the ports. 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. Port users refers to firms/enterprises that utilize port facilities (primarily importers and exporters).

Source: Estimated by the Selig Center for Economic Growth, Terry College of Business, University of Georgia, April 2004.

from the port industry. The GPA's operations at the Port of Savannah contribute 71 percent of these 26,519 jobs, but port users' 249,449-job impact is nine times greater, so port users account for 90.4 percent of the total employment impact of Georgia's deepwater ports.

Of the FY 2003 total employment impact, 120,109 jobs represent the direct effects of initial spending, or the direct economic impact; 153,860 jobs constitute the indirect and induced effect of spending, or the re-spending (multiplier) impact. Dividing the FY 2003 total job impact (275,968 jobs) by the direct job impact (120,109 jobs) yields an average multiplier value of 2.298. So, on average, every job created directly by the port industry and port users means there are an additional 1.3 jobs generated for the state's economy.

■ State and Local Tax Impacts

Spending by the port industry and port users generate substantial tax revenue for Georgia's state and local governments. The total economic impact of Georgia's deepwater ports on tax collections by state and local governments in fiscal year 2003 is \$1.4 billion. Of this \$1.4 billion, \$76 million (5.5 percent) comes from the port industry and \$1.3 billion (94.6 percent) from the port users.

■ Federal Tax Impacts

Spending by the port industry and port 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 2003 is \$3.2 billion. Out of this total, \$173 million (5.4 percent) represents the results from the port industry and \$3 billion (94.6 percent) represent the results from the port users.

Tables 7 and 8 follow on the next page.

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TABLE 7

Overall Multipliers for Output, Employment, Income, and GSP

	Output Multiplier Value	Employment Multiplier Value	Income Multiplier Value	GSP Multiplier Value
Port Industry	1.760	1.894	1.846	2.044
1. Savannah Cargo-Based Activity	1.779	1.894	1.857	2.057
2. Brunswick Cargo-Based Activity	1.733	1.813	1.760	1.943
3. Port Investment	1.387	1.585	1.462	1.647
4. Private Facilities/Docks	1.741	1.953	1.883	2.079
Port Users	1.913	2.351	2.222	2.219
Total	1.902	2.298	2.188	2.205

Note: The port industry refers to firms/enterprises located in Georgia because of the existence of the ports. 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. Port users refers to firms/enterprises that utilize port facilities (primarily importers and exporters).

Source: Estimated by the Selig Center for Economic Growth, April 2004.

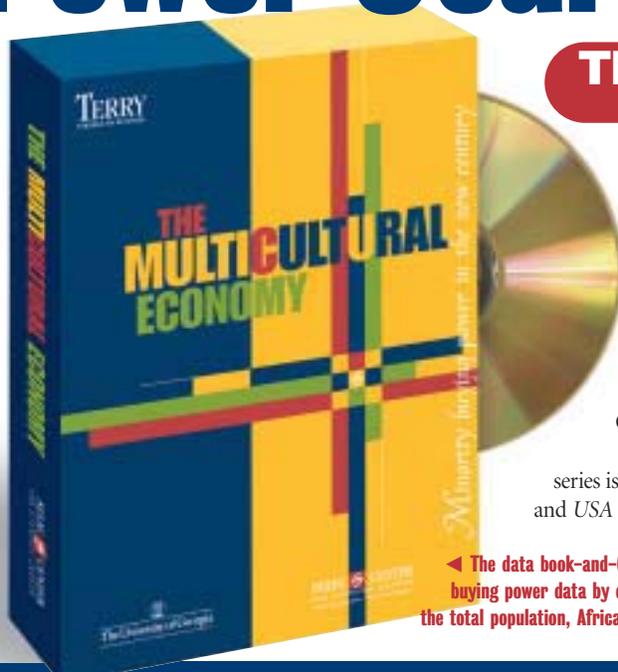
TABLE 8

Distribution of Total Economic Impacts of Cargo-Based Activity at the Georgia Port Authority's Facilities in Savannah and Brunswick by Mode of Cargo

Mode/Impact	Output/Revenue (Mil. \$2002-03)	Gross State Product (Mil. \$2002-03)	Income (Mil. \$2002-03)	Employment (jobs)
Containerized	1,628	833	549	17,328
Breakbulk	98	54	35	1,260
Auto/Vehicle	86	46	29	934
Liquid Bulk	62	29	20	586
Dry Bulk	28	14	9	264
Total	1,903	976	642	20,372
Percent of Total				
Containerized	85.6%	85.4%	85.5%	85.1%
Breakbulk	5.2%	5.6%	5.5%	6.2%
Auto/Vehicle	4.5%	4.7%	4.6%	4.6%
Liquid Bulk	3.3%	3.0%	3.0%	2.9%
Dry Bulk	1.5%	1.4%	1.4%	1.3%
Total	100.0%	100.0%	100.0%	100.0%

Source: Estimated by the Selig Center for Economic Growth, April 2004.

Power Source Upgrade



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