

**The Economic Impact of
University System of Georgia
Institutions on their
Regional Economies in FY 2006
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A Needs Assessment Study

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The Economic Impact of University System of Georgia Institutions on their Regional Economies in FY 2006

Executive Summary

The statewide economic impact of the University System of Georgia's 34 institutions in fiscal year 2006 includes:

- \$10.4 billion in output (sales);
- \$6.3 billion in gross regional product;
- \$4.6 billion in income; and
- 104,517 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 1.4 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.

1. 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 2006 fiscal year--July 1, 2005 through June 30, 2006. Note that since Georgia Gwinnett College did not begin to enroll students until FY 2007 (Fall Semester 2006), its economic impact is not estimated.

The study does not account for all of the short-term impacts of the 34 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.

2. Economic Impact Highlights

In the simplest terms, the total economic impact of all 34 institutions on their host communities was \$10.4 billion in FY 2006. 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 2006 total, \$6.9 billion (67 percent) is initial spending by the institutions and students; \$3.5 billion (33 percent) is the induced or re-spending (multiplier) impact. Dividing the FY 2006 total output impact (\$10.4 billion) by initial spending (\$6.9 billion) yields an average multiplier value of 1.50. On average, therefore, every dollar of initial spending generates an additional 50 cents for the economy of the region that hosts the institution.

In FY 2006, value added comprises \$6.3 billion (61 percent) of the \$10.4 billion output impact, with domestic and foreign trade comprising the remaining \$4.1 billion (39 percent). The \$6.3 billion value-added impact equals 1.6 percent of Georgia's gross state product in 2006. Labor income received by residents of the communities that host one or more institutions equals \$4.6 billion, and represents 73 percent of the value-added impact.

The collective or rolled-up employment impact of all 34 institutions on their host communities in FY 2006, including multiplier effects, is 104,517 full- and part-time jobs. Approximately 42 percent of these positions are on campus (University System employees) and 58 percent are off-campus positions in either the private or public sectors. On average, for each job created on campus there are 1.4 off-campus jobs that exist because of spending related to the institution. The 104,517 jobs generated by the

University System account for 2.6 percent of all the jobs in Georgia in 2006, or about one job in thirty-nine.

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 personal 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 2006 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 Professional Version 2.0 (2006) modeling system was used to build regional economic models that are specific to each institution.

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 have been re-inflated to 2006 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. The margins used differed depending on the consumer. 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 example, 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 2006. 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 2006 were obtained from the Board of Regents for FY 2006. 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. Therefore these expenditures are not comparable to previously published estimates for the institution.

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 2.0 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 2006. 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 2006 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 was estimated at \$3,528 for Summer 2005 Semester, at \$5,880 for Fall 2005 Semester, and at \$5,880 for Spring 2006 Semester.

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 2006, 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.

4. Results

This section describes the economic benefits that the University System of Georgia's 34 institutions conveyed to their host communities in FY 2006. 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 2006 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 2006 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 2006, total initial spending for all 34 institutions was \$6.9 billion. Spending originating from personnel services accounted for 37 percent (\$2.6 billion) of initial spending, spending due to operating expenses accounted for 23 percent (\$1.6 billion) of initial spending, and students' personal expenditures accounted for 40 percent (\$2.8 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 2006 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 34 institutions of the University System of Georgia was \$10.4 billion in FY 2006 (Table 1). This amount represents the combined impact of all 34 institutions on their host communities. Of the FY 2006 output impact, \$6.9 billion (67 percent) was initial spending by the institutions and students, while \$3.5 billion (33 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 2006 was 1.50, obtained by dividing the total output impact (\$10.4 billion) by initial spending (\$6.9 billion). On average, therefore, every dollar of initial spending generated an additional 50 cents for the economy of the region hosting the institution. Thus, for all institutions, the output impact was 1.50 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 2006 are reported in the third column of Tables 1 and 2.

The 34 institutions collectively generated a value-added impact of \$6.3 billion in FY 2006. For all institutions combined, the value-added impact equaled 91 percent of initial spending and 61 percent of the \$10.4 billion output impact (with domestic and foreign trade comprising the remaining 39 percent of the output impact). The \$6.3 billion value-added impact reported for FY 2006 equals 1.6 percent of Georgia's gross state product.

Labor Income Impacts

Collectively, the 34 University System institutions generated a labor income impact of \$4.6 billion in FY 2006. The labor income received by residents of the communities that host University System institutions represents 73 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 Impacts

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 34 institutions generated an employment impact of 104,517 jobs in FY 2006. Approximately 42 percent of these positions are on-campus jobs at one of the institutions of the University System of Georgia, and 58 percent are off-campus positions in either the private or public sectors. On average, for each job created on campus there are 1.4 off-campus jobs that exist because of spending related to the University System of Georgia.

The employment impact associated with the University System of Georgia accounts for 2.6 percent of all the jobs held by Georgians, or about one job in 39. For all institutions combined, 15.1 jobs were generated for each million dollars of initial spending in FY 2006.

Employment impacts in FY 2006 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 34 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 (1) spending by visitors to the institutions and (2) 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.

6. Summary

The fundamental finding of this study is that each of the University System of Georgia's 34 institutions creates substantial economic impacts in terms of output, value added, labor income, and employment. The combined economic impact of the University System's 34 institutions on their host communities in FY 2006 includes:

- \$10.4 billion in output (sales);
- \$6.3 billion in valued added (gross regional product);
- \$4.6 billion in labor income; and
- 104,517 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.

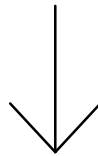
Figure 1

Schematic representation
of impact relationships

Direct
Expenditures



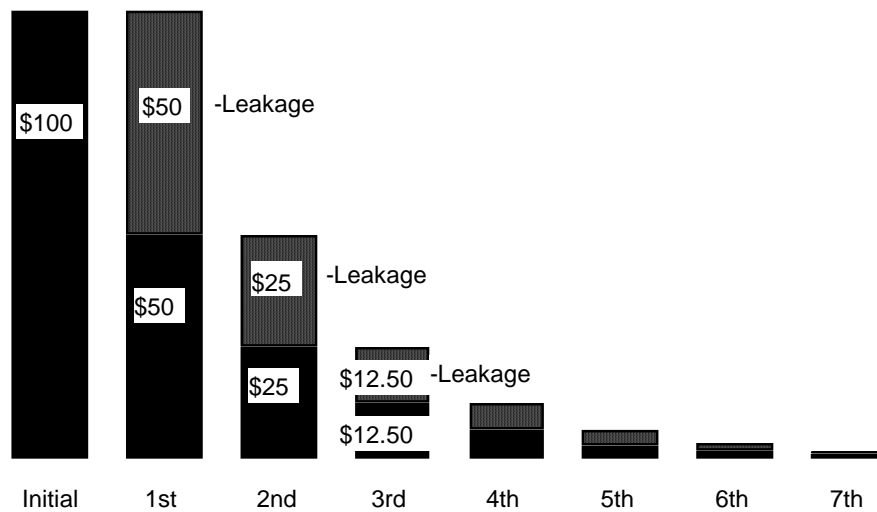
Indirect & Induced Impacts
(Multiplier Effects)



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 34 Institutions of the University System of Georgia
on their Regional Economies in the 2006 Fiscal Year

Total for All 34 Institutions in 2006	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
System Total	6,927,040,428	10,413,219,502	6,325,470,217	4,589,542,766	104,517
Personal Services	2,562,467,212	5,022,764,099	3,636,458,003	3,118,400,901	59,306
Operating Expenses	1,607,060,192	2,048,888,003	728,970,783	461,314,518	10,618
Student Spending	2,757,513,024	3,341,567,400	1,960,041,431	1,009,827,347	34,593

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.

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), 2007.

Table 2

Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2006 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>
Research Universities and Regional Universities					
Georgia Institute of Technology	1,027,545,424	1,725,010,303	1,092,509,841	835,218,465	14,090
Personal Services	512,256,160	1,037,138,266	761,177,372	644,586,099	9,429
Operating Expenses	310,907,520	421,744,330	172,217,503	107,719,522	2,211
Student Spending	204,381,744	266,127,707	159,114,966	82,912,844	2,450
Georgia State University	696,470,896	1,105,629,814	696,772,403	499,303,044	13,171
Personal Services	264,224,848	534,962,237	392,619,924	332,481,437	8,692
Operating Expenses	144,074,304	195,435,992	79,805,460	49,917,143	1,025
Student Spending	288,171,744	375,231,585	224,347,019	116,904,464	3,454
Medical College of Georgia	548,038,720	899,067,634	556,039,412	456,843,100	8,762
Personal Services	338,605,440	644,097,707	461,815,306	400,994,586	7,117
Operating Expenses	174,108,592	213,390,016	70,280,120	43,591,714	1,198
Student Spending	35,324,688	41,579,911	23,943,986	12,256,800	447
University of Georgia	1,400,646,776	2,168,892,444	1,289,875,147	956,562,901	19,793
Personal Services	545,845,248	1,077,693,960	780,338,467	665,929,713	11,946
Operating Expenses	462,750,176	597,078,179	215,729,097	139,458,843	3,127
Student Spending	392,051,352	494,120,305	293,807,583	151,174,345	4,720
Georgia Southern University	337,176,016	423,197,887	232,337,591	160,897,114	5,127
Personal Services	87,990,616	159,889,220	111,193,749	98,759,564	2,106
Operating Expenses	62,501,280	68,190,757	13,965,369	8,789,682	291
Student Spending	186,684,120	195,117,910	107,178,473	53,347,868	2,730
Valdosta State University	208,183,146	274,043,299	160,391,881	112,800,302	3,038
Personal Services	62,732,728	115,431,974	81,428,173	71,815,288	1,353
Operating Expenses	28,935,866	31,831,653	6,898,337	4,441,339	144
Student Spending	116,514,552	126,779,672	72,065,371	36,543,675	1,541
State Universities and State Colleges					
Albany State University	87,896,026	121,083,702	70,756,053	51,077,572	1,455
Personal Services	29,126,224	54,926,015	39,045,843	34,144,112	793
Operating Expenses	17,152,338	19,703,833	5,019,392	3,247,868	99
Student Spending	41,617,464	46,453,854	26,690,818	13,685,592	563
Armstrong Atlantic State University	130,001,784	181,932,913	108,877,770	75,730,064	1,956
Personal Services	38,087,404	72,666,873	52,397,791	45,494,815	923
Operating Expenses	23,101,916	28,249,267	9,046,630	5,790,154	158
Student Spending	68,812,464	81,016,773	47,433,349	24,445,095	875

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2006 Fiscal Year

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Augusta State University	117,407,542	163,630,873	98,559,516	67,679,218	2,043
Personal Services	34,010,536	64,695,087	46,386,101	40,277,087	1,080
Operating Expenses	15,885,198	19,469,130	6,412,169	3,977,190	109
Student Spending	67,511,808	79,466,656	45,761,246	23,424,941	854
Clayton State University	115,761,782	176,080,797	109,752,442	74,569,351	1,736
Personal Services	33,674,516	68,179,033	50,038,011	42,373,575	843
Operating Expenses	18,664,410	25,318,168	10,338,566	6,466,622	133
Student Spending	63,422,856	82,583,596	49,375,865	25,729,154	760
Columbus State University	146,077,342	197,200,277	114,853,360	80,457,044	2,475
Personal Services	41,350,216	77,725,518	55,432,404	48,595,867	1,338
Operating Expenses	25,590,558	29,469,110	7,648,375	5,115,839	142
Student Spending	79,136,568	90,005,649	51,772,581	26,745,338	995
Fort Valley State University	70,905,221	105,384,795	63,728,916	48,102,001	1,321
Personal Services	30,374,986	57,886,312	41,555,073	36,114,905	894
Operating Expenses	15,096,883	17,749,185	5,089,542	3,200,409	90
Student Spending	25,433,352	29,749,298	17,084,301	8,786,687	337
Georgia College & State University	122,661,796	156,313,634	92,191,602	66,695,833	1,763
Personal Services	41,829,472	74,643,606	51,953,819	46,296,699	889
Operating Expenses	15,795,996	16,625,700	3,322,951	1,926,210	59
Student Spending	65,036,328	65,044,328	36,914,832	18,472,924	815
Georgia Southwestern State University	53,837,000	67,611,297	36,815,659	26,473,608	748
Personal Services	15,734,105	28,690,564	19,660,079	17,527,473	320
Operating Expenses	11,434,743	12,319,853	2,325,230	1,533,430	54
Student Spending	26,668,152	26,600,880	14,830,350	7,412,705	374
Kennesaw State University	341,968,748	518,113,894	325,718,081	219,428,413	4,908
Personal Services	97,599,560	197,604,728	145,026,225	122,812,227	2,186
Operating Expenses	42,538,188	57,702,815	23,562,700	14,738,123	303
Student Spending	201,831,000	262,806,351	157,129,156	81,878,063	2,419
North Ga. College & State University	94,000,631	134,549,779	82,708,429	57,084,837	1,396
Personal Services	29,314,636	56,511,480	40,781,349	35,089,410	632
Operating Expenses	11,292,067	13,699,580	4,426,295	2,854,022	69
Student Spending	53,393,928	64,338,719	37,500,785	19,141,405	695
Savannah State University	77,892,652	109,802,861	64,133,166	45,388,619	1,112
Personal Services	23,480,372	44,798,150	32,302,533	28,046,941	533
Operating Expenses	19,202,840	23,481,435	7,519,765	4,812,908	131
Student Spending	35,209,440	41,523,276	24,310,868	12,528,770	448

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2006 Fiscal Year

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Southern Polytechnic State University	75,684,160	117,323,870	74,749,739	51,724,973	1,200
Personal Services	25,292,686	51,208,780	37,583,189	31,826,487	641
Operating Expenses	9,190,314	12,466,610	5,090,687	3,184,150	65
Student Spending	41,201,160	53,648,480	32,075,863	16,714,336	494
University of West Georgia	191,195,924	291,044,326	183,148,125	124,161,506	2,851
Personal Services	56,376,628	114,142,811	83,771,785	70,940,271	1,356
Operating Expenses	24,857,416	33,718,946	13,768,989	8,612,300	177
Student Spending	109,961,880	143,182,569	85,607,351	44,608,935	1,318
Dalton State College	68,867,067	85,076,546	47,397,346	32,459,002	886
Personal Services	16,505,043	29,988,082	21,095,307	18,665,323	357
Operating Expenses	13,742,184	14,858,111	2,997,410	2,022,112	59
Student Spending	38,619,840	40,230,353	23,304,629	11,771,567	470
Gainesville State College	88,670,411	125,853,475	76,357,017	48,989,802	1,390
Personal Services	18,572,288	36,774,270	26,674,594	22,734,444	598
Operating Expenses	10,778,331	13,956,413	5,098,888	3,293,689	73
Student Spending	59,319,792	75,122,792	44,583,535	22,961,669	719
Macon State College	100,416,706	134,357,791	78,176,570	52,113,219	1,426
Personal Services	23,581,988	44,763,500	32,062,061	27,894,518	523
Operating Expenses	16,014,350	18,743,330	5,542,156	3,398,921	93
Student Spending	60,820,368	70,850,961	40,572,353	20,819,780	810
Associate Degree Colleges					
Abraham Baldwin Agricultural College	61,041,681	74,497,414	41,318,707	28,290,357	811
Personal Services	14,628,917	26,630,608	18,672,680	16,555,613	282
Operating Expenses	10,921,084	11,767,846	2,222,426	1,450,983	49
Student Spending	35,491,680	36,098,960	20,423,601	10,283,761	480
Atlanta Metropolitan College	34,216,256	51,549,422	31,552,820	21,202,910	492
Personal Services	9,046,629	18,316,237	13,442,668	11,383,623	223
Operating Expenses	6,611,171	8,968,017	3,662,052	2,290,560	47
Student Spending	18,558,456	24,265,168	14,448,100	7,528,727	222
Bainbridge College	43,478,130	52,064,483	27,670,021	18,644,871	587
Personal Services	9,315,668	16,820,651	11,597,595	10,331,416	190
Operating Expenses	9,230,086	10,251,282	2,259,517	1,383,089	49
Student Spending	24,932,376	24,992,550	13,812,909	6,930,366	348
Coastal Georgia Community College	48,381,114	62,207,952	35,781,201	24,516,992	669
Personal Services	12,361,086	22,741,392	16,106,662	14,168,565	278
Operating Expenses	8,389,908	9,420,974	2,359,251	1,506,192	44
Student Spending	27,630,120	30,045,586	17,315,288	8,842,235	347

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2006 Fiscal Year

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Darton College	75,218,409	98,517,804	56,982,590	38,613,503	1,333
Personal Services	18,415,620	34,728,039	24,687,492	21,588,277	657
Operating Expenses	11,857,245	13,621,069	3,469,857	2,245,220	68
Student Spending	44,945,544	50,168,696	28,825,241	14,780,006	608
East Georgia College	28,243,700	34,721,427	18,330,557	11,996,376	421
Personal Services	5,369,736	9,826,751	6,887,531	6,088,012	143
Operating Expenses	6,324,116	6,977,511	1,565,555	962,259	32
Student Spending	16,549,848	17,917,165	9,877,471	4,946,105	246
Ga. Highlands College	61,007,932	79,800,802	46,886,564	31,204,730	943
Personal Services	14,765,539	27,608,555	19,671,867	17,190,600	400
Operating Expenses	7,697,817	8,922,718	2,599,928	1,567,894	45
Student Spending	38,544,576	43,269,529	24,614,769	12,446,236	498
Georgia Perimeter College	322,492,008	476,188,783	293,038,584	191,403,185	4,481
Personal Services	74,322,560	150,477,002	110,438,206	93,522,134	1,736
Operating Expenses	47,213,392	64,044,704	26,152,382	16,357,931	336
Student Spending	200,956,056	261,667,077	156,447,996	81,523,120	2,409
Gordon College	57,955,580	84,946,064	51,922,964	33,598,994	779
Personal Services	12,450,774	25,208,431	18,500,993	15,667,153	277
Operating Expenses	8,924,150	12,105,560	4,943,254	3,091,933	64
Student Spending	36,580,656	47,632,073	28,478,717	14,839,908	438
Middle Georgia College	52,365,428	63,106,944	33,968,806	23,358,475	736
Personal Services	11,761,864	21,366,104	14,936,887	13,277,086	309
Operating Expenses	11,891,524	12,848,638	2,664,014	1,749,394	53
Student Spending	28,712,040	28,892,202	16,367,905	8,331,995	374

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2006 Fiscal Year

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
South Georgia College	27,728,931	36,330,439	21,300,108	15,117,014	410
Personal Services	8,750,651	16,022,284	11,172,417	9,905,268	166
Operating Expenses	3,057,592	3,306,847	638,900	410,481	14
Student Spending	15,920,688	17,001,308	9,488,791	4,801,265	230
Waycross College	13,605,489	18,085,758	10,867,230	7,835,372	208
Personal Services	4,712,468	8,599,873	6,003,851	5,322,314	96
Operating Expenses	1,326,637	1,450,424	328,016	206,392	7
Student Spending	7,566,384	8,035,461	4,535,363	2,306,666	105

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.

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), 2007.

Table 3

On-Campus and Off-Campus Jobs that
Exist Due to Institution-Related Spending
in the 2006 Fiscal Year

<u>Institution</u>	Total Employment <u>Impact</u>	On-Campus <u>Jobs</u>	Off-Campus Jobs that Exist Due to Institution-Related <u>Spending</u>
System Total	104,517	43,551	60,966
Research Universities and Regional Universities	63,981	29,420	34,561
Georgia Institute of Technology	14,090	6,055	8,035
Georgia State University	13,171	6,952	6,219
Medical College of Georgia	8,762	5,082	3,680
University of Georgia	19,793	8,668	11,125
Georgia Southern University	5,127	1,664	3,463
Valdosta State University	3,038	999	2,039
State Universities and State Colleges	28,666	10,543	18,123
Albany State University	1,455	613	842
Armstrong Atlantic State University	1,956	684	1,272
Augusta State University	2,043	876	1,167
Clayton State University	1,736	621	1,115
Columbus State University	2,475	1,101	1,374
Fort Valley State University	1,321	699	622
Georgia College & State University	1,763	712	1,051
Georgia Southwestern State University	748	248	500
Kennesaw State University	4,908	1,543	3,365
North Georgia College & State University	1,396	456	940
Savannah State University	1,112	386	726
Southern Polytechnic State University	1,200	475	725
University of West Georgia	2,851	984	1,867
Dalton State College	886	285	601
Gainesville State College	1,390	485	905
Macon State College	1,426	375	1,051
Associate Degree Colleges	11,870	3,588	8,282
Abraham Baldwin Agricultural College	811	205	606
Atlanta Metropolitan College	492	163	329
Bainbridge College	587	147	440
Coastal Georgia Community College	669	214	455
Darton College	1,333	543	790
East Georgia College	421	115	306
Georgia Highlands College	943	318	625
Georgia Perimeter College	4,481	1,246	3,235
Gordon College	779	195	584
Middle Georgia College	736	248	488
South Georgia College	410	121	289
Waycross College	208	73	135

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), 2007.

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 and State Colleges

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
Dalton State College – Whitfield, Murray, Catoosa, Gordon, Walker, and Gilmer
Fort Valley State University – Peach, Houston, Bibb, Crawford, Macon, and Taylor
Gainesville State College – Hall, Gwinnett, Jackson, White, Habersham, Lumpkin, Banks, and Forsyth
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
Macon State College – Bibb, Houston, Jones, Monroe, Peach, Crawford, Twiggs, Baldwin, Wilkinson, and Laurens
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

Associate Degree Colleges

Abraham Baldwin Agricultural College – Tift, Berrien, Worth, Colquitt, Irwin, Cook, and Turner
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
Gordon College – Atlanta MSA
Middle Georgia College – Bleckley, Dodge, Pulaski, Twiggs, and Laurens
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), 2007.

Appendix 2

Economic Impact of Capital Outlays
in Fiscal Year 2006

<u>Institution</u>	<u>Initial Spending (2006 dollars)</u>	<u>Output Impact (2006 dollars)</u>	<u>Value Added Impact (2006 dollars)</u>	<u>Labor Income Impact (2006 dollars)</u>	<u>Employment Impact (jobs)</u>
System Total	521,643,500	863,813,480	508,833,521	390,762,679	9,912
Research Universities and Regional Universities	300,555,000	514,039,851	304,282,421	232,035,936	5,553
Georgia Institute of Technology	44,670,000	79,604,649	45,049,603	33,336,590	741
Georgia State University	164,040,000	290,401,134	178,168,054	138,112,248	3,174
Medical College of Georgia	4,000,000	6,338,189	3,388,153	2,534,013	70
University of Georgia	42,305,000	72,707,196	42,938,474	31,682,454	707
Georgia Southern University	45,540,000	64,988,683	34,738,137	26,370,631	861
Valdosta State University	0	0	0	0	0
State Universities and State Colleges	165,466,500	262,790,737	154,352,931	120,253,313	3,305
Albany State University	34,320,000	53,853,564	31,576,116	24,970,188	735
Armstrong Atlantic State University	4,673,000	7,521,965	4,521,218	3,569,880	97
Augusta State University	0	0	0	0	0
Clayton State University	0	0	0	0	0
Columbus State University	13,180,000	19,771,340	11,123,949	8,387,715	235
Fort Valley State University	44,855,000	71,932,192	42,540,981	33,593,194	956
Georgia College & State University	1,012,500	1,427,177	692,973	510,606	16
Georgia Southwestern State University	27,365,000	38,573,385	22,410,758	17,981,478	547
Kennesaw State University	16,630,000	29,267,099	17,170,351	12,661,449	288
North Georgia College & State University	2,049,000	3,353,568	1,942,416	1,439,814	36
Savannah State University	1,266,000	2,048,010	1,169,932	877,792	23
Southern Polytechnic State University	2,500,000	4,399,744	2,581,231	1,903,405	43
University of West Georgia	16,556,000	28,845,110	17,577,040	13,518,035	311
Dalton State College	0	0	0	0	0
Gainesville State College	0	0	0	0	0
Macon State College	1,060,000	1,797,583	1,045,966	839,757	18
Associate Degree Colleges	55,622,000	86,982,892	50,198,169	38,473,430	1,054
Abraham Baldwin Agricultural College	0	0	0	0	0
Atlanta Metropolitan College	0	0	0	0	0
Bainbridge College	0	0	0	0	0
Coastal Georgia Community College	0	0	0	0	0
Darton College	0	0	0	0	0
East Georgia College	0	0	0	0	0
Georgia Highlands College	0	0	0	0	0
Georgia Perimeter College	23,495,000	41,348,810	24,258,421	17,888,204	407
Gordon College	277,000	487,492	286,000	210,897	5
Middle Georgia College	26,850,000	37,822,356	22,139,822	17,780,411	559
South Georgia College	5,000,000	7,324,234	3,513,926	2,593,918	83
Waycross College	0	0	0	0	0

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 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-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), 2007.

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