The Economic Impact of University System of Georgia Institutions on Their Regional Economies in FY 2005

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A Needs Assessment Study

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Dr. Jeffrey M. Humphreys, Director

Selig Center for Economic Growth

Terry College of Business

The University of Georgia

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Executive Summary

The statewide economic impact of the University System of Georgia's 34 institutions in fiscal year 2005 includes:

- $9.9 billion in output (sales);
- $6.1 billion in gross regional product;
- $4.5 billion in income; and
- 109,698 full- and part-time jobs (2.8% of all jobs held by Georgians).

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 were especially significant given the sub-par performance of the state's economy. In both good and bad economic times, 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 chapters that follow this summary 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 attending 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 34 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 attending 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 regarding annual spending in the specified categories. Moreover, the emphasis is on funds received by recipients in the region that hosts each college or university. The study reports expenditures and impacts for the 2005 fiscal year (FY 2005) – July 1, 2004 through June 30, 2005.

The study does not account for all of the short-term impacts of the 34 institutions on their host communities, however. For example, several sources of college/university-related spending are identified, but no dollar amounts are estimated for them. To do so would require collecting survey data, a task beyond the resources available to this study. The study also does

not quantify the many long-term benefits flowing to the economic development of the host communities through the presence of an institution of higher education. Neither does the study measure intangible benefits (such as cultural opportunities, intellectual stimulation, and volunteer work) to residents of their host communities. 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 $9.9 billion in FY 2005. 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 2005 total, $6.6 billion (66 percent) is initial spending by the institutions and students; $3.3 billion (34 percent) is the induced or respending (multiplier) impact. Dividing the FY 2005 total output impact ($9.9 billion) by initial spending ($6.6 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 hosting the institution.

In FY 2005, value added comprises $6.1 billion (61 percent) of the $9.9 billion output impact, with domestic and foreign trade comprising the remainding $3.8 billion (39 percent) of the output impact. The $6.1 billion value-added impact reported for FY 2005 equals 1.7 percent of Georgia's gross state product. Labor income received by residents of the communities that host one or more institutions equals $4.5 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 2005, including multiplier effects, is 109,698 full- and part-time jobs. 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 institution. The 109,698 jobs generated by the University System of Georgia account for 2.8 percent of all the jobs in Georgia, or about one job in 36.

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, its faculty and staff, and its students. The total economic impact includes the impact of the initial round of spending and the secondary, or indirect and induced spending – often referred to as the multiplier effect – created as the initial expenditures are respent. Figure 1 provides a schematic representation of impact relationships.

There are two types of secondary spending, indirect spending and induced spending. Indirect spending refers to the changes in interindustry 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, often 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 persons, 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 virtually all 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 respending of those initial dollars. The magnitude of a particular multiplier depends upon what proportion of each dollar spent 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 take place 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 respent 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 respending, $25 is respent 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 respending, 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 respending that take place 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 2005 involved four basic steps. First, initial spending (and employment) for each institution were obtained for Budget Unit "A" and Budget Unit "B" of the University System of Georgia FY 2005 Budget; 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 2005 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 allows 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, hotel and 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 2005. 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 2005 were obtained from the Board of Regents for FY 2005. 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 operated by MCG Health, Inc. and therefore 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 economic impacts associated with capital projects funded through state appropriations as well as public/private ventures are estimated. In the case of capital projects funded through state appropriations, 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 2005. In the case of public/private ventures, expenditures were allocated to the fiscal year following the board action date regardless of whether or not all of the funds were actually spent during fiscal year 2005. Due to these considerations as well as the extremely lumpy nature of large capital outlays, these amounts are not emphasized in this report and are not included in the economic impacts expressed in Tables 1-3. The amounts for capital projects and their impacts are reported in Appendix 2, however.

It should be noted that previous editions of this study did not include the impacts of public/private ventures. The FY 2005 capital project impacts therefore are not directly comparable to those for FY 2004 or earlier fiscal years.

Students' Personal Expenditures

The students who attend an educational institution 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) various 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 that was used to develop a profile of average expenditures for some of the items typically purchased by students.

The Consumer Expenditure Surveys cover consumer units consisting of one person at various income levels, but 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 consumer units at lower income levels, students' expenditures for books and food consumed away from home were increased substantially, while students' expenditures for grocery stores, cash contributions, insurance and pensions, and health care were reduced. Because expenditures for vacation and travel do not take place locally, such expenditures were eliminated entirely. Additionally, expenditures for tuition were eliminated because of possible double counting. System 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 $3,450 for Summer 2004 Semester, at $5,750 for Fall 2004 Semester, and at $5,750 for Winter 2005 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 2005, 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 Reports 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 2005. 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 2005 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 students attending the institution. Estimates of initial spending for FY 2005 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 2005, total initial spending for all 34 institutions was $6.6 billion. In FY 2005, spending originating from personal services accounted for 36 percent ($2.4 billion) of initial spending, spending due to operating expenses accounted for 24 percent ($1.6 billion) of initial spending, and students' personal expenditures accounted for 40 percent ($2.7 billion) of initial spending.

Total Output Impact

The output impact was calculated for each category of initial spending, based on the impact of the first round of spending and the impacts generated by the re-spending of these amounts – the multiplier effect. Total output impacts are the most inclusive, largest measures of economic impact. Conceptualized as the equivalent of business revenue, sales, or gross receipts, total output is the value of productions by all industries, including households. Output impacts for FY 2005 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 $9.9 billion in FY 2005 (Table 1). This amount represents the combined impact of all 34 institutions on their host communities. Of the FY 2005 output impact, $6.6 billion (66 percent) was initial spending by the institutions and students, while $3.3 billion (34 percent) was the induced/respending 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 respending 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 2005 was 1.51, obtained by dividing the total output impact ($9.9 billion) by initial spending ($6.6 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.

That the estimates for the various institutions show differing outcomes is not surprising, given the differences in budgets, staffing, enrollment, and regional economies. Institutions located in the largest metropolitan areas (e.g., Atlanta) – where multipliers are the highest, or institutions have the largest budgets, staffs, and enrollments – had the largest economic impacts. Thus, for the most part, institutions with large initial spending will rank highly on the various indicators of economic impact, including value added, labor income, and employment impact described in the subsections that follow.

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 2005 are reported in the third column of Tables 1 and 2.

The 34 institutions collectively generated a value-added impact of $6.1 billion in FY 2005. For all institutions combined, the value-added impact equaled 92 percent of initial spending and 61 percent of the $9.9 billion output impact (with domestic and foreign trade comprising the remaining 39 percent of the output impact). The $6.1 billion value-added impact reported for FY 2005 equals 1.7 percent of Georgia's gross state product.

Labor Income Impacts

Collectively, the 34 University System institutions generated a labor income impact of $4.5 billion in FY 2005. The labor income received by residents of the communities that host University System institutions represents 73 percent of the value-added impact and 68 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 a unit 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 109,698 jobs in FY 2005. 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 of Georgia accounts for 2.8 percent of all the jobs held by Georgians, or about one job in 36. For all institutions combined, 16.6 jobs were generated for each million dollars of initial spending in FY 2005.

Employment impacts in FY 2005 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 example, 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 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 2005 includes:

- $9.9 billion in output (sales);
- $6.1 billion in value added (gross regional product);
- $4.5 billion in labor income; and
- 109,698 full- and part-time jobs.

These economic impacts were especially significant given the substandard performance of the national and state economies in FY 2005. In both good and tough economic times, 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

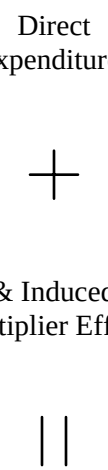
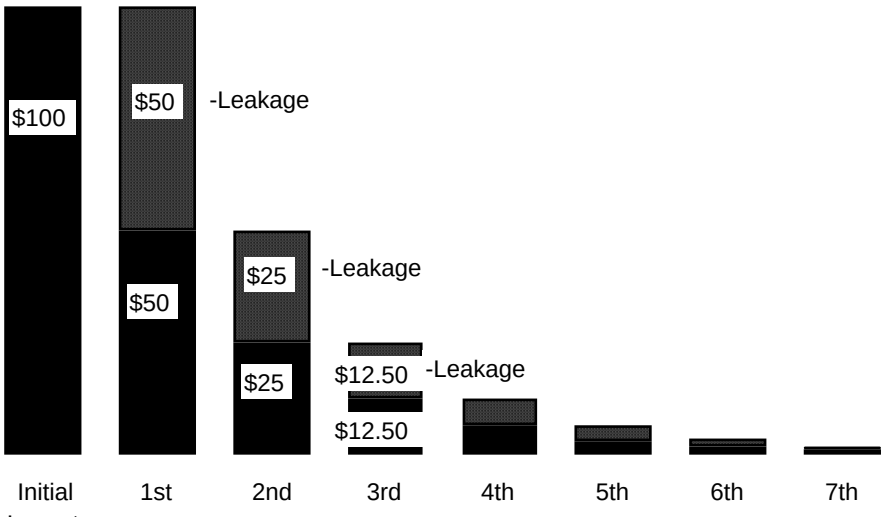


Figure 2

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 Respending:	$50 respent locally;	$50 leakage*
Second Round of Respending:	$25 respent locally;	$25 leakage
Third Round of Respending:	$12.50 respent locally;	$12.50 leakage
Fourth Round of Respending:	$6.25 respent locally;	$6.25 leakage
Fifth Round of Respending:	$3.12 respent locally;	$3.12 leakage
Sixth Round of Respending:	$1.56 respent locally;	$1.56 leakage
Seventh Round of Respending:	$.78 respent locally;	$.78 leakage
Total Economic Impact:	$200	Total Leakage: $100

*Leakage indicates amounts spent outside area and not recirculated locally.

Table 1

Total Economic Impact of all 34 Institutions of the University System of Georgia
on Their Regional Economies in the 2005 Fiscal Year

Total for All 34 Institutions in 2005	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
System Total	6,604,968,339	9,941,390,018	6,094,645,930	4,474,278,265	109,698
Personal Services	2,394,512,085	4,720,950,694	3,416,807,415	2,964,599,409	59,519
Operating Expenses	1,554,235,704	1,979,135,659	729,990,060	473,072,668	11,652
Student Spending	2,656,220,550	3,241,303,665	1,947,848,455	1,036,606,188	38,527

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 was 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), 2006.

Table 2

Total Economic Impact of University System of Georgia
Institutions on Their Regional Economies in the 2005 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	978,043,516	1,652,296,917	1,060,750,862	822,021,388	14,828
Personal Services	486,560,373	992,715,792	729,001,528	624,974,778	10,014
Operating Expenses	293,534,793	400,496,957	172,199,277	110,718,134	2,294
Student Spending	197,948,350	259,084,168	159,550,057	86,328,476	2,520
Georgia State University	656,684,220	1,045,507,612	672,395,283	487,189,649	13,083
Personal Services	245,107,441	500,085,999	367,238,492	314,834,454	8,438
Operating Expenses	121,168,429	165,321,429	71,082,262	45,703,418	947
Student Spending	290,408,350	380,100,184	234,074,529	126,651,777	3,698
Medical College of Georgia	531,224,056	870,932,252	533,608,652	441,971,642	9,346
Personal Services	319,358,970	615,077,686	440,095,805	385,488,255	7,372
Operating Expenses	178,401,236	215,917,343	70,103,552	44,180,201	1,435
Student Spending	33,463,850	39,937,223	23,409,295	12,303,186	539
University of Georgia	1,344,679,021	2,055,579,330	1,223,105,074	917,800,610	20,750
Personal Services	508,441,851	1,002,312,695	724,553,011	626,902,918	12,117
Operating Expenses	454,680,970	576,057,977	209,571,502	137,850,526	3,326
Student Spending	381,556,200	477,208,658	288,980,561	153,047,166	5,307
Georgia Southern University	317,743,770	406,004,713	234,503,244	168,688,461	5,555
Personal Services	94,496,964	172,396,122	120,045,342	107,838,606	1,859
Operating Expenses	45,226,806	49,363,284	10,750,608	7,318,657	306
Student Spending	178,020,000	184,245,307	103,707,294	53,531,198	3,390
Valdosta State University	199,276,629	268,228,942	157,374,165	111,351,314	3,465
Personal Services	57,935,015	107,836,348	76,157,052	67,713,712	1,358
Operating Expenses	27,997,614	33,465,712	7,935,008	5,346,257	193
Student Spending	113,344,000	126,926,882	73,282,105	38,291,345	1,914
State Universities and State Colleges					
Albany State University	85,338,738	119,264,794	70,225,557	50,799,221	1,611
Personal Services	26,909,989	51,006,656	36,380,094	32,100,605	816
Operating Expenses	17,727,949	20,840,015	6,207,085	4,040,130	130
Student Spending	40,700,800	47,418,123	27,638,378	14,658,486	665
Armstrong Atlantic State University	122,066,908	170,463,019	103,230,402	72,271,575	2,045
Personal Services	34,480,027	66,139,114	47,443,076	41,706,296	842
Operating Expenses	19,073,331	23,188,018	7,436,119	4,892,628	149
Student Spending	68,513,550	81,135,887	48,351,207	25,672,651	1,054

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia
Institutions on Their Regional Economies in the 2005 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	115,241,623	160,912,248	96,660,487	66,732,420	2,406
Personal Services	31,513,318	60,693,891	43,427,241	38,038,743	1,198
Operating Expenses	17,411,255	21,072,680	6,841,830	4,311,813	140
Student Spending	66,317,050	79,145,677	46,391,416	24,381,864	1,068
Clayton State University	106,668,969	162,409,226	103,146,573	70,961,912	1,732
Personal Services	29,936,015	61,077,632	44,852,401	38,452,072	834
Operating Expenses	16,200,404	22,103,726	9,503,807	6,110,617	127
Student Spending	60,532,550	79,227,868	48,790,365	26,399,223	771
Columbus State University	136,863,005	188,072,396	111,066,703	77,177,460	2,598
Personal Services	36,931,672	70,582,377	50,519,382	44,331,441	1,270
Operating Expenses	24,914,533	29,068,945	8,349,116	5,533,876	177
Student Spending	75,016,800	88,421,074	52,198,205	27,312,143	1,151
Fort Valley State University	72,895,628	107,883,130	65,893,374	49,528,825	1,389
Personal Services	29,369,444	56,362,125	40,587,339	35,579,351	825
Operating Expenses	15,140,734	18,000,572	5,708,310	3,660,283	114
Student Spending	28,385,450	33,520,433	19,597,725	10,289,191	450
Georgia College & State University	115,743,330	145,523,102	84,896,648	62,206,049	1,982
Personal Services	38,318,842	67,915,505	46,931,312	42,601,188	903
Operating Expenses	16,231,838	16,773,405	3,043,542	1,987,276	68
Student Spending	61,192,650	60,834,192	34,921,794	17,617,585	1,011
Georgia Southwestern State University	50,802,619	64,550,699	35,744,000	25,864,493	789
Personal Services	15,061,309	27,181,007	18,823,517	16,940,222	331
Operating Expenses	10,703,510	11,290,970	2,123,192	1,420,520	57
Student Spending	25,037,800	26,078,722	14,797,291	7,503,751	401
Kennesaw State University	338,865,177	511,495,436	320,353,573	218,862,551	4,631
Personal Services	88,153,402	179,856,972	132,078,820	113,230,866	1,748
Operating Expenses	62,921,375	85,849,519	36,912,202	23,733,260	492
Student Spending	187,790,400	245,788,945	151,362,551	81,898,425	2,391
North Ga. College & State University	86,882,132	124,258,739	77,014,763	53,913,449	1,422
Personal Services	26,492,849	51,270,255	36,895,251	32,188,403	612
Operating Expenses	10,210,183	12,318,023	3,926,235	2,591,930	73
Student Spending	50,179,100	60,670,461	36,193,277	19,133,116	737
Savannah State University	70,568,559	100,555,788	59,441,133	43,140,013	1,177
Personal Services	22,412,234	42,990,838	30,838,297	27,109,354	565
Operating Expenses	17,039,625	20,715,579	6,643,237	4,370,948	133
Student Spending	31,116,700	36,849,371	21,959,599	11,659,711	479

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia
Institutions on Their Regional Economies in the 2005 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	72,371,633	112,529,454	72,650,814	51,065,492	1,248
Personal Services	23,636,517	48,224,938	35,414,016	30,360,521	673
Operating Expenses	9,320,016	12,716,170	5,467,495	3,515,409	73
Student Spending	39,415,100	51,588,346	31,769,303	17,189,562	502
University of West Georgia	190,554,019	289,701,987	183,891,455	126,287,106	3,515
Personal Services	52,903,879	107,938,336	79,264,591	67,953,725	1,904
Operating Expenses	28,816,440	39,316,964	16,904,879	10,869,248	225
Student Spending	108,833,700	142,446,687	87,721,985	47,464,133	1,386
Dalton State College	61,041,584	77,877,392	45,522,862	31,393,908	929
Personal Services	14,733,139	27,300,449	19,362,863	17,213,666	328
Operating Expenses	10,167,395	11,489,855	3,070,799	2,063,827	67
Student Spending	36,141,050	39,087,088	23,089,200	12,116,415	534
Macon State College	93,598,109	125,758,349	72,635,962	49,087,426	1,520
Personal Services	20,965,149	40,084,956	28,721,192	25,239,564	507
Operating Expenses	18,525,460	21,941,353	6,836,701	4,369,607	138
Student Spending	54,107,500	63,732,040	37,078,069	19,478,255	875
Associate Degree Colleges					
Abraham Baldwin Agricultural College	57,976,277	72,040,370	40,681,250	28,033,624	941
Personal Services	13,632,306	25,066,297	17,663,511	15,763,060	310
Operating Expenses	10,460,371	11,591,409	2,693,922	1,780,813	67
Student Spending	33,883,600	35,382,664	20,323,817	10,489,751	564
Atlanta Metropolitan College	33,510,039	50,940,517	32,180,787	22,132,988	510
Personal Services	9,253,630	18,879,928	13,864,488	11,886,059	229
Operating Expenses	5,628,709	7,679,774	3,302,026	2,123,088	44
Student Spending	18,627,700	24,380,815	15,014,273	8,123,841	237
Bainbridge College	41,762,692	48,912,123	26,117,205	17,148,541	672
Personal Services	7,169,630	12,864,149	8,935,822	8,044,385	190
Operating Expenses	9,557,562	10,234,615	2,138,011	1,366,587	53
Student Spending	25,035,500	25,813,359	15,043,372	7,737,569	429
Coastal Georgia Community College	45,812,098	59,078,601	34,152,621	23,536,096	769
Personal Services	11,179,865	20,576,383	14,586,984	12,978,566	279
Operating Expenses	8,624,983	9,645,469	2,462,816	1,625,227	58
Student Spending	26,007,250	28,856,749	17,102,821	8,932,303	432

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia
Institutions on Their Regional Economies in the 2005 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	66,957,744	89,405,518	52,135,880	35,476,507	1,152
Personal Services	15,440,723	29,267,187	20,874,589	18,419,054	412
Operating Expenses	11,315,321	13,301,678	3,961,832	2,578,717	83
Student Spending	40,201,700	46,836,653	27,299,459	14,478,736	657
East Georgia College	23,434,050	28,741,628	15,607,679	10,558,875	440
Personal Services	4,749,503	8,724,338	6,105,308	5,465,072	142
Operating Expenses	4,752,297	5,273,338	1,241,616	830,416	33
Student Spending	13,932,250	14,743,952	8,260,755	4,263,387	265
Gainesville College	82,288,252	114,922,360	70,668,803	45,893,249	1,357
Personal Services	16,440,646	32,327,123	23,378,302	20,229,339	522
Operating Expenses	9,295,206	11,830,335	4,351,446	2,868,555	68
Student Spending	56,552,400	70,764,902	42,939,055	22,795,355	767
Ga. Highlands College (formerly Floyd)	53,099,326	69,457,472	41,318,930	27,718,464	1,015
Personal Services	12,665,728	23,950,421	17,028,107	15,014,642	418
Operating Expenses	6,374,048	7,455,764	2,249,437	1,399,069	45
Student Spending	34,059,550	38,051,287	22,041,386	11,304,753	552
Georgia Perimeter College	313,382,095	463,467,474	289,657,790	192,421,888	4,575
Personal Services	69,133,079	141,050,325	103,580,404	88,799,732	1,707
Operating Expenses	49,192,916	67,118,498	28,858,537	18,555,034	384
Student Spending	195,056,100	255,298,651	157,218,849	85,067,122	2,484
Gordon College	53,665,730	78,557,802	48,942,922	32,060,786	780
Personal Services	10,761,603	21,956,603	16,123,847	13,823,013	273
Operating Expenses	8,033,827	10,961,302	4,712,965	3,030,272	63
Student Spending	34,870,300	45,639,897	28,106,110	15,207,501	444
Middle Georgia College	47,333,763	57,429,607	31,725,808	21,980,942	773
Personal Services	10,814,004	19,742,501	13,800,335	12,407,301	270
Operating Expenses	9,122,159	9,749,091	1,982,855	1,371,869	52
Student Spending	27,397,600	27,938,015	15,942,618	8,201,772	451

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia
Institutions on Their Regional Economies in the 2005 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	24,974,903	31,303,639	17,526,160	12,153,731	440
Personal Services	6,055,183	11,089,172	7,759,191	6,958,393	156
Operating Expenses	4,320,470	4,660,478	934,741	630,054	25
Student Spending	14,599,250	15,553,989	8,832,228	4,565,284	259
Waycross College	13,618,125	17,327,383	9,818,510	6,847,607	253
Personal Services	3,497,786	6,406,575	4,475,906	4,012,050	97
Operating Expenses	2,143,939	2,325,412	483,098	324,402	13
Student Spending	7,976,400	8,595,396	4,859,506	2,511,155	143

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 was 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), 2006.

Table 3

On-Campus and Off-Campus Jobs that
Exist Due to Institution-Related Spending
in the 2005 Fiscal Year

Institution	Total Employment Impact	On-Campus Jobs	Off-Campus Jobs that Exist Due to Institution-Related Spending
System Total	109,698	42,422	67,276
Research Universities and Regional Universities			
Georgia Institute of Technology	14,828	6,471	8,357
Georgia State University	13,083	6,653	6,430
Medical College of Georgia	9,346	4,920	4,426
University of Georgia	20,750	8,631	12,119
Georgia Southern University	5,555	1,241	4,314
Valdosta State University	3,465	940	2,525
State Universities and State Colleges			
Albany State University	1,611	623	988
Armstrong Atlantic State University	2,045	584	1,461
Augusta State University	2,406	956	1,450
Clayton State University	1,732	616	1,116
Columbus State University	2,598	1,001	1,597
Dalton State College	929	237	692
Fort Valley State University	1,389	605	784
Georgia College & State University	1,982	718	1,264
Georgia Southwestern State University	789	248	541
Kennesaw State University	4,631	1,106	3,525
Macon State College	1,520	351	1,169
North Georgia College & State University	1,422	424	998
Savannah State University	1,177	398	779
Southern Polytechnic State University	1,248	501	747
University of West Georgia	3,515	1,519	1,996
Associate Degree Colleges			
Abraham Baldwin Agricultural College	941	220	721
Atlanta Metropolitan College	510	162	348
Bainbridge College	672	151	521
Coastal Georgia Community College	769	205	564
Darton College	1,152	302	850
East Georgia College	440	110	330
Gainesville College	1,357	411	946
Georgia Highlands College (formerly Floyd)	1,015	328	687
Georgia Perimeter College	4,575	1,203	3,372
Gordon College	780	195	585
Middle Georgia College	773	200	573
South Georgia College	440	117	323
Waycross College	253	75	178

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), 2006.

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
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
Gainesville College – Hall, Gwinnett, Jackson, White, Habersham, Lumpkin, Banks, and Forsyth
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), 2006.

Appendix 2

Economic Impact of Capital Outlays
in Fiscal Year 2005

Institution	Initial Spending (2005 dollars)	Output Impact (2005 dollars)	Value Added Impact (2005 dollars)	Labor Income Impact (2005 dollars)	Employment Impact (jobs)
System Total	420,475,000	716,318,737	348,234,099	297,398,477	8,131
Research Universities and Regional Universities					
Georgia Institute of Technology	2,000,000	3,432,037	2,398,574	1,739,094	31
Georgia State University	7,710,000	14,283,573	8,342,073	6,682,949	137
Medical College of Georgia	0	0	0	0	0
University of Georgia	46,680,000	85,109,311	44,659,470	37,961,052	886
Georgia Southern University	40,900,000	60,565,971	23,997,058	21,501,406	852
Valdosta State University	35,590,000	56,189,266	23,601,672	20,430,275	720
State Universities and State Colleges					
Albany State University	0	0	0	0	0
Armstrong Atlantic State University	4,365,000	7,333,941	3,394,265	2,921,424	86
Augusta State University	35,060,000	57,700,041	27,485,283	22,625,008	698
Clayton State University	3,600,000	6,937,000	3,619,718	3,011,633	68
Columbus State University	4,500,000	7,133,493	3,235,353	2,837,595	89
Dalton State College	0	0	0	0	0
Fort Valley State University	795,000	1,243,645	867,554	637,115	14
Georgia College & State University	33,125,000	45,957,206	18,938,926	17,227,139	577
Georgia Southwestern State University	4,635,000	6,621,422	2,791,893	2,560,185	87
Kennesaw State University	63,170,000	121,705,380	64,332,396	54,660,712	1,204
Macon State College	6,060,000	10,290,605	5,134,442	4,270,329	127
North Georgia College & State University	0	0	0	0	0
Savannah State University	4,975,000	8,398,641	3,965,037	3,471,911	102
Southern Polytechnic State University	0	0	0	0	0
University of West Georgia	50,075,000	96,476,126	50,996,432	43,329,666	955
Associate Degree Colleges					
Abraham Baldwin Agricultural College	4,715,000	7,167,806	3,004,679	2,666,404	97
Atlanta Metropolitan College	0	0	0	0	0
Bainbridge College	1,035,000	1,439,245	539,650	487,515	20
Coastal Georgia Community College	4,790,000	7,232,115	3,132,758	2,797,787	97
Darton College	4,845,000	8,279,381	3,898,809	3,377,437	102
East Georgia College	4,850,000	7,351,520	3,040,061	2,717,594	100
Gainesville College	4,200,000	6,645,146	4,337,262	2,587,012	81
Georgia Highlands College	3,950,000	6,217,947	2,684,073	2,355,467	79
Georgia Perimeter College	10,990,000	21,173,692	11,192,227	9,509,596	210
Gordon College	16,135,000	30,375,264	15,777,142	13,233,125	293
Middle Georgia College	21,725,000	31,058,963	12,867,292	11,799,047	419
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 was 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), 2006.