

**The Economic Impact of
University System of Georgia
Institutions on their
Regional Economies in FY 2008**

March 2009

A Needs Assessment Study

Commissioned by

Georgia's Intellectual Capital Partnership Program (ICAPP)

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**The Economic Impact of University System of Georgia Institutions
on their Regional Economies in FY 2008**

Executive Summary

The statewide economic impact of the University System of Georgia's 35 institutions in fiscal year 2008 includes:

- \$12.1 billion in output (sales);
- \$7.3 billion in gross regional product (value added);
- \$5.3 billion in labor income; and
- 108,405 full- and part-time jobs (2.6 percent of all jobs in Georgia).

These benefits permeate both the private and public sectors of the host communities. For example, for each job created on campus there are 1.6 off-campus jobs that exist because of spending related to the college or university.

These economic impacts demonstrate that continued emphasis on colleges and universities as a pillar of the state's economy translates into jobs, higher incomes, and greater production of goods and services.

In addition to the system-wide impact summarized here, the following chapters quantify the economic benefits that each institution conveys to the community in which it is located. Each institution's benefits are estimated for several categories of college/university-related expenditures: spending by the institutions themselves for salaries and fringe benefits (personal services), operating supplies and expenses, and other budgeted expenditures; spending by the students who attend the institutions; and spending by the institutions for capital projects.

1.

2. Economic Impact Highlights

In the simplest terms, the total economic impact of all 35 institutions on their host communities was \$12.1 billion in FY 2008. The output impact of each institution is the change in regional output that is due to spending by the institution and spending by the students who attend that particular college or university. Of the FY 2008 total, \$8.0 billion (66 percent) is initial spending by the institutions and students; \$4.1 billion (34 percent) is the induced or re-spending (multiplier) impact. Dividing the FY 2008 total output impact (\$12.1 billion) by initial spending (\$8.0 billion) yields an average multiplier value of 1.51. On average, therefore, every dollar of initial spending generates an additional 51 cents for the economy of the region that hosts the institution.

In FY 2008, value added comprises \$7.3 billion (61 percent) of the \$12.1 billion output impact, with domestic and foreign trade comprising the remaining \$4.8 billion (39 percent). The \$7.3 billion value-added impact equals 1.8 percent of Georgia's state GDP in 2008. Labor income received by residents of the communities that host one or more institutions equals \$5.3 billion, and represents 72 percent of the value-added impact.

The collective or rolled-up employment impact of all 35 institutions on their host communities in FY 2008, including multiplier effects, is 108,405 full- and part-time jobs. Approximately 39 percent of these positions are on campus (University System employees) and 61 percent are off-campus positions in either the private or public sectors. On average, for each job created on campus there are 1.6 off-campus jobs that exist because of spending related to the institution. The 108,405 jobs generated by the University System account for 2.6 percent of all the jobs in Georgia in 2008, or about one job in thirty-eight.

3. Methodology

Understanding the Concept of the Short-Term Economic Impact Of a College or University

The total annual economic impact of college- or university-related spending is defined to consist of the net changes in regional output, value added, labor income, and employment that are due to initial spending by the institution (for operations as well as personnel services) and its students. The total economic impact includes the impact of the initial round of spending and the secondary, or indirect and induced spending—referred to as the multiplier effect—that occurs when the initial expenditures are re-spent. Figure 1 provides a schematic representation of impact relationships.

Indirect spending refers to the changes in inter-industry purchases as a region's industries respond to the additional demands triggered by spending by the college or university, its faculty and staff, and its students. It consists of the ripples of activity that are created when an institution and its employees and students purchase goods or services from other industries located in the host community. Induced spending is similar to indirect spending except that it refers to the additional demand triggered by spending by the region's 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 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 is expressed in terms of output (sales, plus or minus inventory), value added (gross regional product), labor income, or employment. Total industry output is gross receipts or sales, plus or minus inventory, or the value of production by industry (including households) for a given period of time. Total output impacts are the most inclusive, largest

outside the regions are not included in the value-added, labor income, and employment impact estimates.

The multiplier concept is common to most economic impact studies. Multipliers measure the response of the local economy to a change in demand or production. In essence, multipliers capture the impact of the initial round of spending plus the impacts generated by successive rounds of re-spending of those initial dollars. The magnitude of a particular multiplier depends upon what proportion of each spent dollar leaves the region during each round of spending. Multipliers therefore are unique to the region and to the industry that receives the initial round of spending.

Figure 2 illustrates the successive rounds of spending that might occur if a person buys an item locally. Assume that the amount spent is \$100 and that the appropriate regional output multiplier is 2.0. The initial injection of spending to the region is \$100, which creates a direct economic impact of \$100 to the regional economy. Of that \$100, only \$50 is re-spent locally; the rest flows out of the region through non-local taxes, non-local purchases, and income transfers. After the first round of spendi

expenditures were allocated to industrial sectors recognized by the economic impact modeling system. Second, spending by students was estimated and then allocated to industrial sectors. Third, expenditures associated with

characteristics. In addition, the entire analysis was conducted using the full

4. Results

This section describes the economic benefits that the University System of Georgia's 35 institutions conveyed to their host communities in FY 2008. The estimates represent the economic impact of spending by an institution, its faculty and staff, and its students. Based on the methodology and available data described earlier, the IMPLAN modeling system was used to calculate four indicators of impact—total output, total value-added, total income, and total employment—for each category of initial spending. All dollar amounts are reported in 2008 dollars.

Total Initial Spending

For each institution, total initial spending accruing to the institution's regional economy is the combination of three types of spending—spending by the institution for personal services, spending by the institution for operating expenses, and spending by that institution's students. Estimates of initial spending for FY 2008 are reported in the first column of Tables 1 and 2. Spending by the institutions for capital projects is reported in Appendix 2.

For FY 2008, total initial spending for all 35 institutions was \$8.0 billion. Spending originating from personal services accounted for 36 percent (\$2.9 billion) of initial spending, spending due to operating expenses accounted for 24 percent (\$1.9 billion) of initial spending, and students' personal expenditures accounted for 40 percent (\$3.2 billion) of initial spending.

Total Output Impact

The output impact was calculated for each category of initial spending, based on the impact of the first round of spending and the impacts generated by the re-spending of these amounts—the multiplier effect. Total output impacts are the most inclusive, largest measures of economic impact.

spending). The multiplier captures the regional economic repercussions of the flows of re-spending that take place throughout the region until the initial spending has completely leaked to other regions. The average multiplier value for all institutions in FY 2008 was 1.51, obtained by dividing the total output impact (\$12.112 billion) by initial spending (\$8.041 billion). On average, therefore, every dollar of initial spending generated an additional 51 cents for the economy of the region hosting the institution. Thus, for all institutions, the output impact was 1.51 times greater than their initial spending.

It is no surprise that estimates for the various institutions show differing outcomes, given the differences in budgets, staffing, enrollment, and regional economies. Institutions located in the largest metropolitan areas (e.g., Atlanta)—where multipliers are the highest, or institutions that have the largest budgets, staffs, and enrollments—had the largest economic impacts. Thus, for the most part, institutions with large initial spending will rank highly on the various indicators of economic impact, including value-added, labor income, and employment impact described in the following subsections.

Total Value-Added Impact

Because value-added impacts exclude expenditures related to foreign and domestic trade, they provide a much more accurate measure of the actual economic benefits flowing to businesses and households in a region than the more inclusive output impacts. The value-added impacts for FY 2008 are reported in the third column of Tables 1 and 2.

The 35 institutions collectively generated a value-added impact of \$7.3 billion in FY 2008. For all institutions combined, the value-added impact equaled 91 percent of initial spending and 61 percent of the \$12.1 billion output impact (with domestic and foreign trade comprising the remaining 39 percent of the output impact). The \$7.3 billion value-added impact reported for FY 2008 equals 1.8 percent of Georgia's gross state product.

Labor Income Impact

Collectively, the 35 University System institutions generated a labor income impact of \$5.3 billion in FY 2008. The labor income received by residents of the communities that host University System institutions represents 72 percent of the value-added impact and 66 percent of the initial spending. Labor income for each institution is reported in the fourth column of Table 2.

Employment Impact

The economic impact of hosting an institution of the University System of Georgia probably is most easily understood in terms of its effects on employment. Collectively, the 35 institutions generated an employment impact of 108,405 jobs in FY 2008. Approximately 39 percent of these positions are on-campus jobs at one of the institutions of the University System of Georgia, and 61 percent are off-campus positions in either the private or public sectors. On average, for each job created on campus there are 1.6 off-campus jobs that exist because of spending related to the University System of Georgia.

The employment impact associated with the University System accounts for 2.6 percent of all the jobs held by Georgians, or about one job in 39. For all institutions combined, 13.5 jobs were generated for each million dollars of initial spending in FY 2008.

Employment impacts in FY 2008 for the individual institutions are reported in the fifth column of Table 2.

5. Limitations and Topics for Future Research

Because the goal of this study was to estimate the economic impact of all 35 institutions, certain necessary assumptions were designed to work well for the average institution, but may lead to an over- or under-estimate of the economic contribution that a specific institution makes to its host community. For example, detailed surveys of actual spending by students at various institutions could help to refine estimates of initial spending by students.

Due to both resource limitations and data limitations, several important types of short-term college or university-related expenditures were not estimated. For instance, studies could be conducted to measure spending by visitors to the institutions and spending by retirees who still live in the host communities. Also, it would be worthwhile to investigate expenditures supported by the non-institutional income of the each institution's employees. Such income may come from an employee's consulting, investments, and other personal business activities. Moreover, other members of an employee's household often supplement their total household income. Employees' household incomes also can be supplemented via inheritances or gifts. At least a portion of income derived from these sources would not come to the community that hosts the institution if that person's job at the college/university did not exist.

Since this study intentionally focused only on the short-term impacts of

6. Summary

The fundamental finding of this study is that each of the University System of Georgia's 35 institutions creates substantial economic impacts in terms of output, value added, labor income, and employment. The combined economic impact of the University System's 35 institutions on their host communities in FY 2008 includes:

- \$12.1 billion in output (sales);
- \$7.3 billion in valued added (gross regional product);
- \$5.3 billion in labor income; and
- 108,405 full- and part-time jobs.

These economic impacts demonstrate that continued emphasis on higher education as an enduring pillar of the regional economy translates into jobs, higher incomes, and greater production of goods and services for local households and businesses.

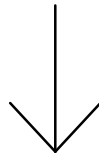
Figure 1

Schematic representation
of impact relationships

Direct
Expenditures



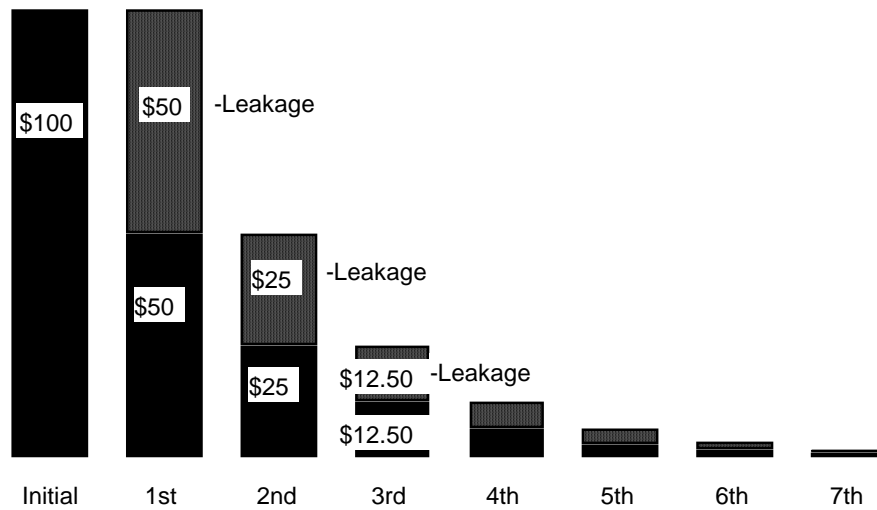
Indirect & Induced Impacts
(Multiplier Effects)



Total Economic Impact

Figure 2

How multipliers capture the impact of respending initial impacts if the output multiplier equals 2.0



Initial Direct or Indirect Impact: \$100
 First Round of Re-spending: \$50 re-spent locally, \$50 leakage*
 Second Round of Re-spending: \$25 re-spent locally, \$25 leakage
 Third Round of Re-spending: \$12.50 re-spent locally; \$12.50 leakage
 Fourth Round of Re-spending: \$6.25 re-spent locally; \$6.25 leakage
 Fifth Round of Re-spending: \$3.12 re-spent locally; \$3.12 leakage
 Sixth Round of Re-spending: \$1.56 re-spent locally; \$1.56 leakage
 Seventh Round of Re-spending: \$.78 re-spent locally; \$.78 leakage

Total Economic Impact: \$200 Total Leakage: \$100

*Leakage indicates amounts spent outside area and not re-circulated locally.

Table 1

Total Economic Impact of all 35 Institutions of the University System of Georgia
on their Regional Economies in the 2008 Fiscal Year

Total for All Institutions in 2008	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
System Total	8,040,726,392	12,112,060,651	7,336,916,224	5,280,268,032	108,405
Personal Services	2,920,067,946	5,716,566,661	4,168,432,917	3,555,374,994	58,625
Operating Expenses	1,914,666,398	2,450,306,233	874,501,986	549,588,546	11,824
Student Spending	3,205,992,048	3,945,187,757	2,293,981,321	1,175,304,492	37,956

Notes:

The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using the IMPLAN Professional System, version 2.0, Type SAM multipliers, and production functions provided by MIG, Inc.

Initial spending for personal services and operating expenses were obtained from the Board of Regents of the University System of Georgia. The author estimated initial spending by students.

Output refers to the value of total production, including domestic and foreign trade. Value added includes employee compensation, proprietary income, other property income, and indirect business taxes. Labor income includes both the total payroll costs (including fringe benefits) of workers who are paid by employers and payments received by self-employed individuals. Employment includes both full-time and part-time jobs.

Personal Services includes all expenditures for salaries and wages to all employees and persons in the employ of the various departments, boards, commissions, institutions, and other governmental units. Also includes the employer's share of payments for FICA, retirement, group insurance, or other employer payments for employee benefits. Source: University System of Georgia Business Procedures Manual, Section 2.9.1

Expenditures and impacts for the Medical College of Georgia are not comparable to previously published estimates. See the text for details.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), March 16, 2009.

Table 2

Table 2 (continued)

Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2008 Fiscal Year

<u>Institution</u>	<u>Initial Spending (current dollars)</u>	<u>Output Impact (current dollars)</u>	<u>Value Added Impact (current dollars)</u>	<u>Labor Income Impact (current dollars)</u>	<u>Employment Impact (jobs)</u>
Augusta State University	136,022,836	190,165,980	113,841,963	77,861,906	1,974
Personal Services	38,872,107	74,069,058	53,606,418	46,242,944	917
Operating Expenses	20,605,585	25,105,342	8,336,821	5,150,845	131
Student Spending	76,545,144	90,991,580	51,898,724	26,468,117	926
Clayton State University	130,348,713	198,432,461	121,822,730	81,948,432	

Table 2 (continued)

Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2008 Fiscal Year

<u>Institution</u>	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact	Labor Income Impact	Employment Impact
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Table 2 (continued)

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Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2008 Fiscal Year

<u>Institution</u>	<u>Initial Spending (current dollars)</u>	<u>Output Impact (current dollars)</u>	<u>Value Added Impact (current dollars)</u>	<u>Labor Income Impact (current dollars)</u>	<u>Employment Impact (jobs)</u>
Waycross College	16,268,681	20,633,188	11,325,609	7,727,417	233
Personal Services	3,948,722	7,230,052	5,098,615	4,492,030	96
Operating Expenses	3,050,895	3,347,660	734,220	464,313	14
Student Spending	9,269,064	10,055,476	5,492,774	2,771,074	123

Notes:

The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using the IMPLAN Professional System, version 2.0, Type SAM multipliers, and production functions provided by MIG, Inc.

Initial spending for personal services and operating expenses were obtained from the Board of Regents of the University System of Georgia. The author estimated initial spending by students.

Output refers to the value of total production, including domestic and foreign trade. Value added includes employee compensation, proprietary income, other property income, and indirect business taxes. Labor income includes both the total payroll costs (including fringe benefits) of workers who are paid by employers and payments received by self-employed individuals. Employment includes both full-time and part-time jobs.

Personal Services includes all expenditures for salaries and wages to all employees and persons in the employ of the various departments, boards, commissions, institutions, and other governmental units. Also includes the employer's share of payments for FICA, retirement, group insurance, or other employer payments for employee benefits. Source: University System of Georgia Business Procedures Manual, Section 2.9.1

Table 3

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Study Areas for Institutions

Research and Regional Universities

Georgia Institute of Technology – Atlanta MSA
Georgia State University – Atlanta MSA
Medical College of Georgia – Richmond, Columbia, Burke, McDuffie, Jefferson, Lincoln, Warren, and Glascock
University of Georgia – Clarke, Oconee, Madison, Oglethorpe, Jackson, Barrow, Walton, and Gwinnett
Georgia Southern University – Bulloch, Screven, Candler, Jenkins, Evans, Tattnall, and Emanuel
Valdosta State University – Lowndes, Brooks, Lanier, Echols, Cook, and Berrien

State Universities

Albany State University – Dougherty, Lee, Worth, Mitchell, Terrell, Colquitt, Baker, Sumter, Calhoun, and Tift
Armstrong Atlantic State University – Chatham, Effingham, Bryan, Liberty, and Bulloch
Augusta State University – Richmond, Columbia, Burke, McDuffie, Jefferson, Lincoln Warren, and Glascock
Clayton State University – Atlanta MSA
Columbus State University – Muscogee, Harris, Chattahoochee, Marion, Talbot, Stewart, Troup, Meriwether
Fort Valley State University – Peach, Houston, Bibb, Crawford, Macon, and Taylor
Georgia College & State University – Baldwin, Hancock, Putnam, Wilkinson, Jones, and Washington
Georgia Southwestern State University – Sumter, Schley, Macon, Lee, Crisp, Marion, Webster, and Dooly
Kennesaw State University – Atlanta MSA
North Georgia College & State University – Lumpkin, Hall, Dawson, White, Forsyth, and Union
Savannah State University – Chatham, Effingham, Bryan, Liberty, and Bulloch
Southern Polytechnic State University – Atlanta MSA
University of West Georgia – Atlanta MSA

State Colleges

Abraham Baldwin Agricultural College – Tift, Berrien, Worth, Colquitt, Irwin, Cook, and Turner
Dalton State College – Whitfield, Murray, Catoosa, Gordon, Walker, and Gilmer
Gainesville State College – Hall, Gwinnett, Jackson, White, Habersham, Lumpkin, Banks, and Forsyth
Georgia Gwinnett College – Atlanta MSA
Gordon College – Atlanta MSA
Macon State College – Bibb, Houston, Jones, Monroe, Peach, Crawford, Twigg, Baldwin, Wilkinson, and Laurens
Middle Georgia College – Bleckley, Dodge, Pulaski, Twigg, and Laurens

Associate Degree Colleges

Atlanta Metropolitan College – Atlanta MSA
Bainbridge College – Decatur, Seminole, Miller, Grady, Early, Mitchell, and Baker
Coastal Georgia Community College – Glynn, Brantley, McIntosh, Camden, and Wayne
Darton College – Dougherty, Lee, Worth, Mitchell, Terrell, Colquitt, Baker, Sumter, Calhoun, and Tift
East Georgia College – Emanuel, Candler, Bulloch, Johnson, Jefferson, Toombs, Treutlen, and Jenkins
Georgia Highlands College – Floyd, Polk, Chattooga, Bartow, and Gordon
Georgia Perimeter College – Atlanta MSA
South Georgia College – Coffee, Atkinson, Bacon, Jeff Davis, Ware, Telfair, Ben Hill, and Irwin
Waycross College – Ware, Pierce, Brantley, Bacon, Coffee, Clinch, and Atkinson

Note:

Study areas were defined by the author based on commuting data obtained from the Residence County to Workplace County Flows for Georgia, U.S. Census Bureau, Internet Release date March 6, 2003.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia ([www.se9\(u\)-4\(m\)6-5\(v\)7\(e\)-o1\(e\)-4\(e\)-4\(.\)-269\(6u](http://www.se9(u)-4(m)6-5(v)7(e)-o1(e)-4(e)-4(.)-269(6u)

Appendix 2

Economic Impact of Capital Outlays
in Fiscal Year 2008

Initial Spending	Output Impact	Value Added	Labor Income	Employment
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