The Economic Impact of University System of Georgia Institutions on their Regional Economies in FY 2009

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Executive Summary

The statewide economic impact of the University System of Georgia's 35 institutions in fiscal year 2009 includes:

- $12.7 billion in output (sales);
- $7.6 billion in gross regional product;
- $5.7 billion in income; and
- 112,336 full- and part-time jobs (2.8 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, operating supplies and expenses, and other budgeted expenditures; spending by the students who attend the institutions; and spending by the institutions for capital projects.

Introduction

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

The benefits are estimated for three important categories of college/university-related expenditures: spending by the institutions themselves for salaries and fringe benefits, operating supplies and expenses, and other budgeted expenditures; spending by the students who attend the institutions; and spending by the institutions for capital projects (construction). The economic impact estimates are based on regional input-output models of each institution's regional economy, certain necessary assumptions, and available data on annual spending in the specified categories. Moreover, the emphasis is on funds received by residents in the region that hosts each college or university. The study reports expenditures and impacts for the 2009 fiscal year—July 1, 2008 through June 30, 2009.

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

Economic Impact Highlights

In the simplest terms, the total economic impact of all 35 institutions on their host communities was $12.7 billion in FY 2009. 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 2009 total, $8.4 billion (66 percent) is initial spending by the institutions and students; $4.3 billion (34 percent) is the induced or re-spending (multiplier) impact. Dividing the FY 2009 total output impact ($12.7 billion) by initial spending ($8.4 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 2009, value added comprises $7.6 billion (60 percent) of the $12.7 billion output impact, with domestic and foreign trade comprising the remaining $5.1 billion (40 percent). The $7.6 billion value-added impact equals 1.9 percent of Georgia's state GDP. Labor income received by residents of the communities that host one or more institutions equals $5.7 billion, and represents 75 percent of the value-added impact.

The collective or rolled-up employment impact of all 35 institutions on their host communities in FY 2009, including multiplier effects, is 112,336 full- and part-time jobs. Approximately 38 percent of these positions are on campus (University System employees) and 62 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 112,336 jobs generated by the University System account for 2.8 percent of all the jobs in Georgia in 2009, or about one job in thirty-six.

Methodology

■ Short-Term Economic Impact Of a College or University ■

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

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

The sum of the direct, indirect, and induced economic impacts is the total economic impact, which is expressed in terms of output (sales, plus or minus inventory), value added (gross regional product), labor income, or employment. Total industry output is gross receipts or sales, plus or minus inventory, or the value of production by industry (including households) for a given period of time. Total output impacts are the most inclusive, largest measures of economic impact. Because of their size, output impacts typically are emphasized in economic impact studies and receive much media attention. One problem with output as a measure of economic impact, however, is that it includes the value of inputs produced by other industries, which means that there inevitably is some double counting of economic activity. The other measures of economic activity (value added, labor income, and employment) are free from double counting and provide a much more realistic measure of the true economic impact of a college or university on its regional economy.

The regional economic areas are the host communities, including the surrounding counties from which employees and students commute. The effects of expenditures that go to people, businesses, or governments located outside the regions are not included in the value-added, labor income, and employment impact estimates.

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

Figure 2 illustrates the successive rounds of spending that might occur if a person buys an item locally. Assume that the amount spent is $100 and that the appropriate regional output multiplier is 2.0. The initial injection of spending to the region is $100, which creates a direct economic impact of $100 to the regional economy. Of that $100, only $50 is re-spent locally; the rest flows out of the region through non-local taxes, non-local purchases, and income transfers. After the first round of spending, the total economic impact to the region is $150. During the second round of re-spending, $25 is re-spent locally and $25 leaks out of the region, a 50 percent leakage. Now the total economic impact to the region is $175. After seven rounds of re-spending, less than $1 remains in the local economy, but the total economic impact has reached almost $200. The induced (multiplier effect) impact to the region ($100) equals the total impact ($200) minus the direct impact ($100).

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

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

■ Analytic Approach ■

Estimating the economic impact of the University System of Georgia institutions on their regional economies in FY 2009 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 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 are in 2009 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 form U.S. Bureau of Economic Analysis data. Moreover, margins were selected according to type of consumer to which these applied. For example, households pay transportation, wholesale, and the full retail margins. In contrast, institutions of higher education may pay little or no retail margin as they have typically more buying power than a household. In addition, some sectors of the model do not have margins. For instance, because there usually are no wholesalers or retailers involved when someone rents a room, hotels and other lodging do not have margins.

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

■ Initial Spending by the Institutions ■

Institution-specific data on expenditures for personnel services and number of positions were obtained from the Board of Regents for FY 2009. The expenditure amounts were treated as an industry change and are reported in the first column of Tables 1 and 2, respectively. These amounts were allocated to various economic sectors recognized by the IMPLAN software based on the typical expenditure pattern for households of moderate income.

Institution-specific data on expenditures for operating expenses (non-personnel services) for FY 2009 were obtained from the Board of Regents for FY 2009. 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 2009. Therefore, the amounts for capital expenditures and their impacts are not included in the economic impacts expressed in Tables 1-3, but they are reported in Appendix 2.

It should be noted that previous editions of this study did not include the impacts of public/private ventures. The FY 2009 capital project impacts therefore are not directly comparable to those for FY 2004 or earlier fiscal years.

The Medical College of Georgia is opening clinical campuses in Albany and Savannah, which eventually will generate significant economic impacts for their host communities. Although these campuses are in their earliest stages of development, and students are not yet enrolled, Appendix 3 documents the economic impact that the two campuses had on their host communities in FY 2009, and provides base levels of economic impact that may be useful for future reference.

■ 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 2008, $6,360 for Fall 2008, and at $6,360 for Spring 2009.

The final step in estiating students' personal expenditures was to multiply the number of semesters of student spending by the average spending per semester. For FY 2009, these amounts are reported in the first column of Tables 1 and 2. The number of semesters of students' spending equals each institution's FTE enrollment as reported in the *Semester Enrollment Report* issued by the Board of Regents.

Results

This section describes the economic benefits that the University System of Georgia's 35 institutions conveyed to their host communities in FY 2009. 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 2009 dollars.

Total Initial Spending

For each institution, total initial spending accruing to the institution's regional economy is the combination of three types of spending—spending by the institution for personnel services, spending by the institution for operating expenses, and spending by that institution's students. Estimates of initial spending for FY 2009 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 2009, total initial spending for all 35 institutions was $8.4 billion. Spending originating from personnel services accounted for 37 percent ($3.1 billion) of initial spending, spending due to operating expenses accounted for 23 percent ($1.9 billion) of initial spending, and students' personal expenditures accounted for 40 percent ($3.4 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 2009 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 $12.7 billion in FY 2009 (Table 1). This amount represents the combined impact of all 35 institutions on their host communities. Of the FY 2009 output impact, $8.4 billion (66 percent) was initial spending by the institutions and students, while $4.3 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 2009 was 1.51, obtained by dividing the total output impact ($12.7 billion) by initial spending ($8.4 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 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 2009 are reported in the third column of Tables 1 and 2.

The 35 institutions collectively generated a value-added impact of $7.6 billion in FY 2009. For all institutions combined, the value-added impact equaled 90 percent of initial spending and 60 percent of the $12.7 billion output impact (with domestic and foreign trade comprising the remaining 40 percent of the output impact). The $7.6 billion value-added impact reported for FY 2009 equals 1.9 percent of Georgia's gross state product.

Labor Income Impact

Collectively, the 35 University System institutions generated a labor income impact of $5.7 billion in FY 2009. The labor income received by residents of the communities that host University System institutions represents 75 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 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 112,336 jobs in FY 2009. Approximately 38 percent of these positions are on-campus jobs at one of the institutions of the University System of Georgia, and 62 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 2.8 percent of all the jobs held by Georgians, or about one job in 36. For all institutions combined, 13.4 jobs were generated for each million dollars of initial spending in FY 2009.

Employment impacts in FY 2009 for the individual institutions are reported in the fifth column of Table 2.

Limitations and Topics for Future Research

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

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

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

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

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

Summary

The fundamental finding of this study is that each of the University System of Georgia's 35 institutions creates substantial economic impacts in terms of output, value added, labor income, and employment. The combined economic impact of the University System's 35 institutions on their host communities in FY 2009 includes:

- $12.7 billion in output (sales);
- $7.6 billion in valued added (gross regional product);
- $5.7 billion in labor income; and
- 112,336 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

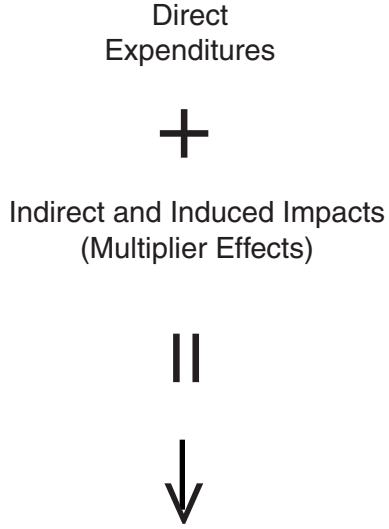
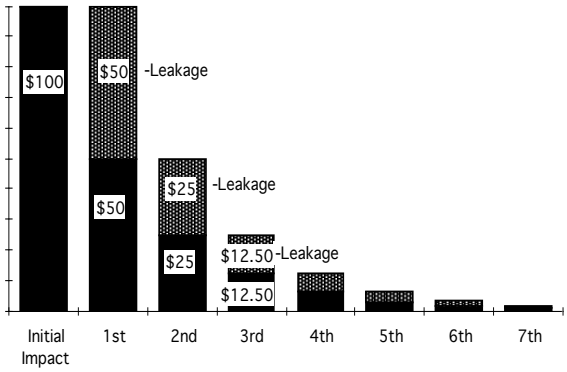


Figure 2

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 2009 Fiscal Year

Total for All Institutions in 2009	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
System Total	8,374,791,691	12,657,003,870	7,579,161,791	5,697,082,591	112,336
Personal Services	3,101,862,388	6,075,247,564	4,294,485,757	3,914,701,313	60,585
Operating Expenses	1,885,447,231	2,411,512,439	860,062,079	540,145,087	11,629
Student Spending	3,387,482,072	4,170,243,867	2,424,613,955	1,242,236,191	40,122

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.

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

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu) April 20, 2010.

Table 2

Total Economic Impact of University System of Georgia Institutions on their Regional Economies in the 2009 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	1,291,776,005	2,165,277,349	1,365,510,311	1,036,840,896	15,870
Personal Services	631,555,950	1,276,928,495	942,675,942	794,202,077	10,339
Operating Expenses	412,083,383	559,944,694	227,496,266	141,334,840	2,718
Student Spending	248,136,672	328,404,160	195,338,103	101,303,979	2,813
Georgia State University	867,064,903	1,371,377,312	851,450,448	603,314,784	11,100
Personal Services	309,811,827	626,401,432	462,432,752	389,598,414	5,784
Operating Expenses	211,191,484	286,969,938	116,591,146	72,433,674	1,393
Student Spending	346,061,592	458,005,942	272,426,550	141,282,696	3,923
Medical College of Georgia	638,683,115	1,040,014,657	643,339,485	523,626,798	9,176
Personal Services	382,971,876	729,735,739	528,135,771	455,590,095	7,308
Operating Expenses	212,754,527	259,214,946	86,078,437	53,182,941	1,348
Student Spending	42,956,712	51,063,972	29,125,277	14,853,762	520
University of Georgia	1,406,436,089	2,238,376,140	1,254,594,875	1,177,293,489	19,582
Personal Services	633,529,302	1,245,928,406	772,302,566	908,581,504	12,455
Operating Expenses	336,907,163	436,257,891	154,865,116	100,784,277	2,121
Student Spending	435,999,624	556,189,843	327,427,193	167,927,708	5,006
Georgia Southern University	404,137,256	526,316,751	301,998,013	213,838,887	5,935
Personal Services	126,578,616	230,898,215	162,309,433	142,901,547	2,737
Operating Expenses	59,074,832	65,542,389	14,896,694	9,158,489	288
Student Spending	218,483,808	229,876,147	124,791,886	61,778,851	2,910
Valdosta State University	252,535,578	340,273,321	200,561,502	138,699,055	3,391
Personal Services	75,645,587	140,241,639	100,105,931	87,206,872	1,456
Operating Expenses	35,233,711	39,725,131	9,646,333	6,154,577	172
Student Spending	141,656,280	160,306,551	90,809,238	45,337,606	1,763
State Universities					
Albany State University	109,078,589	149,751,789	86,347,857	61,626,770	1,585
Personal Services	33,950,861	63,951,205	45,858,312	39,865,472	783
Operating Expenses	22,703,520	26,502,396	6,920,491	4,500,914	132
Student Spending	52,424,208	59,298,188	33,569,054	17,260,384	670
Armstrong Atlantic State University	151,657,562	215,571,118	129,114,840	88,280,566	2,078
Personal Services	43,869,127	83,986,928	60,908,862	52,426,827	944
Operating Expenses	25,748,251	32,050,264	10,434,898	6,501,685	159
Student Spending	82,040,184	99,533,926	57,771,080	29,352,054	975

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia Institutions on their Regional Economies in the 2009 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	137,791,633	193,345,474	116,850,387	80,068,085	2,000
Personal Services	40,477,981	77,128,977	55,820,990	48,153,319	926
Operating Expenses	18,106,212	22,060,168	7,325,599	4,526,069	115
Student Spending	79,207,440	94,156,329	53,703,798	27,388,697	959
Clayton State University	134,329,827	205,609,909	127,231,891	86,033,462	1,697
Personal Services	38,607,241	78,059,092	57,626,116	48,549,856	728
Operating Expenses	24,447,338	33,219,384	13,496,487	8,384,858	161
Student Spending	71,275,248	94,331,433	56,109,288	29,098,748	808
Columbus State University	173,112,559	234,936,001	135,154,858	94,545,284	2,472
Personal Services	49,077,141	92,024,324	66,191,816	57,678,134	1,209
Operating Expenses	32,361,106	37,390,669	9,744,907	6,520,440	172
Student Spending	91,674,312	105,521,008	59,218,135	30,346,710	1,091
Fort Valley State University	104,067,383	148,717,141	85,319,762	62,105,429	1,535
Personal Services	35,209,109	67,156,744	48,681,169	42,051,371	873
Operating Expenses	29,553,474	35,041,210	10,144,439	6,497,729	169
Student Spending	39,304,800	46,519,187	26,494,154	13,556,329	493
Georgia College & State University	158,940,453	200,068,929	114,797,439	82,462,949	2,065
Personal Services	51,114,754	91,277,009	64,128,853	56,781,924	1,008
Operating Expenses	26,468,579	27,961,666	5,732,307	3,343,197	97
Student Spending	81,357,120	80,830,254	44,936,279	22,337,828	960
Georgia Southwestern State University	61,825,652	78,513,990	44,009,974	31,245,485	822
Personal Services	18,161,277	32,964,643	23,071,909	20,366,640	350
Operating Expenses	10,761,551	11,669,902	2,215,407	1,472,583	48
Student Spending	32,902,824	33,879,445	18,722,658	9,406,262	424
Kennesaw State University	457,512,458	700,949,927	439,779,604	296,135,620	6,000
Personal Services	133,522,519	269,966,115	199,298,994	167,908,894	2,620
Operating Expenses	61,961,755	84,194,502	34,206,834	21,251,414	409
Student Spending	262,028,184	346,789,310	206,273,776	106,975,312	2,971
North Georgia College & State Univ.	118,254,141	169,974,247	103,923,072	71,848,328	1,614
Personal Services	37,068,926	70,969,786	51,526,702	44,228,728	719
Operating Expenses	15,505,495	19,064,613	6,243,093	4,150,943	94
Student Spending	65,679,720	79,939,848	46,153,277	23,468,657	801
Savannah State University	94,463,037	136,445,455	79,555,813	55,404,175	1,254
Personal Services	28,351,064	54,277,778	39,363,241	33,881,603	591
Operating Expenses	23,640,101	29,426,131	9,580,535	5,969,356	146
Student Spending	42,471,872	52,741,546	30,612,037	15,553,216	517

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia Institutions on their Regional Economies in the 2009 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	107,707,480	165,836,887	103,535,146	70,382,768	1,399
Personal Services	32,452,963	65,615,900	48,440,090	40,810,653	630
Operating Expenses	17,634,189	23,961,581	9,735,194	6,048,109	116
Student Spending	57,620,328	76,259,406	45,359,862	23,524,006	653
University of West Georgia	238,207,070	363,715,813	226,962,237	152,374,664	3,341
Personal Services	67,603,682	136,686,328	100,906,916	85,013,820	1,573
Operating Expenses	35,070,516	47,654,306	19,361,158	12,028,356	231
Student Spending	135,532,872	179,375,179	106,694,163	55,332,488	1,537
State Colleges					
Abraham Baldwin Agricultural College	71,205,319	88,259,994	48,754,184	33,261,793	1,009
Personal Services	17,025,353	31,213,986	22,117,784	19,431,137	433
Operating Expenses	13,517,942	14,894,530	3,017,102	1,992,397	62
Student Spending	40,662,024	42,151,478	23,619,298	11,838,259	514
College of Coastal Georgia	56,206,260	74,408,461	41,001,838	27,899,009	704
Personal Services	13,772,540	25,589,111	18,275,667	15,901,136	281
Operating Expenses	13,668,712	15,683,795	4,052,931	2,617,493	71
Student Spending	28,765,008	33,135,555	18,673,240	9,380,380	352
Dalton State College	88,396,540	108,627,435	61,609,136	41,506,411	1,143
Personal Services	20,974,632	38,040,872	27,007,812	23,763,479	479
Operating Expenses	14,265,028	15,322,653	2,968,592	1,956,100	54
Student Spending	53,156,880	55,263,910	31,632,732	15,786,832	610
Gainesville State College	139,398,846	197,001,796	117,167,729	74,340,431	1,838
Personal Services	26,688,965	52,554,468	38,352,188	32,575,691	651
Operating Expenses	20,127,361	26,105,444	9,289,054	6,097,262	125
Student Spending	92,582,520	118,341,884	69,526,487	35,667,478	1,062
Georgia Gwinnett College	51,042,129	83,077,205	52,916,870	38,539,297	787
Personal Services	21,678,000	43,830,249	32,357,115	27,260,787	505
Operating Expenses	10,870,521	14,771,016	6,001,220	3,728,331	72
Student Spending	18,493,608	24,475,940	14,558,535	7,550,179	210
Gordon College	73,606,590	108,943,554	66,109,971	42,677,700	1,052
Personal Services	15,854,975	32,056,810	23,665,525	19,938,145	458
Operating Expenses	12,837,295	17,443,495	7,087,004	4,402,888	85
Student Spending	44,914,320	59,443,249	35,357,442	18,336,667	509
Macon State College	140,884,507	186,797,559	101,439,308	66,998,972	1,738
Personal Services	28,330,285	53,802,509	38,921,044	33,618,085	616
Operating Expenses	42,534,438	50,245,311	15,435,548	9,393,479	238
Student Spending	70,019,784	82,749,739	47,082,716	23,987,408	884

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia Institutions on their Regional Economies in the 2009 Fiscal Year

Institution	Initial Spending (current dollars)	Output Impact (current dollars)	Value Added Impact (current dollars)	Labor Income Impact (current dollars)	Employment Impact (jobs)
Middle Georgia College	76,021,449	94,904,433	50,729,687	34,915,562	973
Personal Services	18,344,023	33,225,252	23,443,555	20,708,402	404
Operating Expenses	17,977,034	19,337,558	4,077,818	2,519,446	75
Student Spending	39,700,392	42,341,623	23,208,314	11,687,714	494
Two-year Colleges					
Atlanta Metropolitan College	47,478,527	71,098,264	43,058,490	28,365,752	627
Personal Services	11,331,809	22,911,524	16,914,137	14,250,117	264
Operating Expenses	9,827,766	13,354,106	5,425,552	3,370,691	65
Student Spending	26,318,952	34,832,634	20,718,801	10,744,944	298
Bainbridge College	60,559,575	70,824,164	35,983,612	23,714,016	804
Personal Services	11,314,539	20,375,603	14,174,318	12,557,679	257
Operating Expenses	14,702,604	15,921,529	3,208,291	1,986,707	74
Student Spending	34,542,432	34,527,032	18,601,003	9,169,630	473
Darton College	88,990,811	117,054,058	66,686,803	45,027,588	1,157
Personal Services	21,034,904	39,622,190	28,412,393	24,699,414	398
Operating Expenses	15,618,195	18,231,516	4,760,741	3,096,267	91
Student Spending	52,337,712	59,200,352	33,513,669	17,231,907	668
East Georgia College	48,633,858	59,941,799	31,796,844	19,957,307	668
Personal Services	7,866,668	14,463,151	10,257,341	8,984,421	195
Operating Expenses	9,643,894	10,837,738	2,726,064	1,643,931	49
Student Spending	31,123,296	34,640,910	18,813,439	9,328,955	424
Georgia Highlands College	80,552,326	104,385,577	60,720,310	39,479,282	1,185
Personal Services	17,982,425	33,559,090	24,118,179	20,951,553	494
Operating Expenses	10,176,221	11,656,541	3,337,995	1,965,476	52
Student Spending	52,393,680	59,169,946	33,264,136	16,562,253	639
Georgia Perimeter College	387,201,721	574,922,604	352,590,728	227,920,347	4,954
Personal Services	86,584,429	175,063,069	129,238,046	108,882,726	1,814
Operating Expenses	56,554,836	76,847,501	31,221,869	19,396,968	373
Student Spending	244,062,456	323,012,034	192,130,813	99,640,653	2,767
South Georgia College	38,443,440	48,131,840	25,983,536	17,700,155	529
Personal Services	9,053,827	16,565,190	11,678,780	10,301,209	200
Operating Expenses	7,485,773	8,144,353	1,670,263	1,058,633	33
Student Spending	21,903,840	23,422,297	12,634,493	6,340,313	296

(continued)

Table 2 (continued)

Total Economic Impact of University System of Georgia Institutions on their Regional Economies in the 2009 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	18,589,003	23,552,918	12,575,233	8,651,476	253
Personal Services	4,465,211	8,175,736	5,765,510	5,079,583	104
Operating Expenses	4,432,424	4,863,572	1,066,694	674,567	21
Student Spending	9,691,368	10,513,610	5,743,029	2,897,326	128

Notes:

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

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

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

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

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), April 20, 2010.

Table 3

On-Campus and Off-Campus Jobs that Exist Due to Institution-Related Spending in the 2009 Fiscal Year

Institution	Total Employment Impact	On-Campus Jobs	Off-Campus Jobs That Exist Due to Institution-Related Spending
System Total	**112,336**	**42,666**	**69,670**
Research Universities and Regional Universities	**65,053**	**27,520**	**37,533**
Georgia Institute of Technology	15,870	6,485	9,385
Georgia State University	11,100	3,893	7,207
Medical College of Georgia	9,176	5,092	4,084
University of Georgia	19,582	8,914	10,668
Georgia Southern University	5,935	2,091	3,844
Valdosta State University	3,391	1,045	2,346
State Universities	**27,864**	**9,459**	**18,405**
Albany State University	1,585	582	1,003
Armstrong Atlantic State University	2,078	690	1,388
Augusta State University	2,000	692	1,308
Clayton State University	1,697	492	1,205
Columbus State University	2,472	943	1,529
Fort Valley State University	1,535	657	878
Georgia College & State University	2,065	793	1,272
Georgia Southwestern State University	822	269	553
Kennesaw State University	6,000	1,805	4,195
North Georgia College & State University	1,614	516	1,098
Savannah State University	1,254	427	827
Southern Polytechnic State University	1,399	432	967
State University of West Georgia	3,341	1,161	2,180
State Colleges	**9,244**	**2,944**	**6,300**
Abraham Baldwin Agricultural College	1,009	347	662
College of Coastal Georgia	704	212	492
Dalton State College	1,143	388	755
Gainesville State College	1,838	502	1,336
Georgia Gwinnett College	787	373	414
Gordon College	1,052	361	691
Macon State College	1,738	447	1,291
Middle Georgia College	973	314	659
Two-Year Colleges	**10,176**	**2,743**	**7,433**
Atlanta Metropolitan College	627	195	432
Bainbridge College	804	205	599
Darton College	1,157	273	884
East Georgia College	668	153	515
Georgia Highlands College	1,185	398	787
Georgia Perimeter College	4,954	1,285	3,669
South Georgia College	529	153	376
Waycross College	253	81	172

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

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), April 20,2010.

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

Two-Year 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), April 20, 2010.

Appendix 2

Economic Impact of Capital Outlays in Fiscal Year 2009

Institution	Initial Spending (2009 dollars)	Output Impact (2009 dollars)	Value Added Impact (2009 dollars)	Labor Income Impact (2009 dollars)	Employment Impact (jobs)
System Total	**676,585,000**	**1,124,351,195**	**597,310,327**	**442,136,591**	**9,992**
Research Universities and Regional Universities	**227,015,000**	**378,266,137**	**203,398,137**	**152,003,501**	**3,389**
Georgia Institute of Technology	16,400,000	29,458,666	16,284,287	12,293,603	259
Georgia State University	26,650,000	47,870,330	26,461,965	19,977,103	421
Medical College of Georgia	74,150,000	116,858,885	61,288,438	47,350,586	1,188
University of Georgia	101,740,000	171,775,096	94,192,565	68,423,109	1,405
Georgia Southern University	4,000,000	5,951,504	2,405,441	1,860,961	57
Valdosta State University	4,075,000	6,351,656	2,765,441	2,098,139	59
State Universities	**251,525,000**	**415,711,912**	**220,715,887**	**162,816,824**	**3,690**
Albany State University	0	0	0	0	0
Armstrong Atlantic State University	31,925,000	51,146,965	25,427,776	18,530,066	466
Augusta State University	0	0	0	0	0
Clayton State University	6,900,000	12,579,368	6,158,190	4,595,919	98
Columbus State University	34,095,000	50,627,113	26,009,864	20,343,338	533
Fort Valley State University	2,850,000	4,292,744	2,624,951	1,618,264	36
Georgia College & State University	0	0	0	0	0
Georgia Southwestern State University	0	0	0	0	0
Kennesaw State University	4,500,000	7,395,429	4,797,472	2,731,705	42
North Georgia College & State Univ.	80,660,000	130,945,032	69,673,849	51,986,807	1,182
Savannah State University	1,900,000	2,868,897	1,847,331	1,042,790	19
Southern Polytechnic State University	78,795,000	138,254,590	74,570,501	54,754,273	1,163
State University of West Georgia	9,900,000	17,601,774	9,605,953	7,213,662	151
State Colleges	**162,370,000**	**281,452,493**	**150,476,651**	**109,955,224**	**2,357**
Abraham Baldwin Agricultural College	6,000,000	8,854,932	3,568,461	2,725,652	85
College of Coastal Georgia	1,000,000	1,653,960	875,106	717,825	16
Dalton State College	0	0	0	0	0
Gainesville State College	2,400,000	4,538,130	2,599,928	2,087,689	36
Georgia Gwinnett College	135,570,000	236,096,323	126,315,889	91,873,389	1,957
Gordon College	13,200,000	23,710,630	13,106,863	9,894,850	208
Macon State College	4,200,000	6,598,518	4,010,404	2,655,819	55
Middle Georgia College	0	0	0	0	0
Two-Year Colleges	**35,675,000**	**48,920,653**	**22,719,652**	**17,361,042**	**556**
Atlanta Metropolitan College	0	0	0	0	0
Bainbridge College	21,265,000	28,963,188	13,698,467	10,691,492	351
Darton College	0	0	0	0	0
East Georgia College	0	0	0	0	0
Georgia Highlands College	0	0	0	0	0
Georgia Perimeter College	0	0	0	0	0
South Georgia College	14,410,000	19,957,465	9,021,185	6,669,550	205
Waycross College	0	0	0	0	0

Notes: The impacts of spending on Output, Value Added, Labor Income, and Employment were estimated using the IMPLAN Professional System and production functions provided by MIG, Inc. Initial spending for capital projects were obtained from the Board of Regents of the University System of Georgia. Output refers to the value of total production, including domestic and foreign trade. Value added includes employee compensation, proprietary income, other property income, and indirect business taxes. Labor income includes both the total payroll costs (including fringe benefits) of workers who are paid by employers and payments received by self-employed individuals. Employment includes both full-time and part-time jobs. Estimates for the Medical College of Georgia do not include impacts associated with the hospital and clinics operated by MCG Health Inc.

Source: Selig Center for Economic Growth, Terry College of Business, University of Georgia (www.selig.uga.edu), April 20, 2010.

Appendix 3

Medical College of Georgia's Albany and Savannah Clinical Campuses: Economic Impact of FY 2009 Expenditures

The Medical College of Georgia is opening clinical campuses in Albany and Savannah, which eventually will generate significant economic impacts for their host communities. Although these campuses are in their earliest stages of development, and students are not yet enrolled, this appendix documents the economic impact that the two clinical campuses had on their host communities in FY 2009, and provides base levels of impact that may be useful for future reference.

In FY 2009, total expenditures at the Albany clinical campus was $131,872, including $123,647 personnel expense and $8,225 operating expense (according to the Assistant Vice Chancellor for Fiscal Affairs/Budget Director, Board of Regents, University System of Georgia).

The economic impact accruing to Albany in FY 2009 includes:

- $131,872 in initial expenditures and 3 on-campus jobs,
- $242,507 in output (sales),
- $169,520 in gross regional product (value added),
- $146,819 in income, and
- 4 jobs.

Total expenditures at the Savannah clinical campus was $226,534, including $205,901 personnel expense and $20,633 operating expense (according to the Assistant Vice Chancellor for Fiscal Affairs/Budget Director, Board of Regents, University System of Georgia).

The economic impact accruing to Savannah in FY 2009 includes:

- $226,534 in initial expenditures and 2 on-campus jobs,
- $419,878 in output (sales),
- $294,240 in gross regional product (value added),
- $251,277 in income, and
- 3 jobs.

Although the initial economic impacts are quite small, they will grow rapidly once students are enrolled at these MCG branch campuses.