

**Assessing Public Higher Education
at the Start of the 21st Century:
The State of Georgia**

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1. Introduction

This chapter examines public higher education in Georgia and compares it with its counterparts in other states. Section 2 provides a context for understanding Georgia's track record by comparing the state's recent changes in demographic, economic, employment, and education with those of the rest of the nation. The plain conclusion from these comparisons is that Georgia has been on the forefront in terms of population and economic growth over the last fifteen years. Therefore it is not surprising to find that employment in higher education grew three times faster in Georgia than it did in the rest of the nation. Section 3 briefly describes the institutional landscape of Georgia's higher education sector. It explains the governing mechanisms, how the public institutions are categorized, and highlighting distinctive institutions like the state's HBCUs. Sections 4 and 5 assess the inputs (e.g., appropriations, tuition and financial aid policy, and faculty) and outputs (e.g., enrollment, retention, and graduation) of the state's higher education system. Section 6 concludes.

2. Georgia in Context

Before we assess public higher education in Georgia, it is important to place the state's higher-education sector in an appropriate context. At a minimum, this requires taking account of the basic facts of the state's population and economy, both in terms of levels and growth rates.

Table 1 compares Georgia with the entire US in some population demographics that are related to higher education trends. Georgia is currently the ninth most populous state with approximately 8.7 million people. This amounts to a 34.1 percent increase since 1990, which is more than twice that of the nation as a whole and 65 percent greater than that of the other southeastern states. Like the rest of the US, the racial composition of Georgia's population has changed in the last fifteen years, largely because of the influx of Hispanics. Since 1990, Georgia's Hispanic population share increased more than three-fold, from 1.7 to 6.2 percent. With the rise in Hispanics, its white and black population shares have declined slightly since 1990. Still, Georgia has the fourth largest black population and the fourth highest black population share at 29 percent. In contrast, the overall US population is only 12.8 percent black.

As the US population grows older, the college-going cohort is shrinking in relative terms, both in Georgia and the nation. Nevertheless, the number of public high-school graduates rose 18.6 percent in Georgia between 1990 and 2003, which is 3 percentage points greater than the national increase. Similarly, the percentage of Georgia's population with a high-school diploma jumped 20 percent during this period, compared with only a 12.5 increase in the rest of the US. By 2003, Georgia had overtaken the nation in terms of the size of its high-school graduate population share. The state also made considerable strides in the stock of bachelor's degrees, but its population share with a BA still lags behind that of the US, 25 to 27.2 percent.

Table 1
Population Demographics
Georgia vs. US, 1990-2003

Characteristic	Georgia			US		
	1990	2003	%Δ	1990	2003	%Δ
Total (millions)	6.478	8.685	34.1	248.791	290.810	16.9
% White	71.0	67.5	-4.9	80.3	80.5	0.2
% Black	30.0	28.8	-4.0	12.1	12.8	5.8
% Hispanic	1.7	6.2	264.7	9.0	13.7	52.2
% 18-24	11.1	10.2	-8.1	10.5	9.9	-5.7
Public High-School						
Graduates (thousands)	56.6	67.1	18.6	2,320.3	2,684.9	15.7
% High-School						
Graduate	70.9	85.1	20.0	75.2	84.6	12.5
% with BA	19.3	25.0	29.5	20.3	27.2	34.0

Sources: Bureau of Economic Analysis and Statistical Abstract of the US.

Next we examine some fundamental economic comparisons. Table 2 provides output, income, and employment data for Georgia and the US in 1990 and 2003. As with population growth over the last fifteen years, Georgia has outpaced the US in all three economic measures. Georgia's gross state product has risen 66.1 percent since 1990, which is almost 50 percent greater than the increase in GDP over the period. The state's median household income jumped 17.4 percent, which almost doubled the national increase. Commensurate with its gains in output and income, the share of Georgia's population living in poverty fell 23.4 percent to put its current poverty rate on par with the rest of the US. Since 1990, employment in Georgia has grown 37.5 percent, which is

twice as quickly as employment in the United States. A disproportionate share of employment growth has occurred in the higher education sector. Between 1990 and 2003, higher education employment increased 53.7 percent, from 32,200 to 49,500. By comparison, the percentage increase for the entire US was only 18.4, or only one-third that of Georgia.

Table 2
Income and Employment
Georgia vs. US, 1990-2003

Variable	Georgia			US		
	1990	2003	%Δ	1990	2003	%Δ
GSP, GDP (in chained 1996 dollars)	164.8	273.9	66.2	6,630.7	9,335.4	40.8
Median Household Income (in 2000 dollars)	36,218	42,508	17.4	39,119	42,873	9.6
Per Capita Personal Income (in 2000 dollars)	21,868	27,953	27.8	24,196	30,033	24.1
Percent Below Poverty Level	15.8	12.1	-23.4	13.5	11.7	-13.3
Total Employment (in millions)	3.2	4.4	37.5	123.3	146.5	18.8
Employment in Higher Education (in thousands)	32.2	49.5	53.7	1,539.7	1,825.0	18.5

Source: Statistical Abstract of the US.

In sum, Georgia has been one of the fastest growing states over the last fifteen years, both in terms of population and income. With this growth, its population shares of high-school and college graduates and individual and its poverty rate no longer lag far behind the nation averages. Against this backdrop, Georgia's higher education sector expanded dramatically.

3. Georgia's Higher Education Institutional Landscape

Georgia supports 68 public postsecondary institutions: 21 four-year colleges and universities, 13 degree-granting two-year colleges, and 34 technical schools that specialize in certificate and diploma programs. The 34 degree-granting two-year and four-year institutions comprise the University System of Georgia (USG) and are governed by an 18-member Board of Regents (BOR). The regents are appointed by the governor, one from each of the state's 13 congressional districts and 5 are at-large representatives. The BOR elects a chancellor who serves as the chief administrative officer of the USG. Georgia's technical schools are administered through the state's Department of Technical and Adult Education (DTAE) and are accountable to a state board that is constituted similarly to the BOR. Appendix 1 lists Georgia's degree-granting colleges and universities and provides maps of their locations and the locations of the DTAE schools.

Georgia further classifies its four-year institutions as research universities (4), regional universities (2), state universities (13), or state colleges (2) (Appendix 1 groups the four-year schools by class). In 1996 the "state university" classification was extended to many former state colleges that had pushed to expand their missions. The key distinctions moving down this list are the emphasis on research, the scope of degree offerings, the scale of operation, and the sphere of influence. The flagship campuses of the University of Georgia (UGA) and Georgia Institute of Technology (GA Tech) are included in the first category, with Georgia State University (GSU) and the Medical College of Georgia.

Table 3, which summarizes headcount enrollment levels and changes by USG class since 1995, gives some perspective on the “market shares” of each institution class. Total enrollment in USG schools rose 21.4 percent over the last 10 years, which is slightly greater than the percentage increase in high-school graduates. State and two-year colleges experienced the greatest percentage gains (46.2 and 38.4, respectively), increasing their shares of USG enrollment. The state and two-year college gains have primarily come at the expense of the research and regional universities, whose enrollment shares have dropped slightly since 1995. Overall, USG class enrollment shares have remained relatively stable. From a broader perspective that includes the DTAE schools, this stability is somewhat misleading. From 1995 to 2003 (the latest year data are available), the DTAE share of all postsecondary enrollment rose from 33.4 to 61.2 percent as the number of students enrolled in technical schools more than doubled from 69,057 to 153,444. While this is a period marked by the introduction and expansion of Georgia’s HOPE program, the bulk of the enrollment increases for both USG and DTAE schools has occurred since 2000, when the state and national economies entered into recession.

Given Georgia’s relatively large African-American population, an important subset of the “state university” class is its three public historically black colleges and universities (HBCUs): Albany State University, Fort Valley State University, and Savannah State University. Combined with the state’s five private HBCUs (Clark Atlanta University, Morehouse College, Morris Brown College, Paine College and Spelman College) they account for a significant fraction of its four-year college enrollment and over 45 percent of all blacks attending college in Georgia.

To fill in the rest of the state's higher education landscape, we note Georgia has a total of 31 private four-year schools. Five of these are for-profit institutions such as the DeVry Institute of Technology. Only one, Emory University, is highly selective with a market that extends beyond the region. The vast majority are small liberal arts colleges with costs of attendance far less than Emory and more on par with the out-of-state charges at public four-year institutions. Emory University is the only highly selective private institution in the state.

Table 3
Headcount Enrollment
University System of Georgia, 1995-2004

Institution Class	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Percent Change
Research Universities	69,983	68,298	69,410	69,171	70,805	72,098	76,012	79,337	81,095	80,063	14.4
Regional Universities	23,742	24,111	23,744	23,290	23,205	22,976	23,601	24,975	26,251	26,500	11.6
State Universities	66,812	66,671	66,834	64,530	65,180	65,659	67,575	73,141	78,488	79,967	19.7
State Colleges	6,832	6,643	6,656	6,526	6,793	7,255	8,132	9,126	9,604	9,985	46.2
Two-Year Colleges	39,115	38,609	38,745	36,585	37,823	37,890	42,226	46,519	51,582	54,144	38.4
USG Total	206,484	204,332	205,389	200,102	203,806	205,878	217,546	233,098	247,020	250,659	21.4

4. Assessing the Inputs

4.a. *The HOPE Program*

No assessment of Georgia's system of higher education—inputs or outputs—can ignore the effects of its HOPE (Helping Outstanding Pupils Educationally) Program, which was introduced in 1993. Indeed, because of its scale and scope, few aspects of higher education in Georgia have escaped its impact.

HOPE program distributes two types of awards—the merit-based scholarship and a non-merit-based grant. To qualify for the scholarship, which can be applied to 103 public and private colleges and universities in Georgia, high-school students must graduate with a “B” average. The scholarship pays all tuition and fees, and \$300 of book expenses to Georgia citizens who attend degree-granting public institutions. For the 2003-2004 academic year the value of the award was about \$4,400 at the state's flagship institutions.¹ The value of the award for HOPE Scholars in private, degree-granting institutions was originally set at \$1000, but was raised to \$3000 by 1996. Once in college, students need to maintain a “B” average with a minimum number of credits to retain the award. The award had an initial household income cap of \$66,000 and included a Pell offset, which reduced the HOPE payment dollar-for-dollar for any federal Pell Grant aid received by the student. The income cap was raised to \$100,000 in 1994 and removed entirely in 1995.

In contrast, the HOPE Grant is essentially an entitlement with no merit requirements. It applies only to non-degree programs at two-year and technical schools. The grant covers tuition and mandatory fees, and students may receive it for all

¹ For example, the tuition and fees were \$3,208 and \$870 at the University of Georgia during the 2003-2004 academic year. While tuition and fee charges vary widely at the state's public institutions, the book allowance is the same, \$300 per year, at each.

coursework required for a certificate or diploma. Thus, the incentives related to scholarship eligibility and retention do not apply to grant recipients.

Table 4 provides a breakdown of program disbursements in terms of the number of awards and dollars of aid from 1993-2002.² Degree-granting institutions accounted for 55 percent of all awards and 78 percent of total aid during this period, with four-year colleges and universities representing 44 and 60 percent of these totals, respectively. Thus, the lion's share of program resources is devoted to the merit-based scholarship—in particular, to high-school graduates matriculating at four-year schools. The other 45 percent of awards flowed to technical schools in the form of grants, but these institutions receive a relatively small proportion of total aid due to their low tuition.

Table 4
Numbers of HOPE Awards
And Dollars of Aid, by Institution Type, 1993-2002

Institution Type	Number of Awards (% of Total)	Aid in Millions of Dollars (% of Total)
4-Year Schools	526,033	942.00
Public	389,452 (32.0)	840.09 (53.7)
Private ^a	136,581 (11.2)	101.91 (6.5)
2-Year Schools	144,061	279.43
Public	109,362 (9.0)	237.48 (15.2)
Private ^a	34,699 (2.8)	41.95 (2.7)
Technical Schools ^b	547,078 (44.9)	342.86 (21.9)
HOPE Program Total	1,217,172	1564.3

Notes: ^a Private two-year and four-year schools were eligible to participate only from 1996.

^b Of the 34 HOPE-eligible technical schools, 13 offer Associate's Degrees.

² "Awards" do not equal "recipients" because a single recipient receives an award each year she qualifies and, in the case of the grant, she can receive multiple awards within the same year, depending on the nature of the vocational training program.

Because lottery revenues initially far outpaced all initial projections, the legislature broadened the eligibility and generosity of the scholarship. The household income cap was increased from \$66,000 to \$100,000 in 1994, and entirely eliminated in 1995. Also in 1995, HOPE increased its allocation to private institution college students from \$1,000 to \$1,500, which was raised to \$3,000 the following year. In 1996 and 1997, legislation was passed that increased the eligibility of nontraditional students, and in 1998, home school students were allowed to qualify retroactively for their freshmen years if they met the collegiate grade point criterion.

During this prosperous period the legislature also voted to use the lottery to fund other scholarships. Examples include the Public Safety Memorial Grant (1994), the Georgia Military College Scholarship (1995),³ the PROMISE Teacher Scholarship,⁴ the HOPE Teacher Scholarship (1996),⁵ and the Scholarship for Engineering Education (SEE) (1998).⁶ Two features distinguish these “add-on” programs from HOPE. One is the increased use of service-cancelable loans instead of direct payments. The second is a requirement to work or serve in Georgia after graduation.

Until the eligibility criteria for the scholarship were stiffened in 2000,⁷ the share of HOPE funds allocated to the scholarship component of the program grew steadily.

³ In return for the scholarship, recipients must serve for two years following graduation in the Georgia National Guard.

⁴ Students who received the PROMISE Teacher Scholarships agreed to teach after graduation in a Georgia public school up to a maximum of four years.

⁵ The HOPE Teacher Scholarship provides forgivable loans to recipients who teach in a Georgia public school in critical shortage fields.

⁶ The SEE provided service-cancelable loans for a maximum of \$17,500 for a student’s program of study and required students to work in an engineering-related field in Georgia after graduation.

⁷ Scholarship requirements changed for high-school classes that graduated in 2000 and later. Previously, the GPA requirement was defined in terms of college preparatory courses. Now, to receive HOPE, high-school students must have a “B” average in the strictly academic courses that make up the “core curriculum.”

Between 1993 and 1999, the number of HOPE-eligible high-school graduates rose over 50 percent, from 29,840 to 45,149, and the proportion of high-school graduates satisfying the merit requirements increased from 48 percent to almost 65 percent. Even after the rule change in 2000, the fraction of high-school graduates qualifying for the scholarship has approached 60 percent.

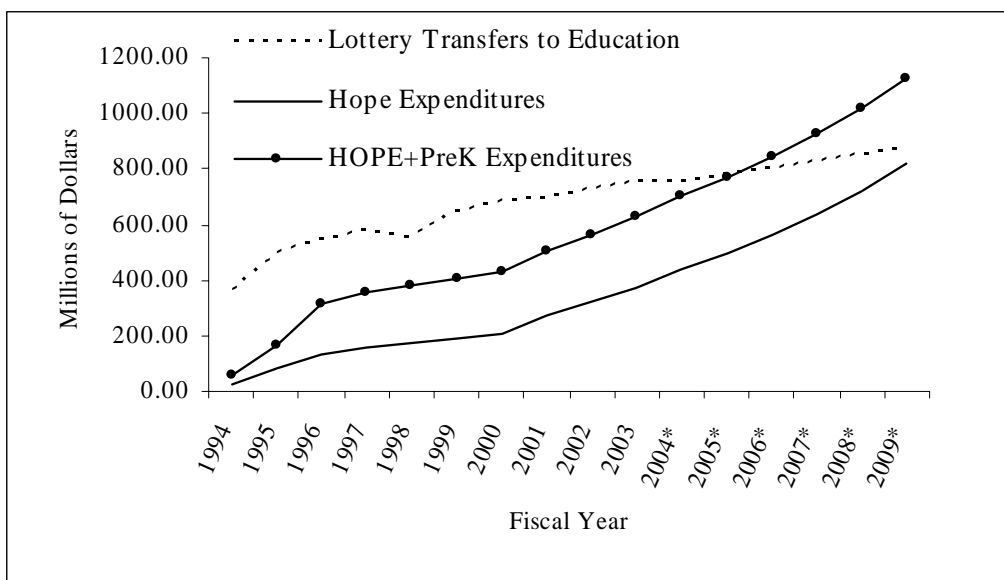
The last significant legislative expansion of HOPE was the removal of the Pell offset, which applies to students who graduated from high school in 2001. One of the most significant criticisms of the original HOPE Program was that if a student was eligible for both a Pell Grant and HOPE, the student's HOPE scholarship was reduced dollar-for-dollar by the value of the Pell Grant. Consequently, low-income students who received the Pell Grant prior to HOPE received very few additional resources from HOPE.

The state estimated that removing the Pell Grant offset would require approximately \$23 million in additional funds to provide Pell grantees with HOPE Scholarships. However, that grew quickly so that in 2002, \$87.8 million in HOPE Scholarships was awarded to 56,879 students who qualified for a Pell Grant (Seligman, Milford, O'Looney, & Ledbetter, 2004). By 2002, approximately 30 percent of HOPE scholarships and a little over 27 percent of HOPE dollars were awarded to students who met the federal definition for receipt of a Pell Grant.

Recently Georgia realized that the demand for educational expenditures was likely to exceed the ability of the lottery to pay for them. Figure 1, which compares the growth in the lottery transfers to education with the expenditures for the HOPE and pre-K programs, illustrates the fundamental change in the ability of the lottery to fund all of its

educational commitments. The dotted line shows that lottery transfers to education grew rapidly since the lottery's inception. In its first year the lottery recorded \$1.12 billion in revenue and transferred \$363 million to education. Georgia's lottery has been one of the most successful in the nation as its revenues grew over 200 percent in its first ten years and was the first state lottery to increase revenue for its first seven years.

Figure 1
Lottery Allocations to Education
vs. Educational Expenditures, FY 1994-2009



Notes: 1994 fiscal year runs from July 1, 1993 - June 30, 1994. The values for 2004 and following are projections. The lottery projections listed here include a 3.2 percent growth rate, which was the most favorable growth rate the Commission considered. The educational projections were based on the number of students who are expected to utilize the resources. *Source:* Seligman (2003).

However, this unprecedented lottery success was insufficient to meet the even faster growth in educational expenditures. Figure 1 also plots HOPE expenditures and the sum of HOPE and pre-K expenditures. Although the Georgia lottery was one of the most successful lotteries in the nation and grew much faster than anticipated, educational expenditures driven primarily by the growth of HOPE grew even faster. The sum of

HOPE and pre-K expenses was projected to soon exceed the lottery allocations to education. Although there is currently a reserve fund for financial emergencies, the projections indicate that the reserves would extend the day of reckoning for only about two years.

[Summarize steps state has taken to ensure HOPE's financial stability.]

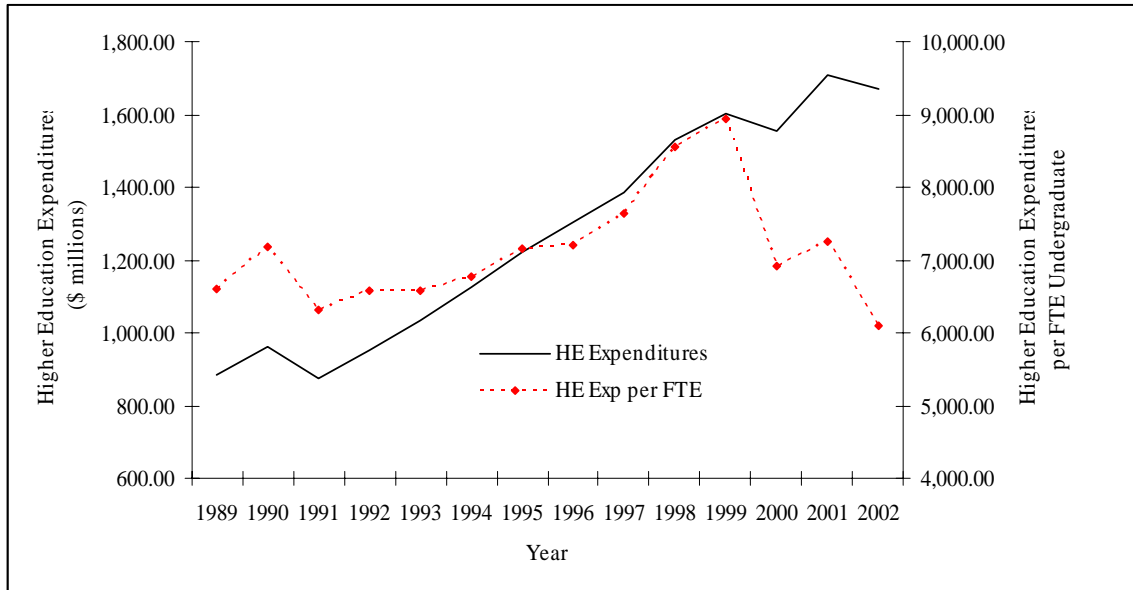
4.b. State Appropriations

Given Georgia's population and economic growth in recent years, it is not surprising that state-appropriated higher education spending also rose. Figure 2 depicts the trends in total and per undergraduate full-time equivalent (FTE) expenditures by the state from 1989 to 2002. After the recession that opened the decade, the 1990s was a period of steady annual increases in total spending. Only the 2000 recession reversed this trend and drove per FTE spending sharply downward. It is important to point out, however, that these expenditure data reflect HOPE disbursements, which exceeded \$2 billion through 2002.

The HOPE component of this spending increase was intended, in part, to spur enrollment in Georgia colleges. However, the evidence suggests that most of the money was allocated to high-school students who would have attended college in Georgia anyway (Cornwell, et al. 2004). The pattern in Figure 2 is consistent with this evidence, as per FTE spending rose sharply after 1995, when the income cap for the HOPE Scholarship was removed. By opening HOPE eligibility to any high-school graduate, regardless of household income, HOPE disbursements became targeted more toward

students whose college decisions were infra-marginal to receiving HOPE.

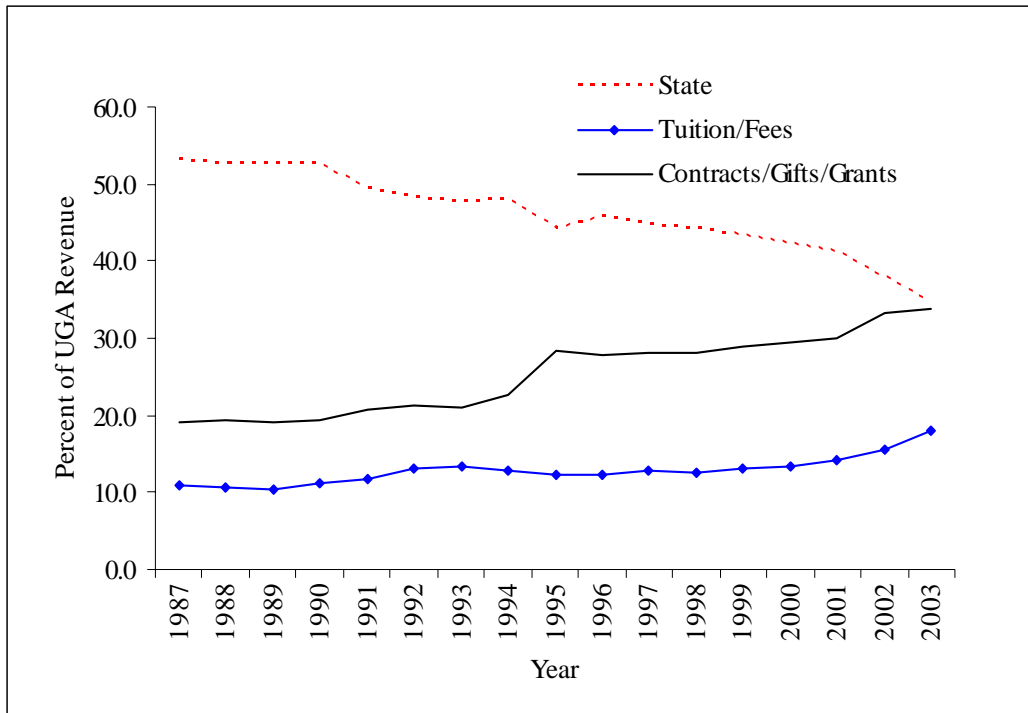
Figure 2
Higher Education Expenditures in Georgia, 1989-2002



Source: NASSGAP

While the rise in public higher education spending represented in Figure 2 looks impressive, from the perspective of the state's share of total spending the picture is considerably different. Figure 3 shows how the state's contribution to higher education spending has changed by charting the trends in revenue shares at UGA since 1987. The pattern is obvious: the state's share has steadily dropped, forcing the university to rely more heavily on tuition and private contributions. The share of UGA's total revenue accounted for by the state fell from 53.1 percent in 1987 to 34.7 percent in 2003. This is a pattern replicated across US public higher education. Many large state universities (e.g. the University of Michigan and University of Virginia) receive less than 15 percent of their funding from the state. Georgia is distinctive only because the fall in the state's share has been slower than the nation's as a whole.

Figure 3
State Share of Total Spending
University of Georgia, 1987-2003



4.c. Tuition, Fees, and Need-Based Aid

Table 5 gives a more comprehensive account of Georgia's recent tuition policy. Tuition and fees for Georgia's four-year and two-college are reported with those of the other Southern Regional Education Board (SREB) member states and the US medians for the academic years (AY) 1995 and 2002. These data provide a different perspective on the pattern of rising tuition at UGA in depicted in Figure 3. While real tuition charges have increased for Georgia residents, in percentage terms the increases fall well below the regional and national medians. Real in-state tuition at Georgia's four-year schools rose only 16 percent AY1995 to AY2002, compared with 41 and 25.3 percent increases in the SREB and US medians. In addition, Georgia's percentage increase and AY2002 level were the third lowest in the SREB. As a result, in AY2002, the average in-state

tuition at Georgia's four-year schools, \$2576, amounted to only 79.2 percent of the SREB median and only 69.1 of the US median.

This pattern is repeated in the state's two-year tuition and fees. Between AY1995 and AY2002, the average tuition of Georgia's two-year schools rose only 6 percent, which was the third smallest increase in the SREB and far below the hikes in the SREB and US medians. In AY2002, Georgia remained in the bottom third of the SREB in terms of the cost of attending a public two-year college.

Charges to out-of-state students attending Georgia's four-year colleges increased at the same rate as in-state charges over the period. However, a 16 percent hike in non-resident tuition and fees exceeded the increase in US median charges by 4.5 points. Georgia's increase still lagged behind the rise in median SREB out-of-state tuition. Georgia's out-of-state tuition and fees are more closely in line with the region's and nation's than its in-state charges. In AY2002, its non-resident tuition was, respectively, 89 and 86 percent of the SREB and US medians.

Table 5
Real Tuition and Fees,
Georgia vs. the SREB and US, AY1995-2002

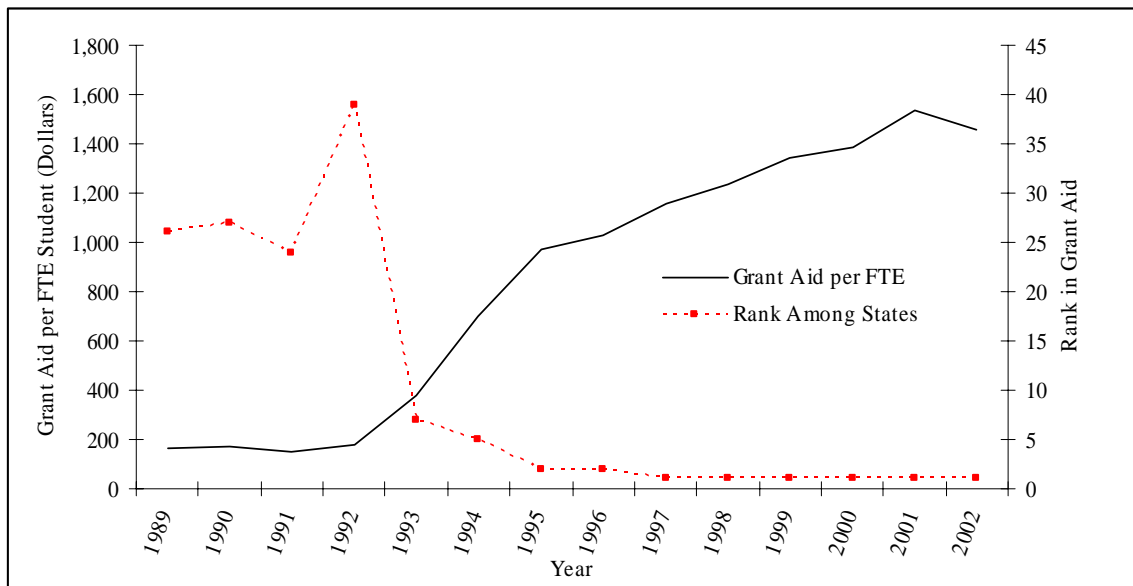
State/Region	Four-Year, In-State Pct			Four-Year, Out-of-State Pct			Two-Year Pct		
	1995-96	2002-03	Change	1995-96	2002-03	Change	1995-96	2002-03	Change
United States Median	\$2,974	\$3,728	25.3	\$8,250	\$9,998	11.6	\$1,493	\$1,952	19.9
SREB States Median	2,308	3,253	41.0	7,262	9,670	23.2	1,179	1,488	20.1
Georgia	2,221	2,576	16.0	6,004	8,606	16.1	1,330	1,522	6.0
Alabama	2,386	3,532	48.1	4,539	6,752	31.6	1,485	2,040	34.2
Arkansas	2,322	3,458	48.9	4,509	6,989	37.2	1,057	1,600	50.0
Delaware	3,852	4,873	26.5	9,952	12,021	7.4	1,568	1,806	36.3
Florida	2,119	2,696	27.2	7,897	12,172	36.1	1,265	1,583	12.9
Kentucky	2,322	3,126	34.6	6,282	8,076	24.8	1,155	1,536	24.0
Louisiana	2,377	2,515	5.8	5,432	8,433	35.0	1,249	1,490	18.7
Maryland	3,842	4,974	29.5	7,850	11,118	23.5	2,223	2,553	9.5
Mississippi	2,811	3,536	25.8	5,814	8,041	43.4	1,143	1,402	28.3
North Carolina	1,907	2,795	46.6	9,938	11,597	16.3	657	1,128	73.3
Oklahoma	1,964	2,346	19.5	4,563	5,475	12.2	1,338	1,626	11.1
South Carolina	3,607	4,704	30.4	7,598	10,310	25.7	1,179	2,136	75.6
Tennessee	2,277	3,454	51.7	7,145	10,412	36.0	1,214	1,735	34.9
Texas	2,110	3,278	55.3	8,898	9,818	1.0	843	1,088	14.0
Virginia	4,740	4,277	-9.8	10,709	11,754	11.6	1,684	1,488	-7.5
West Virginia	2,416	2,816	16.5	5,634	6,815	12.8	1,533	1,560	3.5

Source: SREB; tuition and fees expressed in terms of constant 2002 dollars.

The relatively modest tuition increases that have occurred in recent years can be explained in part by the introduction of the HOPE program in 1993. Indeed, many features of Georgia's higher education landscape have been affected by HOPE. This is easy to show after one understands the scale of HOPE and its impact on grant aid in the state. Figure 4 plots Georgia's grant aid per FTE undergraduate and its rank among the states on these grounds, over the period 1989-2002. In the late 1980s and early 1990s, Georgia's grant aid per FTE was relatively constant at slightly less than \$200, which placed the state between 25th and 39th in the US. In 1992, the year prior to HOPE's

introduction, Georgia was 39th. This changed dramatically in 1993; the program's first year saw the state rise to seventh in grant aid per FTE. When the income cap was raised to \$100,000 in 1994, Georgia moved up to fifth. The state jumped to 2nd after the income cap on HOPE was removed in 1995. Since 1997 Georgia has distributed more grant aid per FTE than any other state in the nation. In 2002, the state's grant aid disbursements averaged more than \$1500 per FTE undergraduate.

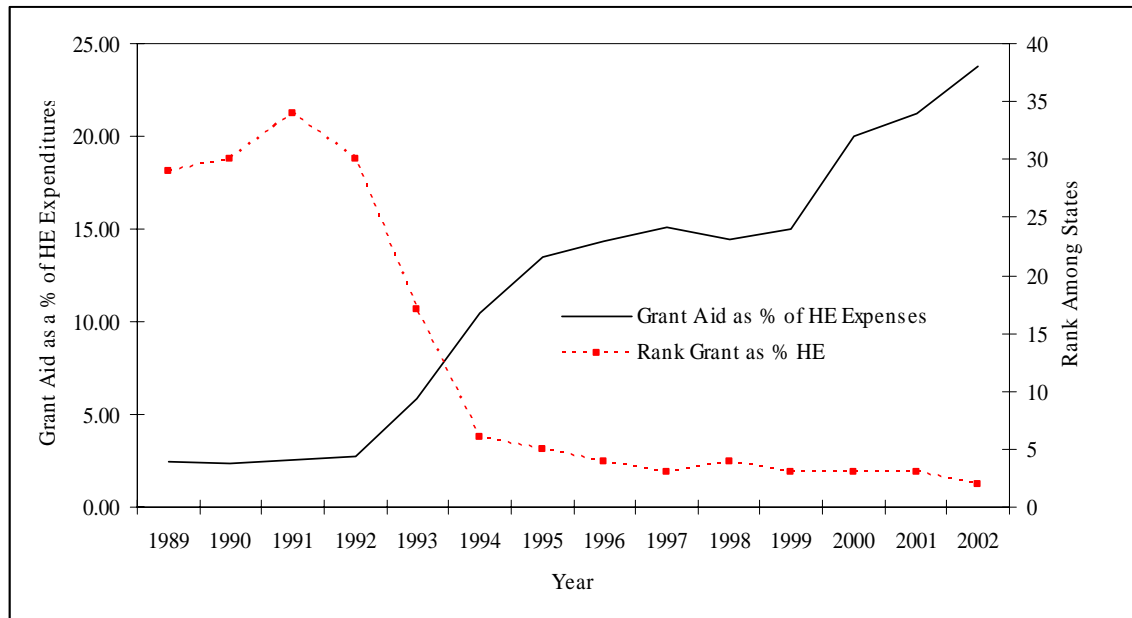
Figure 4
Georgia's Grant Aid per FTE Undergraduate
and Rank Among All States, 1989-2002



Source: NASSGAP

The impact of HOPE is reinforced in Figure 5, which shows Georgia's grant aid as a percentage of higher education expenses. By 1995, state-sponsored grant aid covered more than 15 percent of college costs, on average, and Georgia leaped into the top five states in this category. By 2002, the grant-aid share of college expenses had risen to almost 25 percent.

Figure 5
Georgia's Grant Aid as a Percentage
of Higher Education Expenditures
and Its Rank Among All States, 1989-2002



Source: NASSGAP

Georgia's impressive rise to the top ranks of state-sponsored grant aid is due entirely to HOPE, which has no means test. Historically Georgia has provided very little need-based aid—only about \$25-30 per FTE before HOPE and \$10 per FTE since then.

One frequently discussed topic is the manner in which HOPE interacts with Pell. The effects of removing the Pell offset differed significantly by the type of institution attended. Table x reports financial aid receipt by class of institution for first-year students in the fall of 2001. It provides the number and fraction of Pell recipients and shows a number of interesting things. First, there are very few low-income students enrolled in the three research universities (row 1, columns 2 and 4). Less than 16 percent of entering students in this institutional category qualified for Pell. Only 0.39 percent qualified for Pell and not HOPE (column 2) and 15.29 percent qualified for both Pell and HOPE

(column 4). These entries for Pell qualification are the lowest for any of the five institution classes. Second, although not separately reported in the table, low-income students comprise an even smaller share at the two flagship institutions (Georgia and Georgia Tech), where only slightly more than 10 percent of their students qualified for Pell. Third, the last column shows those who receive both Pell and HOPE and are most affected by the removal of the Pell offset, which affected about 18.5 percent of the 27,210 first-time freshmen in the fall of 2001.

Table 6
Financial Aid for First-Time Freshmen, Fall 2001

Class of Institution	First-Time Freshmen from Georgia	No HOPE/Pell		HOPE/No Pell		HOPE and Pell	
		No.	%	No.	%	No.	%
Research Universities	6,836	27	0.39	5,617	82.17	1,045	15.29
Regional Universities	3,880	116	2.99	2,547	65.64	820	21.13
State Universities	8,067	454	5.63	4,915	60.93	1,728	21.42
State Colleges	1,069	140	13.10	501	46.87	196	18.33
Two-Year Colleges	7,358	1,023	13.90	2,855	38.80	1,240	16.85
System Total	27,210	1,760	6.47	16,435	60.40	5,029	18.48

Note: First-Time Freshmen from Georgia is defined as the subset of first-time freshmen who graduated from Georgia High School since 1993 plus freshmen receiving HOPE according to Georgia Student Finance Commission records. *Source:* Data are from the Georgia Department of Education, 2002.

Although those affected by the removal of the Pell offset represented almost one-fifth of all first-year students in 2001, it is surprising that the numbers are very similar to those of the year before the offset. In 2000, 4,749 (18.1 percent) of the incoming first-year students received both Pell and HOPE, compared to 5,029 (18.5 percent) in 2001, the first year after the offset was removed. This has led some to question whether the removal of the Pell Grant offset increased enrollment by decreasing the cost of

postsecondary education for students who qualify for the Pell Grant. Seligman, Milford, O’Looney, and Ledbetter (2004) show that the total number of students and Pell Grant-eligible students registered in technical colleges increased between 2000 and 2003. However, Pell/HOPE grantees as a percentage of all technical college students changed little. They contend that a substantial link between the increased benefits for Pell/HOPE recipients and increased technical college enrollments may be because the removal of the offset was not advertised widely. They also cite college administrators who reported that most new applicants for financial aid were not aware of changes in financial aid policies like the Pell Grant offset removal.

4.c. Faculty

Table 7
Percent of Georgia Higher Education
Faculty with Doctorates, 1993 and 2002

Variable	1993	2002	% Change
Research Universities	76.7	83.8	9.3
Regional Universities	61.8	73.2	18.4
State Universities		73.4	
State Colleges	62.8	55.8	11.1
Two-Year College	33.9	39.1	15.3
Total University System	64.7	73.6	13.8

Source: USG.

Table 8
Female and Black Shares
of Georgia Higher Education Faculty, 1993 and 2002

Variable	% Female			% Black		
	1993	2002	% Change	1993	2002	% Change
Research Universities	23.7	29.4	24.1	3.9	5.5	41.0
Regional Universities	38.6	43.4	12.4	5.7	5.1	-10.5
State Universities		42.5			15.1	
State Colleges	40.0	48.9	22.3	16.5	5.2	-68.5
Two-Year College	52.3	53.3	1.9	11.1	12.4	11.7
USG Total	34.2	38.2	11.7	8.7	9.0	3.4

Source: USG.

Table 9
Georgia Higher Education Faculty by Rank, 1993 and 2002.

Table 10
Percent of Georgia Higher Education Faculty
Not on the Tenure Track, 1993 and 2002

Institution Class	% Non-Tenure Track		
	1993	2002	% Change
Research Universities	10.8	13.0	20.4
Regional Universities	7.6	9.4	23.7
State Universities		9.3	
State Colleges	9.6	6.9	-28.1
Two-Year College	12.0	10.0	-16.7
USG Total	10.3	11.0	6.8

Source: USG.

[Insert tables on faculty salaries.]

5. Outputs

5.a. *Enrollments*

Cornwell, Mustard, and Sridhar (2004) compare college enrollments in Georgia with those in the other member states of the SREB, and show that HOPE increased total freshmen enrollment in Georgia colleges and universities by 5.9 percent, with the gains concentrated in four-year public and private schools. From a policy perspective, if the objective is to retain high-quality students in state for college, then HOPE accomplishes this to some degree. Cornwell, Mustard, and Sridhar (2004) find that HOPE reduced the number of first-time freshmen in four-year schools who recently graduated from high school leaving Georgia by an average of 560 per year between 1993 and 1997, accounting for roughly two-thirds of the total enrollment gain for this group. However, recent-graduate freshmen represent only about 40 percent the total four-year-school enrollment increase.

Separately analyzing HOPE's effects by race, Cornwell, Mustard, and Sridhar (2004) report that the scholarship increased white enrollment by about 3.6 percent and black enrollment by about 15 percent. Correspondingly, they find a significant 2.7 percentage-point rise in the black share of total (white + black) enrollment in Georgia. Georgia's HBCUs account for much of the increased enrollment of blacks, as their enrollments rose 23 percent during the same period because of HOPE. Their presence clearly enhances the scholarship's incentive for blacks to choose an in-state college. In the first place, Blacks are likely more price sensitive, because the typical black household

has less wealth (even holding income constant). To this price sensitivity, the HBCUs add the opportunity of attending a college with a high concentration of similar peers. HOPE's influence on the HBCU enrollments could also reflect rising admission standards at the state's flagship universities. In contrast to the University of Georgia and Georgia Tech, in 2001 *Barron's Guide to Colleges* (Profiles of American Colleges 2001) rated all but one Georgia HBCU as "less competitive," the fifth highest category (out of six).

Extrapolating from Georgia's experience with HOPE to other states contemplating merit scholarship programs, there are a couple of things to keep in mind. It will be easier to retain academically accomplished high-school graduates if selective colleges are located within the state. Over the last five years, Georgia (with Georgia Tech and the University of Georgia) is one of only four states that have at least two universities in the top 20 of the *U.S. News and World Report* rankings of national public universities (U.S. News & World Report, 2002). The retention of black students will depend on the size of the black population and number of predominately black institutions in the state.

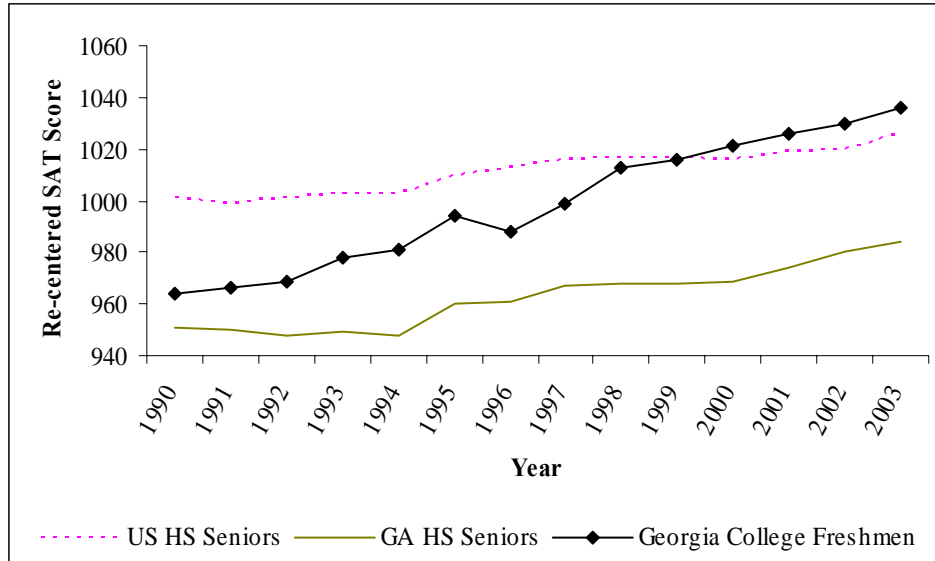
HOPE's influence on enrollment is not captured entirely by the drop in the number of leavers; the composition of leavers has also changed. Figure x plots the SAT series for freshmen enrolled in Georgia institutions and those of high-school seniors in Georgia and the rest of the US. The increases in SAT scores of Georgia freshmen stand out, rising about 60 points after HOPE. The SAT scores of the comparison groups increased by 30 points for Georgia high-school seniors and by 20 points for high-school seniors throughout the US. Between 1993 and 2000, Georgia's rate of retaining students with SAT scores greater than 1500 has climbed from 23 to 76 percent.

To what extent do merit-aid programs affect the college attendance of low-income

students? First, a common criticism of merit aid is that it reduces a state's commitment to need-based assistance, thus compromising the ability of needy students to succeed in college. In Georgia's case, in the year prior to HOPE, the state provided \$4.9 million of strictly need-based grants, and \$26.0 million of total aid (National Association of State Scholarship and Grant Programs 1993, Table 1, p. 40). By 2002-2003 Georgia's total aid had grown to \$397 million annually while its need-based grants declined to \$1.5 million (National Association of State Student Grant and Aid Programs, 2003, Table 3, p. 8). By 1997-1998, Georgia provided more aid per full-time undergraduate and had a larger fraction of undergraduates who received aid than any other state in the nation (National Association of State Student Grant and Aid Programs, 1998, Tables 12-13). So in a state like Georgia that never had a strong commitment to need-based aid and where substantially increasing need-based assistance is unlikely to be politically feasible, a large-scale merit-aid program may significantly increase the total funding available to low-income students. The same may not be true, however, in a state that has had a long history of strong support for need-based aid.

Although not strictly need-based, much of Georgia's HOPE program was targeted to low-income students through the HOPE Grant. In 2003-2004 the grant alone allocated \$103.7 million. Although we are unaware of data that directly link the HOPE Grant to the household income of its recipients, anecdotal evidence indicates that a large fraction of this aid is used by people who would have qualified for need-based grants. Also, since students were permitted to stack HOPE and Pell, Georgia schools with large black enrollment received have a larger fraction of students with HOPE who are Pell eligible than do institutions with large White enrollments. Furthermore, the fraction of students in HBCUs who receive Pell and HOPE is even larger at over 65 percent (Cornwell, et al. 2004).

Figure 6
SAT Scores of Georgia College Freshmen
vs. US High-School Seniors and Georgia High-School Seniors, 1990-2003



5.b. Retention and Graduation

Following the introduction of Georgia's HOPE Scholarship in 1993, state-sponsored merit scholarships have proliferated, justified in part as inducements for academic achievement. While their GPA requirements for eligibility and retention encourage students to apply greater effort toward their studies, they also encourage other behavioral responses like adjusting course loads and difficulty. Cornwell, Lee, and Mustard (2004) examine student responses to the eligibility and retention rules associated with the HOPE Scholarship. Using data on the undergraduates who enrolled at the University of Georgia between 1989 and 1997, they estimated the effects of HOPE on enrollment, withdrawal and completion, and the shifting of course credits to the summer, treating out-of-state students as a control group.

They find that HOPE reduced the probability of full-course load enrollment and enrolled credit hours, and increased the probability of course withdrawal and withdrawn credits for Georgia-resident freshmen. Together these responses amount to a 9.3% reduction in the likelihood of completing a full load and almost a 1-credit drop in completed credits. The credit-hour decline means that resident freshmen completed over 3,100 fewer courses between 1993 and 1997 than they would have in the absence of HOPE. However, the evidence is mixed on whether these course-load adjustments constitute a delay in academic progress or intertemporal substitution.

The diversion of course-taking to the summer is an example of adjusting course difficulty, as the average GPA of UGA freshmen is 10-15% higher in the summer than in the fall, even though the typical summer-school enrollee has a lower SAT score and HSGPA. They show that HOPE increased summer-school credits completed by Georgia residents by 63% and 44% in the first two summers following matriculation. The summer-school results suggest that, to the extent intertemporal substitution occurs between the first and second years, summer enrollment accounts for most it.

In sum, they conclude that HOPE's grade-based retention requirements lead to behavioral responses that partially undermine its objective to promote academic achievement by encouraging greater effort. While responses like taking fewer courses per term may enhance human capital investment, the option to slow one's progress toward degree completion existed prior to HOPE.

5.c. Tradeoffs between Teaching and Research

Question #5a: What has been the impact of these changes on students, in terms of the distribution of class sizes?

Data sources: http://www.usg.edu/pubs/info_digest/2002/3students.pdf

Question #6: To what extent has graduate education and the growing importance of scientific research impacted undergraduate education?

Question #7: How have federal financial aid and research funding policies and administrative regulations influenced public universities' behavior?

Data sources: http://www.usg.edu/pubs/info_digest/2002/8research.pdf

Question #9: If a campus has been successful in maintaining the quality of its undergraduate programs, what factors that have been responsible for this?

6. Conclusions

References

- Cornwell, Christopher M., Kyung Hee Lee, and David B. Mustard. 2004. "The Effects of Merit Based Financial Aid on Course Enrollment, Withdrawal, and Completion in College." University of Georgia Department of Economics Working Paper. Forthcoming *Journal of Human Resources*.
- Cornwell, Christopher M., Mark Leidner, and David B. Mustard. 2004. "Rules, Incentives and Policy Implications of Large-Scale Merit-Based Financial Aid." University of Georgia Working Paper.
- Cornwell, Christopher M. and David B. Mustard. 2002. "Race and the Effects of Georgia's HOPE Scholarship." In *Who Should We Help? The Negative Social Consequences of Merit Scholarships*. Edited by Donald E. Heller and Patricia Marin, Cambridge, MA: The Civil Rights Project, Harvard University.
- Cornwell, Christopher M. and David B. Mustard. 2003. "Georgia's HOPE Scholarship Program: Enrollment Gains and Lottery Finance." *Insights on Southern Poverty*. Fall, Vol. 1, No. 3: 5-8.
- Cornwell, Christopher M., David B. Mustard, and Deepa Sridhar. 2004. "The Enrollment Effects of Merit-Based Financial Aid: Evidence from Georgia's HOPE Scholarship". Revise and Resubmit at the *Journal of Labor Economics*.
- Dee, Thomas and Linda A. Jackson. 1999. "Who Loses HOPE? Attrition from Georgia's College Scholarship Program." *Southern Economic Journal*, Vol. 66, No. 2: 379-390.
- Georgia Department of Education. 2002. "2002 Report Cards." Atlanta, GA.
- Georgia Student Finance Commission. 2004. "HOPE Scholarship and Grant Program

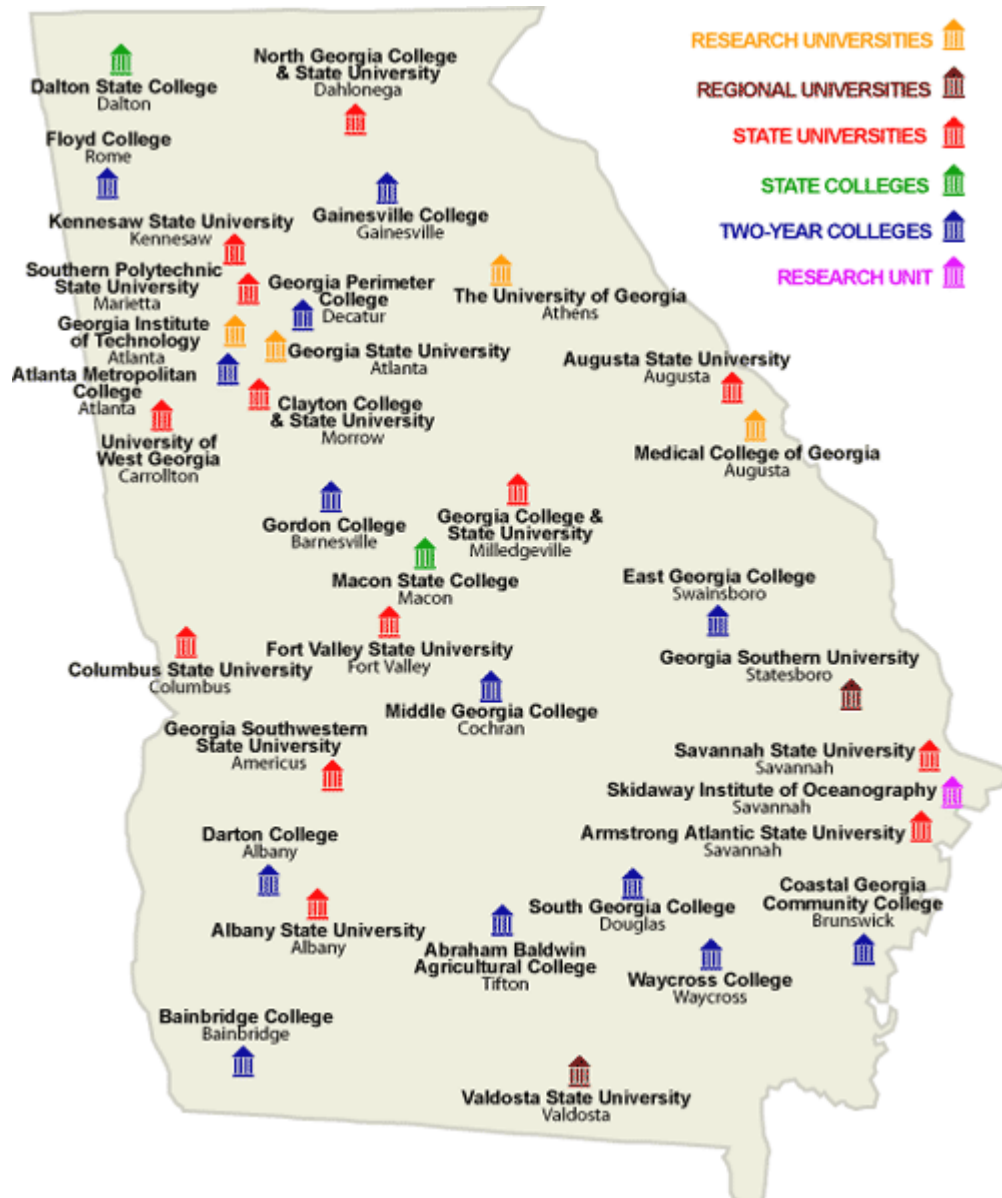
- Highlights: A Summary of Changes and Requirements.” (June 1). Retrieved Sep. 30, 2004 http://www.gsfc.org/main/publishing/pdf/2004/hope_highlights.pdf.
- Henry, Gary T., Ross Rubenstein, and Daniel T. Bugler. Forthcoming. “Is HOPE Enough? Impact of Receiving and Losing Merit-Based Financial Aid.” *Educational Policy*.
- HOPE Scholarship Joint Study Commission. 2004. Retrieved Sep. 30, 2004 from <http://www.cviog.uga.edu/hope/>.
- Ledbetter, Jim and Jason Seligman. 2003. “Changing Eligibility Requirements: HSGPA and SAT.” Carl Vinson Institute of Government (October 22). Retrieved Sep. 30, 2004 from <http://www.cviog.uga.edu/hope/031022requirements.pdf>
- National Association of State Scholarship and Grant Programs. 1993. *Annual Survey Report 1992-1993 Academic Year*. Retrieved Sep. 30, 2004 from <http://www.nassgap.org/researchsurveys/1992-1993.pdf>.
- National Association of State Student Grant and Aid Programs. 1998. *29th Annual Survey Report on State-Sponsored Student Financial Aid: 1997-1998 Academic Year*. Retrieved Sep. 30, 2004 from <http://www.nassgap.org/researchsurveys/29threport.htm>.
- National Association of State Student Grant and Aid Programs. 2003. *34th Annual Survey Report on State-Sponsored Student Financial Aid: 2002-2003 Academic Year*. Retrieved Sep. 30, 2004 from <http://www.nassgap.org/researchsurveys/34th%20NASSGAP%20Survey%20Report.pdf>.
- Profiles of American Colleges* (24th ed.). (2001). Hauppauge, NY: Barron's Educational

- Series, Inc.
- Seligman, Jason. 2003. "Georgia's HOPE: Costing out Policy Recommendations," Carl Vinson Institute of Government. Presented at the Nov. 13, 2003 meeting of the HOPE Scholarship Joint Study Commission.
- Seligman, Jason, Richard Milford, John O'Looney, and Jim Ledbetter. 2004. *HOPE Scholarship Joint Study Commission Report*. Athens, GA: Carl Vinson Institute of Government. Retrieved Sep. 30, 2004 from <http://www.cviog.uga.edu/hope/report.pdf>.
- Singell, Larry D., Jr., Glen R. Waddell, and Bradley R. Curs. 2004. "Hope for the Pell? The Impact of Merit-Aid on Needy Students." University of Oregon Working Paper.
- U.S. Census Bureau. 2004. "Table 5. Population Estimates by Sex, Race and Hispanic or Latino Origin: April 1, 2000 to July 1, 2002." http://www.census.gov/popest/archives/2000s/vintage_2002/ST-EST2002-ASRO-05.html.
- U.S. News & World Report. 2002. "The Top 50 Public National Universities." *America's Best Colleges*.
- University of Georgia. N.D. "Student Data from the Admissions, Financial Aid, and Registrars Offices." Athens, GA.
- Zengerle, Jason. 2001. "Why Zell Miller Screws The Democrats." Man From Hope. *The National Review*. Post date 2 February.

Appendix: Georgia's Degree-Granting Colleges and Universities

Institution Type	Institution Name
Research Universities	Georgia Institute of Technology Georgia State University Medical College of Georgia University of Georgia
Regional Universities	Georgia Southern University Valdosta State University
State Universities	Albany State University Armstrong Atlantic State University Augusta State University Clayton College University Columbus State University Fort Valley State University Georgia College and State University Georgia Southwestern State University Kennesaw State University North Georgia College and State University Savannah State University Southern Polytechnic State University State University of West Georgia
State Colleges	Dalton State College Macon State College
Two-Year Colleges	Abraham Baldwin Agricultural College Atlanta Metropolitan College Bainbridge College Coastal Georgia Community College Darton College East Georgia College Floyd College Gainesville College Georgia Perimeter College Gordon College Middle Georgia College South Georgia College Waycross College

Map of Georgia's Colleges and Universities (Source: University System of Georgia)



Map of Georgia's Technical Colleges

(Source: Georgia Department of Technical and Adult Education)

