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

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Executive Summary

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

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

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

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

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

1. 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 2008 fiscal year—July 1, 2007 through June 30, 2008.

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.

2. Economic Impact Highlights

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

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

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

3. Methodology

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

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

Indirect spending refers to the changes in inter-industry purchases as a region's industries respond to the additional demands triggered by spending by the college or university, its faculty and staff, and its students. It consists of the ripples of activity that are created when an institution and its employees and students purchase goods or services from other industries located in the host community. Induced spending is similar to indirect spending except that it refers to the additional demand triggered by spending by the region's households as their income increases due to changes in production. Basically, the induced impact captures the ripples of activity that are created when households spend more due to increases in their earnings that were generated by the direct and indirect spending.

The sum of the direct, indirect, and induced economic impacts is the total economic impact, which is expressed in terms of output (sales, plus or minus inventory), value added (gross regional product), labor income, or employment. Total industry output is gross receipts or sales, plus or minus inventory, or the value of production by industry (including households) for a given period of time. Total output impacts are the most inclusive, largest 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 2008 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 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 2008 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 personal services and number of positions were obtained from the Board of Regents for FY 2008. 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-personal services) for FY 2008 were obtained from the Board of Regents for FY 2008. 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.

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 2008. 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 some previous editions of this study did not include the impacts of public/private ventures. The FY 2008 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 2007, $6,360 for Fall 2007, and at $6,360 for Spring 2008.

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

Total Initial Spending

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

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

Total Output Impact

The output impact was calculated for each category of initial spending, based on the impact of the first round of spending and the impacts generated by the re-spending of these amounts—the multiplier effect. Total output impacts are the most inclusive, largest measures of economic impact. 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 2008 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 $12.1 billion in FY 2008 (Table 1). This amount represents the combined impact of all 35 institutions on their host communities. Of the FY 2008 output impact, $8.0 billion (66 percent) was initial spending by the institutions and students, while $4.1 billion (34 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 2008 was 1.51, obtained by dividing the total output impact ($12.112 billion) by initial spending ($8.041 billion). On average, therefore, every dollar of initial spending generated an additional 51 cents for the economy of the region hosting the institution. Thus, for all institutions, the output impact was 1.51 times greater than their initial spending.

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

Total Value-Added Impact

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

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

Labor Income Impact

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

Employment Impact

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

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

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

5. Limitations and Topics for Future Research

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

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

Since this study intentionally focused only on the short-term impacts of 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 35 institutions creates substantial economic impacts in terms of output, value added, labor income, and employment. The combined economic impact of the University System's 35 institutions on their host communities in FY 2008 includes:

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

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

Figure 1

Schematic representation
of impact relationships

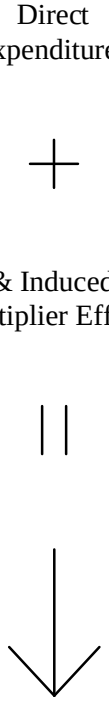
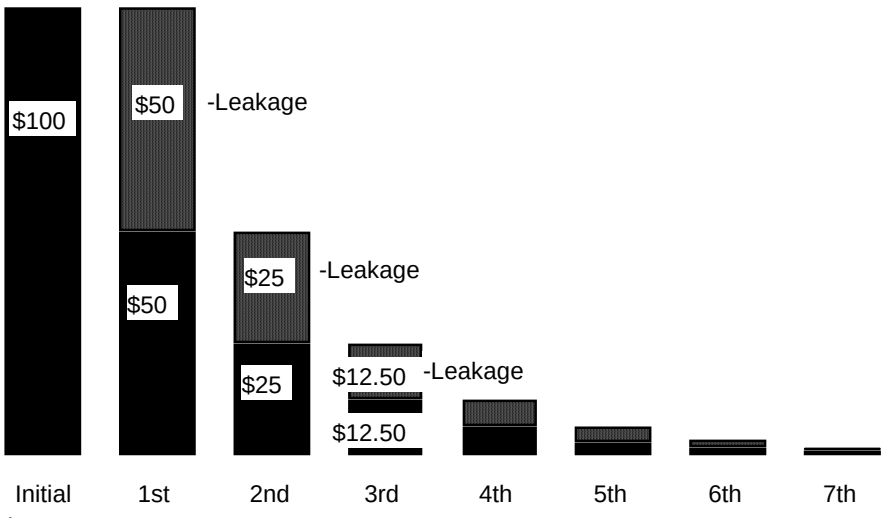


Figure 2

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



Initial Direct or Indirect Impact:	$100	
First Round of Re-spending:	$50 re-spent locally,	$50 leakage*
Second Round of Re-spending:	$25 re-spent locally,	$25 leakage
Third Round of Re-spending:	$12.50 re-spent locally;	$12.50 leakage
Fourth Round of Re-spending:	$6.25 re-spent locally;	$6.25 leakage
Fifth Round of Re-spending:	$3.12 re-spent locally;	$3.12 leakage
Sixth Round of Re-spending:	$1.56 re-spent locally;	$1.56 leakage
Seventh Round of Re-spending:	$.78 re-spent locally;	$.78 leakage
Total Economic Impact:	$200	Total Leakage: $100

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

Table 1

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

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

Notes:

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

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

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

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

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

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

Table 2

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

Institution	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	1,230,577,646	2,047,259,498	1,280,214,058	966,944,786	15,294
Personal Services	578,595,899	1,169,849,754	863,626,462	727,603,090	9,851
Operating Expenses	411,068,763	558,565,998	226,936,128	140,986,849	2,711
Student Spending	240,912,984	318,843,746	189,651,468	98,354,847	2,732
Georgia State University	833,452,859	1,312,676,376	809,745,929	571,951,191	11,379
Personal Services	289,291,144	584,911,102	431,803,065	363,792,983	6,226
Operating Expenses	214,461,859	291,413,758	118,396,596	73,555,334	1,415
Student Spending	329,699,856	436,351,516	259,546,268	134,602,874	3,738
Medical College of Georgia	633,231,323	1,026,278,818	630,603,837	512,360,051	8,693
Personal Services	372,583,528	709,941,195	513,809,757	443,231,929	6,802
Operating Expenses	219,179,323	267,042,768	88,677,852	54,788,971	1,389
Student Spending	41,468,472	49,294,855	28,116,228	14,339,151	502
University of Georgia	1,411,335,413	2,226,435,426	1,364,039,558	1,016,539,584	19,415
Personal Services	606,080,246	1,191,945,833	869,215,209	738,840,862	12,126
Operating Expenses	377,279,319	488,535,423	173,422,865	112,861,428	2,375
Student Spending	427,975,848	545,954,170	321,401,484	164,837,294	4,914
Georgia Southern University	390,884,686	506,313,282	286,836,607	202,419,102	5,470
Personal Services	118,327,589	215,847,120	151,729,294	133,586,510	2,383
Operating Expenses	64,480,793	71,540,197	16,259,896	9,996,585	315
Student Spending	208,076,304	218,925,965	118,847,417	58,836,007	2,772
Valdosta State University	242,796,569	326,149,842	191,738,192	132,140,744	3,317
Personal Services	71,344,883	132,268,432	94,414,574	82,248,871	1,443
Operating Expenses	34,269,030	38,637,480	9,382,222	5,986,068	167
Student Spending	137,182,656	155,243,930	87,941,396	43,905,805	1,707
State Universities					
Albany State University	107,464,330	147,336,632	84,410,405	60,272,302	1,597
Personal Services	33,122,621	62,391,099	44,739,588	38,892,944	811
Operating Expenses	23,643,605	27,599,780	7,207,048	4,687,284	138
Student Spending	50,698,104	57,345,753	32,463,769	16,692,074	648
Armstrong Atlantic State University	144,844,706	205,539,319	122,622,083	83,746,409	2,012
Personal Services	41,354,317	79,172,352	57,417,243	49,421,445	928
Operating Expenses	25,663,069	31,944,231	10,400,376	6,480,175	159
Student Spending	77,827,320	94,422,736	54,804,464	27,844,789	925

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2008 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	136,022,836	190,165,980	113,841,963	77,861,906	1,974
Personal Services	38,872,107	74,069,058	53,606,418	46,242,944	917
Operating Expenses	20,605,585	25,105,342	8,336,821	5,150,845	131
Student Spending	76,545,144	90,991,580	51,898,724	26,468,117	926
Clayton State University	130,348,713	198,432,461	121,822,730	81,948,432	1,674
Personal Services	35,809,610	72,402,625	53,450,303	45,031,745	724
Operating Expenses	25,730,263	34,962,643	14,204,744	8,824,871	170
Student Spending	68,808,840	91,067,193	54,167,683	28,091,816	780
Columbus State University	164,242,085	224,212,623	130,544,725	91,634,685	2,388
Personal Services	48,396,536	90,748,124	65,273,862	56,878,250	1,192
Operating Expenses	27,726,477	32,035,726	8,349,280	5,586,608	148
Student Spending	88,119,072	101,428,773	56,921,583	29,169,827	1,048
Fort Valley State University	87,407,146	126,910,296	74,332,143	54,784,476	1,283
Personal Services	32,343,845	61,691,628	44,719,569	38,629,295	747
Operating Expenses	22,683,269	26,895,287	7,786,192	4,987,222	130
Student Spending	32,380,032	38,323,381	21,826,382	11,167,959	406
Georgia College & State University	151,978,578	190,804,985	109,379,356	78,352,091	1,960
Personal Services	48,254,916	86,170,120	60,540,885	53,605,012	940
Operating Expenses	25,171,302	26,591,208	5,451,355	3,179,340	93
Student Spending	78,552,360	78,043,657	43,387,116	21,567,739	927
Georgia Southwestern State University	60,266,614	77,171,033	42,393,914	30,594,380	778
Personal Services	18,332,427	33,275,300	23,289,337	20,558,573	349
Operating Expenses	13,099,219	14,204,886	2,696,647	1,792,464	58
Student Spending	28,834,968	29,690,847	16,407,930	8,243,343	371
Kennesaw State University	432,055,384	659,533,635	412,094,712	276,412,361	5,880
Personal Services	122,491,810	247,663,373	182,834,285	154,037,420	2,661
Operating Expenses	61,381,110	83,405,513	33,886,282	21,052,267	405
Student Spending	248,182,464	328,464,749	195,374,145	101,322,674	2,814
North Ga. College & State University	115,408,702	164,660,846	99,459,689	68,399,933	1,559
Personal Services	34,379,522	65,820,821	47,788,363	41,019,870	679
Operating Expenses	17,556,380	21,586,256	7,068,856	4,699,981	106
Student Spending	63,472,800	77,253,769	44,602,470	22,680,082	774
Savannah State University	89,124,304	127,356,053	73,834,173	51,512,290	1,168
Personal Services	26,370,616	50,486,234	36,613,543	31,514,822	555
Operating Expenses	23,315,328	29,021,870	9,448,916	5,887,348	144
Student Spending	39,438,360	47,847,949	27,771,714	14,110,120	469

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia
Institutions on their Regional Economies in the 2008 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	105,132,117	161,098,522	98,918,631	67,216,187	1,317
Personal Services	30,315,999	61,295,221	45,250,405	38,123,351	574
Operating Expenses	22,234,182	30,212,111	12,274,684	7,625,798	147
Student Spending	52,581,936	69,591,190	41,393,542	21,467,038	596
University of West Georgia	227,326,185	346,490,877	215,465,542	144,466,672	3,127
Personal Services	63,545,064	128,480,304	94,848,923	79,909,977	1,438
Operating Expenses	35,360,001	48,047,661	19,520,971	12,127,642	233
Student Spending	128,421,120	169,962,912	101,095,648	52,429,053	1,456
State Colleges					
Abraham Baldwin Agricultural College	70,341,318	87,000,067	48,169,601	32,747,392	1,038
Personal Services	16,616,427	30,464,269	21,586,545	18,964,427	463
Operating Expenses	12,928,035	14,244,549	2,885,439	1,905,451	59
Student Spending	40,796,856	42,291,249	23,697,617	11,877,514	516
Dalton State College	77,781,620	96,010,983	54,753,316	37,059,573	1,053
Personal Services	19,025,724	34,506,214	24,498,316	21,555,438	472
Operating Expenses	12,170,168	13,072,478	2,532,646	1,668,841	46
Student Spending	46,585,728	48,432,291	27,722,354	13,835,294	535
Gainesville State College	127,337,889	180,103,503	106,739,377	67,944,294	1,570
Personal Services	24,555,330	48,353,029	35,264,243	29,971,445	494
Operating Expenses	19,731,135	25,591,536	9,106,191	5,977,232	123
Student Spending	83,051,424	106,158,938	62,368,943	31,995,617	953
Georgia Gwinnett College	34,535,383	57,326,734	36,474,565	27,250,751	542
Personal Services	16,180,439	32,714,857	24,151,321	20,347,426	376
Operating Expenses	9,041,360	12,285,526	4,991,406	3,100,972	60
Student Spending	9,313,584	12,326,351	7,331,838	3,802,353	106
Gordon College	69,215,003	102,426,200	61,855,200	39,993,158	902
Personal Services	14,829,323	29,983,067	22,134,612	18,648,355	347
Operating Expenses	13,152,528	17,871,838	7,261,032	4,511,005	87
Student Spending	41,233,152	54,571,295	32,459,556	16,833,798	468
Macon State College	127,251,812	170,379,108	95,991,633	63,542,708	1,633
Personal Services	27,892,516	52,971,135	38,319,624	33,098,607	587
Operating Expenses	29,526,496	34,879,217	10,715,027	6,520,752	165
Student Spending	69,832,800	82,528,756	46,956,982	23,923,349	881
Middle Georgia College	79,891,516	97,118,775	49,467,950	33,791,900	996
Personal Services	17,076,394	30,929,284	21,823,532	19,277,388	413
Operating Expenses	23,921,178	25,731,562	5,426,158	3,352,206	99
Student Spending	38,893,944	40,457,929	22,218,260	11,162,306	484

(continued)

Table 2 (continued)

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

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Associate Degree Colleges					
Atlanta Metropolitan College	40,541,818	61,178,304	37,293,778	24,810,851	533
Personal Services	10,354,625	20,935,778	15,455,568	13,021,276	230
Operating Expenses	8,189,225	11,127,633	4,520,973	2,808,710	54
Student Spending	21,997,968	29,114,893	17,317,237	8,980,865	249
Bainbridge College	51,399,412	61,145,963	32,147,883	21,596,013	957
Personal Services	11,074,820	19,943,908	13,874,010	12,291,622	498
Operating Expenses	10,742,960	11,633,609	2,344,247	1,451,655	54
Student Spending	29,581,632	29,568,446	15,929,626	7,852,736	405
Coastal Georgia Community College	53,718,367	71,556,586	40,140,965	27,379,137	690
Personal Services	13,778,802	25,600,746	18,283,977	15,908,366	282
Operating Expenses	11,542,165	13,243,746	3,422,385	2,210,269	60
Student Spending	28,397,400	32,712,094	18,434,603	9,260,502	348
Darton College	84,322,273	111,007,786	63,005,484	42,645,177	1,163
Personal Services	20,021,553	37,713,401	27,043,633	23,509,527	449
Operating Expenses	15,534,784	18,134,148	4,735,316	3,079,731	91
Student Spending	48,765,936	55,160,237	31,226,535	16,055,919	623
East Georgia College	40,081,000	49,752,756	26,165,562	16,694,937	540
Personal Services	6,952,074	12,781,637	9,064,802	7,939,875	166
Operating Expenses	9,089,398	10,214,599	2,569,324	1,549,410	46
Student Spending	24,039,528	26,756,520	14,531,436	7,205,652	328
Georgia Highlands College	77,591,993	100,388,020	57,356,454	37,413,138	1,100
Personal Services	17,036,195	31,793,221	22,849,087	19,849,089	452
Operating Expenses	12,835,446	14,702,599	4,210,272	2,479,089	66
Student Spending	47,720,352	53,892,200	30,297,095	15,084,960	582
Georgia Perimeter College	359,010,102	534,587,745	329,214,355	213,481,530	4,663
Personal Services	82,604,255	167,015,643	123,297,141	103,877,527	1,764
Operating Expenses	49,647,679	67,461,962	27,408,680	17,027,977	328
Student Spending	226,758,168	300,110,140	178,508,534	92,576,026	2,571
South Georgia College	37,538,009	46,618,428	24,516,244	16,632,475	510
Personal Services	8,308,068	15,200,724	10,716,805	9,452,704	193
Operating Expenses	8,654,069	9,415,433	1,930,939	1,223,853	38
Student Spending	20,575,872	22,002,271	11,868,500	5,955,918	279

(continued)

Table 2 (continued)

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

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

Notes:

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

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

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

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

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), March 16, 2009.

Table 3

On-Campus and Off-Campus Jobs that Exist Due to Institution-Related Spending in the 2008 Fiscal Year

Institution	Total Employment Impact	On-Campus Jobs	Off-Campus Jobs that Exist Due to Institution-Related Spending
System Total	**108,405**	**41,770**	**66,635**
Research Universities and Regional Universities	**63,567**	**27,000**	**36,567**
Georgia Institute of Technology	15,294	6,320	8,974
Georgia State University	11,379	4,460	6,919
Medical College of Georgia	8,693	4,647	4,046
University of Georgia	19,415	8,739	10,676
Georgia Southern University	5,470	1,779	3,691
Valdosta State University	3,317	1,055	2,262
State Universities	**26,715**	**9,228**	**17,487**
Albany State University	1,597	615	982
Armstrong Atlantic State University	2,012	689	1,323
Augusta State University	1,974	692	1,282
Clayton State University	1,674	506	1,168
Columbus State University	2,388	929	1,459
Fort Valley State University	1,283	548	735
Georgia College & State University	1,960	737	1,223
Georgia Southwestern State University	778	267	511
Kennesaw State University	5,880	1,913	3,967
North Georgia College & State University	1,559	491	1,068
Savannah State University	1,168	402	766
Southern Polytechnic State University	1,317	389	928
State University of West Georgia	3,127	1,050	2,077
State Colleges	**7,733**	**2,409**	**5,324**
Abraham Baldwin Agricultural College	1,038	379	659
Dalton State College	1,053	390	663
Gainesville State College	1,570	357	1,213
Georgia Gwinnett College	542	277	265
Gordon College	902	256	646
Macon State College	1,633	421	1,212
Middle Georgia College	996	329	667
Associate Degree Colleges	**10,389**	**3,133**	**7,256**
Atlanta Metropolitan College	533	166	367
Bainbridge College	957	448	509
Coastal Georgia Community College	690	213	477
Darton College	1,163	330	833
East Georgia College	540	129	411
Georgia Highlands College	1,100	361	739
Georgia Perimeter College	4,663	1,260	3,403
South Georgia College	510	150	360
Waycross College	233	76	157

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), March 16, 2009.

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
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

Associate Degree Colleges

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

Note:

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

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

Appendix 2

Economic Impact of Capital Outlays
in Fiscal Year 2008

Institution	Initial Spending (2008 dollars)	Output Impact (2008 dollars)	Value Added Impact (2008 dollars)	Labor Income Impact (2008 dollars)	Employment Impact (jobs)
System Total	**1,065,513,047**	**1,760,801,877**	**928,327,372**	**694,063,390**	**16,267**
Research Universities and Regional Universities	**520,604,285**	**847,481,588**	**444,364,837**	**332,477,750**	**7,905**
Georgia Institute of Technology	76,795,000	132,403,683	70,060,021	50,288,177	1,076
Georgia State University	113,320,000	202,311,215	111,720,200	84,307,582	1,778
Medical College of Georgia	5,000,000	8,398,370	4,534,035	3,733,702	78
University of Georgia	93,284,285	161,197,313	90,178,069	68,388,308	1,402
Georgia Southern University	69,000,000	98,738,696	44,980,073	33,041,681	1,014
Valdosta State University	163,205,000	244,432,311	122,892,439	92,718,300	2,557
State Universities	**412,348,762**	**704,094,774**	**376,123,802**	**279,809,672**	**6,283**
Albany State University	0	0	0	0	0
Armstrong Atlantic State University	24,260,000	40,302,164	21,070,774	16,214,203	400
Augusta State University	0	0	0	0	0
Clayton State University	42,450,000	74,591,990	40,295,652	29,641,156	629
Columbus State University	0	0	0	0	0
Fort Valley State University	55,095,000	88,272,657	45,441,709	34,662,052	889
Georgia College & State University	9,385,000	12,520,823	6,405,166	4,817,220	138
Georgia Southwestern State University	11,648,762	15,964,079	7,433,457	5,436,439	157
Kennesaw State University	156,325,000	276,953,783	150,922,032	112,129,462	2,373
North Ga College & State University	2,000,000	2,988,934	1,947,267	1,096,210	20
Savannah State University	35,675,000	57,906,193	29,329,694	21,823,325	545
Southern Polytechnic State University	20,605,000	37,965,607	20,258,708	15,278,641	322
State University of West Georgia	54,905,000	96,628,544	53,019,343	38,710,964	810
State Colleges	**110,715,000**	**174,564,173**	**90,248,880**	**68,171,743**	**1,702**
Abraham Baldwin Agricultural College	0	0	0	0	0
Dalton State College	7,240,000	10,160,808	5,056,307	3,918,654	112
Gainesville State College	5,435,000	9,431,579	5,269,603	3,998,536	81
Georgia Gwinnett College	34,500,000	61,970,968	34,256,576	25,861,540	545
Gordon College	0	0	0	0	0
Macon State College	27,200,000	44,280,970	23,018,754	17,742,789	465
Middle Georgia College	36,340,000	48,719,848	22,647,640	16,650,224	499
Associate Degree Colleges	**21,845,000**	**34,661,342**	**17,589,853**	**13,604,225**	**377**
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	21,845,000	34,661,342	17,589,853	13,604,225	377
East Georgia College	0	0	0	0	0
Georgia Highlands College	0	0	0	0	0
Georgia Perimeter College	0	0	0	0	0
South Georgia College	0	0	0	0	0
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, 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), March 16, 2009.