

**The Economic Impact
of University System of Georgia Institutions
on their Regional Economies in FY 2010**

April 2011

**A Needs Assessment Study
Commissioned by
Georgia's Intellectual Capital Partnership Program (ICAPP)**

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

The Economic Impact of University System of Georgia Institutions on their Regional Economies in FY 2010

Executive Summary

The statewide economic impact of the University System of Georgia's 35 institutions in fiscal year 2010 includes:

- \$12.6 billion in output (sales);
- \$9.0 billion in gross regional product;
- \$6.1 billion in income; and
- 130,738 full- and part-time jobs (3.4 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 1.9 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, operating supplies and expenses, and other budgeted expenditures; spending by the students who attend the institutions; and spending by the institutions for capital projects.

Introduction

How much does a region benefit economically from hosting an institution of higher education? Traditionally, the benefits are discussed in broad, qualitative terms that often fail to satisfy those who demand tangible evidence of the economic linkages between the academic community and the community as a whole; however, this report quantifies the economic benefits that the University System of Georgia's institutions convey to the communities in which they are located.

The benefits are estimated for three important categories of college/university-related expenditures: spending by the institutions themselves for salaries and fringe benefits, operating supplies and expenses, and other budgeted expenditures; spending by the students who attend the institutions; and spending by the institutions for capital projects (construction). The economic impact estimates are based on regional input-output models of each institution's regional economy, certain necessary assumptions, and available data on annual spending in the specified categories. Moreover, the emphasis is on funds received by residents in the region that hosts each college or university. The study reports expenditures and impacts for the 2010 fiscal year—July 1, 2009 through June 30, 2010.

The study does not account for all of the short-term impacts of the 35 institutions on their host communities, however. For example, there are no dollar amounts estimated for several sources of college/university-related spending because doing so would require collecting survey data, a task beyond the resources available to this study. In addition, the study neither quantifies the many long-term benefits that an institution of higher education imparts to the host community's economic development nor does it measure intangible benefits (such as cultural opportunities, intellectual stimulation, and volunteer work) to local residents. Finally, the study is not a net benefit analysis; it estimates only economic benefits and does not calculate what the presence of a tax-exempt college/university costs the community.

Economic Impact Highlights

In the simplest terms, the total economic impact of all 35 institutions on their host communities was \$12.6 billion in FY 2010. 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 2010 total, \$9.1 billion (72 percent) is initial spending by the institutions and students; \$3.5 billion (28 percent) is the induced or re-spending (multiplier) impact. Dividing the FY 2010 total output impact (\$12.6 billion) by initial spending (\$9.0 billion) yields an average multiplier value of 1.38. On average, therefore, every dollar of initial spending generates an additional 38 cents for the economy of the region that hosts the institution.

In FY 2010, value added comprises \$9 billion (71 percent) of the \$12.6 billion output impact, with domestic and foreign trade comprising the remaining \$3.6 billion (29 percent). The \$9 billion value-added impact equals 2.2 percent of Georgia's state GDP. Labor income received by residents of the communities that host one or more institutions equals \$6.1 billion, and represents 69 percent of the value-added impact.

The collective or rolled-up employment impact of all 35 institutions on their host communities in FY 2010, including multiplier effects, is 130,738 full- and part-time jobs. Approximately 34 percent of these positions are on campus (University System employees) and 66 percent are off-campus positions in either the private or public sectors. On average, for each job created on campus there are 1.9 off-campus jobs that exist because of spending related to the institution. The 130,738 jobs generated by the University System account for 3.4 percent of all the jobs in Georgia in 2010, or about one job in thirty.

Methodology

■ 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 measures 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 activity (value added, labor income, and employment) are free from double counting and provide a much more realistic measure of the true economic impact of a college or university on its regional economy.

The regional economic areas are the host communities, including the surrounding counties from which employees and students commute. The effects of expenditures that go to people, businesses, or governments located 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 spending, the total economic impact to the region is \$150. During the second round of re-spending, \$25 is re-spent locally and \$25 leaks out of the region, a 50 percent leakage. Now the total economic impact to the region is \$175. After seven rounds of re-spending, less than \$1 remains in the local economy, but the total economic impact has reached almost \$200. The induced (multiplier effect) impact to the region (\$100) equals the total impact (\$200) minus the direct impact (\$100).

The multiplier traces the flows of re-spending that occur throughout the region until the initial dollars have completely leaked to other regions. Obviously, multiplier effects within large, self-sufficient areas are likely to be larger than those in small, rural, or specialized areas that are less able to capture spending for necessary goods and services. Multiplier effects also vary greatly from industry to industry, but in general, the greater the interaction with the local economy, the larger the multiplier for that industry. For example, personal services, business services, and

entertainment industries have intricate relationships with local supporting industries, and therefore have relatively high multiplier values. Conversely, electric, gas, and sanitary services usually are less intertwined with local supporting industries, and their multipliers are lower.

■ Analytic Approach ■

Estimating the economic impact of the University System of Georgia institutions on their regional economies in FY 2010 involved four basic steps. First, initial spending (and employment) for each institution were obtained for Budget Unit “A” and “Budget Unit “B”; and then the institutional 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 capital projects (construction) funded were obtained for each institution and were allocated to the appropriate industrial sectors. Finally, the IMPLAN Version 3.0 modeling system was used to build regional economic models that are specific to each institution. Please note that the prior editions of this study relied on the IMPLAN Version 2.0 modeling system.

The geographic areas corresponding to the regional models that were built for each institution, which include the labor force directly involved in their economic spheres, are reported in Appendix 1. These geographic areas are based on an analysis of commuting patterns data obtained from Census 2000 (*Residence County to Workplace County Flows for Georgia*, U.S. Census Bureau, Internet Release Date: March 6, 2003).

For analytical purposes, all dollar amounts were converted to inflation-adjusted dollars, but the amounts expressed in this report are in 2010 dollars. Type SAM (social accounting matrices) multipliers from the IMPLAN modeling system were used to estimate the economic impacts associated with all categories of spending. Type SAM multipliers capture the original expenditures resulting from the impact, the indirect effects of industries buying from industries, and the induced effects of households’ expenditures based on information in the social account matrix. The multipliers account for Social Security and income tax leakage, institutional savings, commuting, inter-institutional transfers, and people-to-people transfers.

Whenever appropriate, the IMPLAN software applied margins to convert purchaser prices to producer prices. In input-output models, all expenditures are in terms of producer prices, which allow all spending to be allocated to the industries that actually produce the good or service. The margins are derived from U.S. Bureau of Economic Analysis data. Moreover, margins were selected according to type of consumer to which these applied. For example, households pay transportation, wholesale, and the full retail margins. In contrast, institutions of higher education may pay little or no retail margin as they have typically more buying power than a household. In addition, some sectors of the model do not have margins. For instance, because there usually are no wholesalers or retailers involved when someone rents a room, hotels and other lodging do not have margins.

The model’s default estimates of the local economy’s regional purchase coefficients were used to derive the ratio of locally purchased to imported goods. The regional purchase coefficient represents the proportion of the total demands for a given commodity that is supplied by the region to itself. The regional purchase coefficients were estimated with an econometric equation that predicts local purchases based on each region’s unique characteristics. In addition, the entire analysis was conducted using the full range of industrial sectors in order to avoid aggregation bias.

■ Initial Spending by the Institutions ■

Institution-specific data on expenditures for personnel services and number of positions were obtained from the Board of Regents for FY 2010. The expenditure amounts were treated as an industry change and are reported in the first column of Tables 1 and 2, respectively. These amounts were allocated to various economic sectors recognized by the IMPLAN software based on the typical expenditure pattern for households of moderate income.

Institution-specific data on expenditures for operating expenses (non-personnel services) for FY 2010 were obtained from the Board of Regents. These amounts were treated as an industry change and are reported in the first column of Tables 1 and 2, respectively.

To avoid double-counting, the estimates of initial spending do not include expenditures arising from two budgetary classes: auxiliary enterprise funds (self-supporting activities for housing, food service, bookstore, athletics, and other) and student activity funds (cultural and recreational programs operated by students). The spending associated with

such activities is included in the student's personal expenditures, however.

Expenditures for the Medical College of Georgia do not account for spending by the hospital and clinics operating by MCG Health, Inc., which became a not-for-profit corporation in July 2000. Note that on September 15, 2010, the Medical College of Georgia's name was changed to Georgia Health Sciences University, and will be listed as such in future editions of this study.

Since a detailed analysis of spending patterns at each institution was not practical, budgeted expenditures for operating expenses were allocated to various economic sectors based on a typical expenditure pattern estimated for U.S. colleges that was developed by the IMPLAN modelers.

Institution-specific data on capital projects (construction) also were obtained from the Board of Regents. The expenditures were allocated to the fiscal year of reported funding, regardless of whether or not all of the funds were actually spent during fiscal year 2010. Therefore, the amounts for capital expenditures and their impacts are not included in the economic impacts expressed in Tables 1-3, but they are reported in Appendix 2.

It should be noted that previous editions of this study did not include the impacts of public/private ventures. The FY 2010 capital project impacts therefore are not directly comparable to those for FY 2004 or earlier fiscal years.

■ Students' Personal Expenditures ■

College students spend significant amounts of money in the local economy as a part of their living expenses, so the dollar value of this spending was estimated. Since a detailed survey of students' spending habits at each institution was not practical, typical expenditure levels per student per semester were estimated based on data obtained from several sources: (1) annual *Consumer Expenditure Surveys* conducted by the U.S. Bureau of Labor Statistics (BLS); (2) a special BLS study that appeared in the July 2001 issue of the *Monthly Labor Review* that examined the expenditures of college-age students and non-students; and (3) a sample of recent estimated costs of attendance prepared by individual institutions. Although the estimated costs of attendance prepared by individual institutions were not detailed enough to be used in the IMPLAN modeling system, they did provide information for a profile of average expenditures for some of the items typically purchased by students.

Although the *Consumer Expenditure Surveys* cover households consisting of one person at various income levels, no recent data are available specifically for college students; therefore, to adapt the data for this study, spending estimates for several categories of goods or services were increased, decreased, or eliminated. For example, compared to a weighted average of lower-income households, students' expenditures for books and for eating out were increased substantially, while students' expenditures for groceries, cash contributions, insurance and pensions, and health care were reduced. Because spending for vacation and travel do not take place locally, these expenditures were eliminated entirely. In addition, expenditures for tuition were eliminated because of possible double counting. Institutions receive payments from students for tuition, which in turn support the institutions' expenditures, which has already been estimated. After adjustment, the average expenditure per student by semester was estimated at \$3,816 for Summer 2009, \$6,360 for Fall 2009, and at \$6,360 for Spring 2010.

The final step in estimating students' personal expenditures was to multiply the number of semesters of student spending by the average spending per semester. For FY 2010, these amounts are reported in the first column of Tables 1 and 2. The number of semesters of students' spending equals each institution's FTE enrollment as reported in the *Semester Enrollment Report* issued by the Board of Regents.

Results

This section describes the economic benefits that the University System of Georgia's 35 institutions conveyed to their host communities in FY 2010. 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 2010 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 personnel services, spending by the institution for operating expenses, and spending by that institution's students. Estimates of initial spending for FY 2010 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 2010, total initial spending for all 35 institutions was \$9.1 billion. Spending originating from personnel services accounted for 35 percent (\$3.1 billion) of initial spending, spending due to operating expenses accounted for 25 percent (\$2.3 billion) of initial spending, and students' personal expenditures accounted for 40 percent (\$3.7 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. Conceptualized as the equivalent of business revenue, sales, or gross receipts, total output is the value of productions by all industries, including households. Output impacts for FY 2010 are reported in the second column of Tables 1 and 2.

Measured in the simplest and broadest possible terms, the total economic impact of the 35 institutions of the University System of Georgia was \$12.6 billion in FY 2010 (Table 1). This amount represents the combined impact of all 35 institutions on their host communities. Of the FY 2010 output impact, \$9.1 billion (72 percent) was initial spending by the institutions and students, while \$3.5 billion (28 percent) was the induced/re-spending impact or multiplier effect (i.e., the difference between output impact and initial 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 2010 was 1.38, obtained by dividing the total output impact (\$12.6 billion) by initial spending (\$9.1 billion). On average, therefore, every dollar of initial spending generated an additional 38 cents for the economy of the region hosting the institution. Thus, for all institutions, the output impact was 1.38 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 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 2010 are reported in the third column of Tables 1 and 2.

The 35 institutions collectively generated a value-added impact of \$9 billion in FY 2010. For all institutions combined, the value-added impact equaled 71 percent of the \$12.6 billion output impact (with domestic and foreign trade comprising the remaining 29 percent of the output impact). The \$9 billion value-added impact reported for FY 2010 equals 2.2 percent of Georgia's gross domestic product.

Labor Income Impact

Collectively, the 35 University System institutions generated a labor income impact of \$6.1 billion in FY 2010. The labor income received by residents of the communities that host University System institutions represents 69 percent of the value-added impact. 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 130,738 jobs in FY 2010. Approximately 34 percent of these positions are on-campus jobs at one of the institutions of the University System of Georgia, and 66 percent are off-campus positions in either the private or public sectors. On average, for each job created on campus there are 1.9 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 3.4 percent of all the jobs held by Georgians, or about one job in 30. For all institutions combined, 14 jobs were generated for each million dollars of initial spending in FY 2010.

Employment impacts in FY 2010 for the individual institutions are reported in the fifth column of Table 2. Table 3 shows a break out (by institution) of on- and off-campus jobs that exist due to institution-related spending.

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 several types of college- or university-related spending, there was no attempt to evaluate the long-term impacts of the University System's institutions on the economic development of the host communities and the state. After all, colleges and universities not only spend money year by year, but also have long-term impacts on the labor force, local business and industry, and local government.

A college or university improves the skills of its graduates, thereby increasing their productivity and their lifetime earnings. Local businesses benefit from easy access to a large pool of part-time and full-time workers. Moreover, companies and agencies that depend on highly specialized skills often cluster around universities. This may be particularly true of high-tech and information-based companies, which despite the recent recession and sub-par recovery, are still expected to account for a disproportionately high share of future economic growth.

Finally, the outreach and service units of the college or university provide valuable services to local businesses and households. Cultural and educational programs and facilities often are available to the general public and provide intangible benefits to the host community by improving residents' quality of life.

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 2010 includes:

- \$12.6 billion in output (sales);
- \$9 billion in valued added (gross regional product);
- \$6.1 billion in labor income; and
- 130,738 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 and Induced Impacts
(Multiplier Effects)

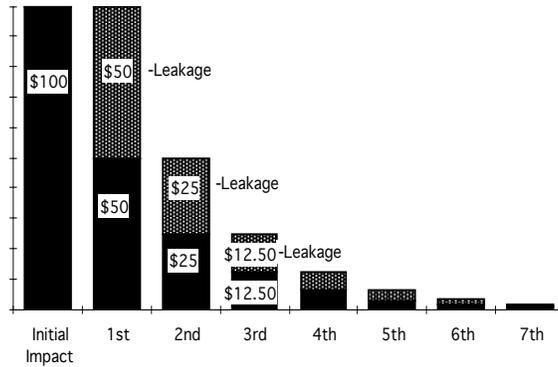
||

↓

Total Direct
Economic Impact

Figure 2

How Multipliers Capture the Impact of Re-spending 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 2010 Fiscal Year**

Total for All Institutions in 2010	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
System Total	9,073,070,673	12,553,484,340	8,951,179,560	6,143,543,410	130,738
Personal Services	3,145,641,323	5,315,938,989	4,482,005,026	3,872,563,962	63,049
Operating Expenses	2,269,285,822	2,308,655,505	1,386,133,453	642,094,388	15,113
Student Spending	3,658,143,528	4,928,889,846	3,083,032,082	1,628,885,060	52,577

Notes:

The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using the IMPLAN Professional System 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.

Expenditures and impacts for both the Medical College of Georgia and the University 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) April 8, 2011.

Table 2

**Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2010 Fiscal Year**

<u>Institution</u>	Initial Spending (current dollars)	Output Impact (current dollars)	Value-Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Research Universities and Regional Universities					
Georgia Institute of Technology	1,329,679,824	2,152,999,013	1,582,972,770	1,126,903,187	18,127
Personal Services	649,789,408	1,184,269,039	981,559,973	831,210,890	10,741
Operating Expenses	421,019,336	575,991,530	351,908,643	162,686,025	3,628
Student Spending	258,871,080	392,738,444	249,504,155	133,006,272	3,758
Georgia State University	961,271,322	1,510,892,612	1,059,089,481	693,897,610	13,660
Personal Services	307,533,532	560,493,023	464,554,506	393,397,022	5,807
Operating Expenses	277,784,198	380,033,278	232,185,695	107,338,563	2,395
Student Spending	375,953,592	570,366,312	362,349,280	193,162,026	5,458
Medical College of Georgia	650,432,834	832,485,147	650,415,195	528,401,687	9,385
Personal Services	389,265,307	627,765,295	532,317,055	469,864,655	7,714
Operating Expenses	218,750,143	152,366,960	86,079,025	41,558,048	1,068
Student Spending	42,417,384	52,352,892	32,019,115	16,978,984	603
University of Georgia	1,445,791,393	2,005,335,890	1,489,900,769	1,066,425,149	20,437
Personal Services	631,975,652	1,029,679,539	881,014,824	763,040,679	11,965
Operating Expenses	366,678,485	366,211,900	223,706,928	100,834,340	2,420
Student Spending	447,137,256	609,444,451	385,179,017	202,550,130	6,052
Georgia Southern University	455,726,128	487,055,842	339,532,714	236,475,659	6,925
Personal Services	127,393,744	187,270,521	162,690,240	146,159,430	2,820
Operating Expenses	91,056,048	40,617,473	22,187,940	10,875,663	320
Student Spending	237,276,336	259,167,849	154,654,534	79,440,567	3,785
Valdosta State University	290,279,874	314,805,259	213,334,170	137,534,817	4,007
Personal Services	62,460,940	93,810,048	81,383,609	72,365,370	1,469
Operating Expenses	75,549,086	41,905,738	24,647,543	10,154,223	300
Student Spending	152,269,848	179,089,473	107,303,019	55,015,225	2,238
State Universities					
Albany State University	121,664,857	137,707,545	96,001,396	67,382,513	1,757
Personal Services	33,699,484	53,211,981	45,275,529	40,219,085	773
Operating Expenses	31,571,253	18,387,238	10,171,848	5,424,365	148
Student Spending	56,394,120	66,108,326	40,554,019	21,739,063	836

(continued)

Table 2 (continued)

**Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2010 Fiscal Year**

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Armstrong Atlantic State University	164,125,276	201,246,016	140,609,149	94,525,853	2,241
Personal Services	42,996,268	69,778,135	59,112,659	52,061,274	956
Operating Expenses	33,584,880	23,140,650	13,499,060	6,089,878	160
Student Spending	87,544,128	108,327,231	67,997,430	36,374,702	1,125
Augusta State University	150,467,947	187,879,828	129,868,538	88,339,468	2,184
Personal Services	41,381,561	66,735,741	56,588,940	49,949,823	868
Operating Expenses	25,097,498	17,481,270	9,875,965	4,768,013	123
Student Spending	83,988,888	103,662,817	63,403,633	33,621,633	1,194
Clayton State University	151,501,006	236,246,307	162,371,437	102,557,449	2,169
Personal Services	38,160,638	69,549,399	57,644,761	48,815,105	730
Operating Expenses	35,249,744	48,224,755	29,463,468	13,620,848	305
Student Spending	78,090,624	118,472,153	75,263,208	40,121,497	1,134
Columbus State University	184,331,973	226,801,830	157,117,219	106,073,271	2,629
Personal Services	50,934,159	82,223,006	69,815,158	61,278,794	1,208
Operating Expenses	37,476,294	27,093,130	15,008,993	6,812,628	160
Student Spending	95,921,520	117,485,694	72,293,069	37,981,849	1,261
Fort Valley State University	113,537,907	141,491,449	99,623,115	69,025,591	1,784
Personal Services	36,001,655	60,489,944	50,785,654	44,254,869	939
Operating Expenses	32,649,916	23,839,638	13,978,540	6,431,445	175
Student Spending	44,886,336	57,161,868	34,858,921	18,339,277	670
Georgia College & State University	165,276,253	175,623,319	127,315,239	90,928,750	2,271
Personal Services	52,826,349	73,507,932	65,264,861	59,117,939	1,031
Operating Expenses	28,894,768	12,556,205	6,652,943	3,201,023	85
Student Spending	83,555,136	89,559,182	55,397,435	28,609,789	1,155
Georgia Southwestern State University	71,765,252	69,100,610	49,323,719	34,338,520	880
Personal Services	18,459,073	25,770,291	22,854,661	20,728,972	331
Operating Expenses	17,192,827	6,054,050	3,401,315	1,718,185	48
Student Spending	36,113,352	37,276,269	23,067,743	11,891,363	501
Kennesaw State University	507,764,503	800,345,999	555,385,435	357,845,362	8,870
Personal Services	141,392,872	257,694,586	213,585,492	180,869,829	4,072
Operating Expenses	88,428,183	120,977,545	73,912,620	34,169,523	763
Student Spending	277,943,448	421,673,868	267,887,323	142,806,011	4,035

(continued)

Table 2 (continued)

**Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2010 Fiscal Year**

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
North Georgia College & State University	126,668,123	157,755,094	111,799,490	76,686,390	1,830
Personal Services	37,515,127	57,620,772	49,818,288	44,238,835	734
Operating Expenses	21,181,132	15,525,785	9,235,968	4,489,228	118
Student Spending	67,971,864	84,608,537	52,745,235	27,958,327	979
Savannah State University	108,216,326	127,619,006	89,374,783	60,408,564	1,392
Personal Services	28,745,901	46,651,380	39,520,792	34,806,468	628
Operating Expenses	31,672,481	21,822,968	12,730,393	5,743,108	150
Student Spending	47,797,944	59,144,658	37,123,598	19,858,989	614
Southern Polytechnic State University	122,504,242	192,180,991	132,963,181	85,170,938	1,813
Personal Services	33,513,795	61,080,329	50,625,326	42,870,862	679
Operating Expenses	26,921,935	36,831,588	22,502,680	10,402,905	233
Student Spending	62,068,512	94,269,074	59,835,175	31,897,171	901
University of West Georgia	261,378,879	409,858,222	283,011,220	180,520,263	3,954
Personal Services	69,087,697	125,915,290	104,362,610	88,377,013	1,471
Operating Expenses	52,245,254	71,476,125	43,669,160	20,188,085	450
Student Spending	140,045,928	212,466,807	134,979,450	71,955,165	2,033
State Colleges					
Abraham Baldwin Agricultural College	72,030,220	73,643,014	50,226,707	34,055,765	1,061
Personal Services	17,044,366	24,674,251	21,561,499	19,388,866	379
Operating Expenses	16,483,686	7,087,550	3,676,840	1,882,220	58
Student Spending	38,502,168	41,881,213	24,988,368	12,784,679	624
College of Coastal Georgia	63,840,765	69,748,585	47,792,159	30,795,166	828
Personal Services	13,715,269	20,147,495	17,689,139	15,733,624	292
Operating Expenses	16,308,104	9,977,950	5,729,915	2,496,638	68
Student Spending	33,817,392	39,623,140	24,373,105	12,564,904	469
Dalton State College	106,789,239	114,812,410	77,407,131	51,367,397	1,581
Personal Services	22,167,303	32,873,598	28,610,628	25,688,318	587
Operating Expenses	21,042,288	10,033,753	5,380,908	2,874,033	78
Student Spending	63,579,648	71,905,059	43,415,595	22,805,047	917

(continued)

Table 2 (continued)

**Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2010 Fiscal Year**

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Gainesville State College	153,014,165	204,967,848	139,295,284	86,441,609	2,253
Personal Services	29,481,082	47,351,350	40,591,289	35,360,749	751
Operating Expenses	23,766,307	22,993,575	13,946,313	6,401,950	153
Student Spending	99,766,776	134,622,923	84,757,683	44,678,910	1,350
Georgia Gwinnett College	82,628,810	130,649,221	91,795,944	60,471,367	1,348
Personal Services	26,755,396	48,762,859	40,416,213	34,225,515	650
Operating Expenses	19,331,398	26,447,060	16,158,135	7,469,845	168
Student Spending	36,542,016	55,439,302	35,221,596	18,776,007	531
Gordon College	88,408,667	136,344,158	91,753,796	55,543,489	1,311
Personal Services	16,306,203	29,718,751	24,631,849	20,858,901	373
Operating Expenses	18,539,816	25,364,110	15,496,493	7,163,970	160
Student Spending	53,562,648	81,261,297	51,625,454	27,520,618	778
Macon State College	130,278,138	162,338,782	109,309,857	70,655,803	1,789
Personal Services	28,058,391	46,971,043	39,441,334	34,414,835	555
Operating Expenses	28,504,803	21,131,913	12,208,863	5,744,373	150
Student Spending	73,714,944	94,235,827	57,659,660	30,496,595	1,084
Middle Georgia College	82,704,691	84,319,575	57,206,529	38,960,956	1,058
Personal Services	18,170,934	27,007,907	23,402,872	21,063,763	386
Operating Expenses	21,507,085	9,396,153	4,806,780	2,654,820	68
Student Spending	43,026,672	47,915,515	28,996,877	15,242,373	605
Two-Year Colleges					
Atlanta Metropolitan College	60,053,047	92,305,113	62,260,940	37,823,329	849
Personal Services	11,788,123	21,484,357	17,806,921	15,079,371	242
Operating Expenses	16,118,940	22,052,130	13,473,003	6,228,518	140
Student Spending	32,145,984	48,768,626	30,981,016	16,515,440	467
Bainbridge College	77,212,025	71,150,875	46,366,113	29,338,683	987
Personal Services	11,489,781	16,100,843	14,185,589	12,842,668	266
Operating Expenses	22,256,732	9,338,575	4,780,988	2,531,588	73
Student Spending	43,465,512	45,711,457	27,399,537	13,964,427	648
Darton College	110,428,788	116,807,753	79,694,953	51,798,080	1,362
Personal Services	22,062,652	32,348,613	28,262,466	25,292,316	400
Operating Expenses	25,998,704	13,203,565	7,406,065	3,567,895	100
Student Spending	62,367,432	71,255,575	44,026,422	22,937,869	862

(continued)

Table 2 (continued)

**Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2010 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>
East Georgia College	59,647,866	59,376,326	38,329,517	23,657,451	770
Personal Services	8,016,554	11,969,054	10,359,438	9,278,282	193
Operating Expenses	17,909,320	8,745,350	4,707,420	2,294,610	65
Student Spending	33,721,992	38,661,922	23,262,659	12,084,559	512
Georgia Highlands College	94,106,828	110,773,314	74,628,746	48,045,672	1,458
Personal Services	18,993,155	29,856,038	25,505,092	22,624,387	506
Operating Expenses	15,581,529	9,732,115	5,468,485	2,545,928	70
Student Spending	59,532,144	71,185,161	43,655,169	22,875,357	882
Georgia Perimeter College	444,214,922	691,379,412	470,129,286	291,018,343	6,822
Personal Services	94,907,538	172,973,053	143,365,586	121,405,763	2,208
Operating Expenses	77,398,304	105,887,705	64,693,310	29,907,470	668
Student Spending	271,909,080	412,518,654	262,070,390	139,705,110	3,947
South Georgia College	43,415,558	44,706,238	29,775,068	19,961,969	631
Personal Services	9,054,972	13,408,669	11,578,458	10,444,082	214
Operating Expenses	9,958,538	4,209,148	2,097,375	1,140,705	33
Student Spending	24,402,048	27,088,421	16,099,235	8,377,182	384
Waycross College	21,913,025	22,731,740	15,189,512	10,167,291	314
Personal Services	4,496,442	6,774,859	5,821,715	5,235,610	109
Operating Expenses	5,576,807	2,517,033	1,283,840	683,738	20
Student Spending	11,839,776	13,439,849	8,083,957	4,247,943	185

Notes:

The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using the IMPLAN Professional System 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.

Expenditures and impacts for the Medical College do not include impacts associated with the hospital and clinics operated by MCG Health Inc. See the text for details.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia, (www.selig.uga.edu), April 8, 2011.

Table 3
On-Campus and Off-Campus Jobs that Exist
Due to Institution-Related Spending in the 2010 Fiscal Year

Institution	Total Employment Impact	On-Campus Jobs	Off-Campus Jobs That Exist Due to Institution-Related Spending
System Total	130,738	44,882	85,856
Research Universities and Regional Universities	72,540	27,940	44,600
Georgia Institute of Technology	18,127	6,571	11,556
Georgia State University	13,660	3,833	9,827
Medical College of Georgia University of Georgia	9,385	5,489	3,896
Georgia Southern University	20,437	8,704	11,733
Valdosta State University	8,925	2,119	4,726
	4,007	1,144	2,863
State Universities	33,775	10,810	22,965
Albany State University	1,757	580	1,177
Armstrong Atlantic State University	2,241	710	1,531
Augusta State University	2,184	631	1,553
Clayton State University	2,169	485	1,684
Columbus State University	2,629	936	1,693
Fort Valley State University	1,784	708	1,076
Georgia College & State University	2,271	823	1,448
Georgia Southwestern State University	880	259	621
Kennesaw State University	8,870	3,165	5,705
North Georgia College & State University	1,830	557	1,273
Savannah State University	1,392	464	928
Southern Polytechnic State University	1,813	464	1,349
University of West Georgia	3,954	1,028	2,926
State Colleges	11,230	3,039	8,191
Abraham Baldwin Agricultural College	1,061	302	759
College of Coastal Georgia	828	231	597
Dalton State College	1,581	484	1,097
Gainesville State College	2,253	606	1,647
Georgia Gwinnett College	1,348	478	870
Gordon College	1,311	269	1,042
Macon State College	1,789	376	1,413
Middle Georgia College	1,058	293	765
Two-Year Colleges	13,194	3,093	10,101
Atlanta Metropolitan College	894	166	683
Bainbridge College	987	219	768
Darton College	1,362	300	1,062
East Georgia College	770	153	617
Georgia Highlands College	1,458	401	1,057
Georgia Perimeter College	6,822	1,599	5,223
South Georgia College	631	169	462
Waycross College	314	86	228

Notes: Employment includes both full-time and part-time jobs. Estimates for the Medical College of Georgia do not include impacts associated with the hospital and clinics operated by MCG Health Inc.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), April 8, 2011.

Appendix 1

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
College of Coastal Georgia -- Glynn, Brantley, McIntosh, Camden, and Wayne
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, Twiggs, Baldwin, Wilkinson, and Laurens
Middle Georgia College – Bleckley, Dodge, Pulaski, Twiggs, and Laurens

Two-Year Colleges

Atlanta Metropolitan College – Atlanta MSA
Bainbridge College – Decatur, Seminole, Miller, Grady, Early, Mitchell, and Baker
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.selig.uga.edu), April 8, 2011.

Appendix 2

Economic Impact of Capital Outlays in Fiscal Year 2010

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
System Total	585,520,000	985,435,931	490,250,944	360,945,404	8,553
Research Universities and Regional Universities	125,770,000	236,393,666	126,214,217	92,505,088	1,961
Georgia Institute of Technology	75,670,000	151,337,395	79,368,043	57,602,149	1,261
Georgia State University	5,700,000	10,875,652	6,688,553	4,957,307	86
Medical College of Georgia	6,000,000	10,086,044	5,966,940	4,837,285	91
University of Georgia	33,000,000	55,689,904	29,450,721	21,249,059	439
Georgia Southern University	2,600,000	4,045,170	2,206,866	1,798,241	42
Valdosta State University	2,800,000	4,359,501	2,533,094	2,061,047	42
State Universities	309,900,000	515,581,551	254,311,977	187,058,323	4,534
Albany State University	47,320,000	73,900,181	33,001,003	24,229,584	654
Armstrong Atlantic State University	1,100,000	1,884,8565	1,098,990	877,240	18
Augusta State University	0	0	0	0	0
Clayton State University	2,100,000	4,699,492	2,883,314	2,154,119	37
Columbus State University	0	0	0	0	0
Fort Valley State University	13,400,000	22,769,878	12,063,086	8,981,948	232
Georgia College & State University	42,000,000	57,943,358	26,442,259	20,523,900	619
Georgia Southwestern State University	1,100,000	1,580,543	812,360	669,236	18
Kennesaw State University	85,830,000	168,834,295	89,354,963	65,187,003	1,430
North Georgia College & State Univ.	46,830,000	74,735,973	37,266,211	27,324,635	632
Savannah State University	58,005,000	93,713,929	42,708,676	30,916,716	769
Southern Polytechnic State University	4,800,000	1,717,156	1,130,023	653,682	10
University of West Georgia	7,415,000	13,801,891	7,551,092	5,540,260	115
State Colleges	97,655,000	154,650,334	75,848,187	56,935,774	1,378
Abraham Baldwin Agricultural College	0	0	0	0	0
College of Coastal Georgia	42,255,000	61,401,608	27,420,245	20,365,997	555
Dalton State College	0	0	0	0	0
Gainesville State College	31,200,000	53,820,769	28,858,090	21,757,811	453
Georgia Gwinnett College	2,000,000	4,049,905	2,109,596	1,525,099	33
Gordon College	1,600,000	572,385	376,674	217,894	3
Macon State College	20,100,000	34,066,060	16,712,779	12,787,286	326
Middle Georgia College	500,000	739,607	370,803	281,687	8
Two-Year Colleges	52,195,000	78,810,380	3,876,563	24,446,219	680
Atlanta Metropolitan College	0	0	0	0	0
Bainbridge College	0	0	0	0	0
Darton College	24,040,000	35,657,131	14,465,514	9,914,430	278
East Georgia College	13,819,000	20,613,192	8,620,457	6,246,862	181
Georgia Highlands College	6,200,000	9,243,249	4,133,273	3,153,118	92
Georgia Perimeter College	2,200,000	4,923,278	3,020,615	2,256,696	39
South Georgia College	5,945,000	8,373,530	3,636,704	2,875,113	90
Waycross College	0	0	0	0	0

Notes: The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using the IMPLAN Professional System and production functions provided by MIG, Inc. Initial spending for capital projects were obtained from the Board of Regents of the University System of Georgia. 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- and part-time jobs. Estimates for the Medical College of Georgia do not include impacts associated with the hospital and clinics operated by MCG Health Inc.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), April 8, 2011.