

CHAPTER 4

RACE AND THE EFFECTS OF GEORGIA'S HOPE SCHOLARSHIP



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INTRODUCTION AND PROGRAM OVERVIEW

Until the early 1990s, merit aid represented a relatively small fraction of total student aid, being largely confined to individual institutions' attempts to attract academically proficient students. In the late 1990s, institutions and state governments dramatically increased merit aid, a trend that has continued unabated (McPherson & Schapiro, 1998). The largest and most prominent merit-aid program in the nation was started in September 1993, when Georgia instituted a lottery-funded college scholarship for the purpose of "Helping Outstanding Pupils Educationally" (HOPE). Between its inception and June 2001, over \$1.4 billion was distributed to about 625,000 students through HOPE.¹ In size and scope, HOPE is now roughly twice as large as the federal Pell Grant program in Georgia. In 1998-99, over \$189 million in scholarship funds were awarded to 141,000 Georgia undergraduates, compared with only \$113 million in Pell aid to 62,000 recipients.

The HOPE program consists of two types of awards—the merit-based HOPE Scholarship and the HOPE Grant. To qualify for the Scholarship, which can be applied to 103 public and private colleges and universities in Georgia, students must graduate with a "B" average from a Georgia high school.² There is no income cap.³ For HOPE Scholars in degree-granting public institutions, the program covers full tuition, HOPE-approved mandatory fees and a book allowance; the value of the award is about \$3,500 at the state's flagship institutions for the 2001-02 academic year. HOPE Scholars in private, degree-granting institutions receive a standard award of \$3,000 per academic year toward tuition. Once in college, students must maintain a "B" average with a minimum number of credits to retain the award.

In contrast, the HOPE Grant is essentially an entitlement; eligibility does not depend on high-school grade-point average. Eligibility for the HOPE Grant applies only to non-degree programs at two-year and less-than-two-year schools. The grant covers tuition and HOPE-approved mandatory fees, and students may receive the grant to pay for all coursework required by the institution for a program of study leading to a certificate or diploma. Thus, the incentives related to merit aid do not apply to technical institutions that primarily offer diplomas and certificates.

Although the number of HOPE awards has been evenly divided between scholarships and grants, scholarships account for 77.5 percent of all aid disbursed (Table 4-1). Just over 72 percent of HOPE Scholars attended four-year public institutions; these students were awarded 77 percent of all scholarship aid. Another 8.4 percent took their scholarships to four-year private colleges, which collected 12.5 percent of the scholarship funds. Thus, four-year public and private schools together enrolled more than 80 percent of HOPE Scholars and received almost 90 percent of all merit-based aid. About 88 percent of the merit-aid winners attend state-supported institutions, 10 percent attend private institutions, and the rest attend technical schools. By contrast, the overwhelming majority of students receiving the HOPE Grant (95.4 percent) and nearly all the dollars (93.0 percent) go to technical schools. Only 4.6 percent of the awards at

¹ The cumulative number of HOPE recipients and value of scholarship awards since the program's inception is available from http://www.gsfc.org/gsf/html_summary_grant_all_cov_H.htm. Because transfer students are duplicated in the number of HOPE recipients, they must be subtracted from the website total to obtain the number of unique recipients.

² HOPE requirements have changed for high-school classes that graduated in 2000 and later. Previously, the grade-point average 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."

³ In the first year of the program, there was a household income cap of \$66,000. This cap was raised to \$100,000 the following year and eliminated entirely thereafter.

state system and private colleges were non-merit grants.

Table 4-1: Students Served by HOPE and Amounts Spent, by Institution Type, 1993-99

HOPE Component by Institution	Number of Students (% of Total)	Aid Amount in Millions of \$ (% of Total)
HOPE Program Total (Scholarship and Grant)	721,246	844.25
HOPE Scholarship Total	356,454 (49.4)	654.13 (77.5)
Public, 4-year	257,211 (72.1)	503.71 (77.0)
Public, 2-year	56,829 (15.9)	50.83 (7.8)
Technical Schools ^a	6,459 (1.8)	4.02 (0.6)
Private, 4-year ^b	30,098 (8.4)	81.67 (12.5)
Private, 2-year ^b	5,857 (1.6)	13.90 (2.1)
HOPE Grant Total	364,792 (50.6)	190.12 (22.5)
Technical Schools ^a	348,104 (95.4)	176.67 (93.0)
All Others ^c	16,688 (4.6)	13.45 (7.0)

Notes: ^a Of the 34 HOPE-eligible technical schools, 13 offer Associate's Degrees, and therefore can award both the scholarship and grant.

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

^c A few public, four-year and two-year institutions also offer technical certificates and diplomas.

Source: Georgia Student Finance Commission, www.gsfc.org.

The share of resources allocated to the scholarship component of the program is growing. 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. At the same time, the proportion of HOPE-eligible high-school graduates enrolling in Georgia institutions grew from 23 percent to 70 percent. This dramatic rise indicates that HOPE has created a powerful incentive for students to remain in state when attending college.

Because all students, including students from middle and upper-income households, are

eligible for HOPE, the program enjoys widespread support. The popular appeal of HOPE has led Georgia's neighboring states, Alabama, Florida, South Carolina and Tennessee, and many others to adopt or propose merit-based scholarships of their own, usually with lottery funding like Georgia.⁴ President Clinton designated Georgia's HOPE Scholarship as the model for the federal HOPE tuition tax credit.

This chapter summarizes the effects of HOPE on college enrollments in Georgia, paying particular attention to the program's influence by institution type and race. In addition, the chapter shows how HOPE may be encouraging student sorting by race and ability and thus increasing the stratification of Georgia colleges and universities along these lines. Finally, the chapter contrasts program beneficiaries with those who pay for the scholarship by analyzing the characteristics of Georgia lottery players.

HOPE'S EFFECT ON TOTAL ENROLLMENTS

Total enrollments in Georgia colleges and universities have increased due to HOPE. Comparing the enrollment rate in Georgia—measured as ratio of first-time freshmen to recent high-school graduates—with those of the other 14 member states of the Southern Regional Educational Board (SREB) during the years before and after the program's inception, and controlling for differences among the states in income, wages, and tuition rates, we find that HOPE increased the first-time-freshmen enrollment rate in Georgia by six percentage points (or an eight percent increase) relative to the rest of the SREB (Cornwell, Mustard, & Sridhar, 2002). While this six-percentage point gain is significant, it is less an expansion of *access* (making college affordable for those who would otherwise be unable to go) than a change in *college choice* (influencing where someone who is planning to attend college actually enrolls).

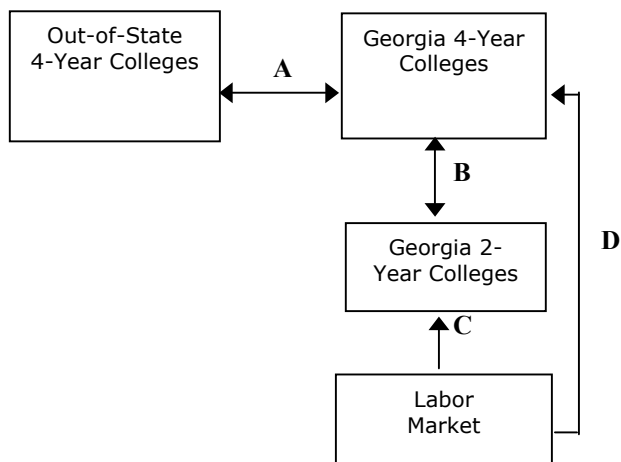
Clearly, the incentives created by the HOPE scholarship affect different students in different ways (Figure 4-1). HOPE both creates incentives for some students to stay in Georgia for college while simultaneously inducing others to leave the state (the in-state–out-of-state decision, labeled A in Figure 4-1). The incentive to stay in state is greatest for the academically proficient who, with HOPE, face in-state public and private college prices that are reduced relative to their out-of-state counterparts. The impact of this change should be realized almost exclusively at four-year institutions, because students who attend two-year schools rarely cross state lines to do so. If the “best and brightest” remain in Georgia for their college education, entrance requirements may rise at the top universities in the state. Consequently, students who are denied admission at the flagship schools and who do not view the state's less selective four-year colleges as good alternatives may attend college out of state.

Because tuition is higher at four-year colleges, HOPE also reduces their price relative to two-year schools (B in Figure 4-1). Therefore, some HOPE-eligible students who would have otherwise enrolled in a two-year or less-than-two-year college will pursue a four-year degree instead. As with the in-state–out-of-state decision, HOPE might influence movement between two-year and four-year schools in both directions. Rising academic standards at the best schools may drive some students out-of-state and induce others to start their postsecondary schooling at a two-year institution.

⁴ See in the Introduction to this volume for more about national trends in state merit scholarships.

Figure 4-1: Margins Affected by HOPE-Induced Changes in Relative Prices

Source: Cornwell, Mustard and Sridhar (2002).



For some students, HOPE may affect *access*. Individuals whose labor-market alternatives compete directly with college attendance characterize the program’s potential for expanding access (C and D in Figure 4-1).⁵ By examining the effect of HOPE on each type of institution and the interstate migration patterns in college attendance, we can give a rough accounting of the six-percentage point overall increase in enrollment-rate in terms of *access* and *choice*.

HOPE’S EFFECT BY INSTITUTION TYPE

Data from the different types of postsecondary institutions show that virtually all of the six-percentage point increase in Georgia enrollments has been realized in four-year public and private schools, with each accounting for about half of the increase (Table 4-2). Enrollment rates in two-year schools showed no net change—individuals who would have otherwise entered the labor market filled the seats vacated by students pursuing two-year degrees. However, the schooling costs of any new two-year-school enrollees were likely financed by the HOPE Grant, which applies exclusively to non-degree programs at two-year institutions and has no merit requirements. Had it not been for the grant, the enrollment rates in two-year institutions would likely have decreased.

⁵ However, it is important to recognize that not all students weighing the decision of whether to continue their schooling or enter the labor market are unable to afford college. Thus, to the extent HOPE induces college attendance by such students, this effect would have to be considered an upper bound of scholarships influence on access.

Table 4-2: HOPE Effect by Institution Type, 1993-97

Type of Institution	Pre-HOPE Average Enrollment Rate	Estimated Increase in Enrollment Rate Due to HOPE	Implied Percentage Change in the Enrollment Rate
All Institutions	0.76	0.06	8%
Public, 4-year	0.32	0.03	10%
Private, 4-year	0.14	0.03	20%
Public, 2-year	0.24	-	-

Note: Enrollment rates are measured by the ratio of first-time freshmen to recent high-school graduates.

Source: Cornwell, Mustard and Sridhar (2002).

Further, most of the rise in enrollments at four-year schools represents a shift from out-of-state to in-state institutions. Between the fall of 1992, the year prior to HOPE's introduction, and the fall of 1994, the number of Georgia residents attending college out-of-state fell over 20 percent in the top-twenty out-of-state destinations and fell 8 percent in all out-of-state institutions (Table 4-3).

Table 4-3: The Top-20 Out-of-State Institutions for Georgia Residents

Institution (State)	1992	1994	1996	1998
Auburn University (AL)	480	459	395	490
University of Alabama (AL)	195	141	125	173
Jacksonville State University (AL)	198	121	127	89
Furman University (SC)	166	143	142	122
Florida A&M (FL) (HBCU)	146	90	124	137
Samford University (AL)	135	107	132	102
Vanderbilt University (TN)	135	117	124	96
Presbyterian College (SC)	128	84	75	59
Alabama State University (AL) (HBCU)	121	74	82	62
Clemson University (SC)	116	82	112	141
Florida State University (FL)	104	118	117	140
Tuskegee University (AL) (HBCU)	85	76	91	58
University of Mississippi (MS)	83	83	54	78
University of Florida (FL)	80	49	43	36
University of Tennessee-Chattanooga (TN)	77	49	41	36
Troy State University (AL)	67	44	32	35
Alabama A&M (AL) (HBCU)	66	49	53	40
University of Tennessee (TN)	65	69	88	112
Hampton University (VA) (HBCU)	65	30	14	42
Wake Forest University (NC)	64	63	54	68
TOTAL IN TOP-20	2533	2022	2097	2116
TOTAL IN HBCUs	483	319	364	339
TOTAL OUT-MIGRATION	7597	6972	7027	7689

Note: Based on 1992 Freshmen Enrollment. (HBCU) designates that the institution is a Historically Black College or University. Where an institution has multiple campuses, the institution is the main campus unless otherwise indicated.

Source: Cornwell, Mustard and Sridhar (2002).

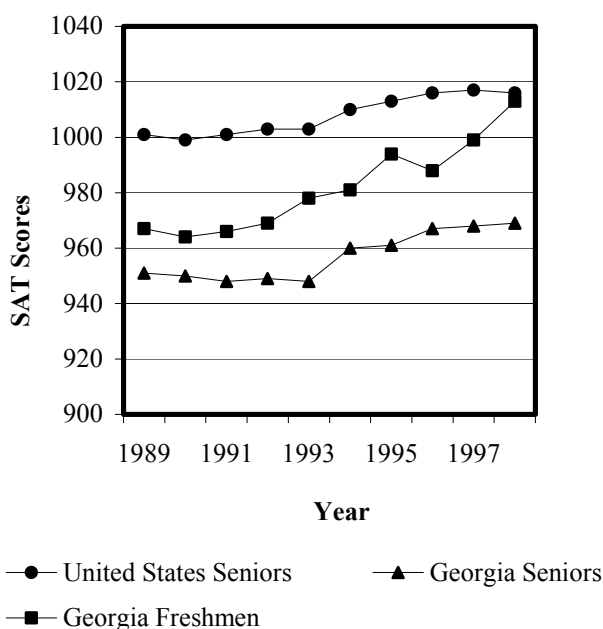
A measure of the net effect of the incentive for in-state enrollment can be obtained from the ratio of students attending Georgia institutions (from any state of residence) to Georgia residents attending college (in any state). This ratio is almost exactly 1 in the pre-HOPE period; the number of out-of-state students enrolling in Georgia institutions equaled the number of Georgia residents enrolling in out-of-state schools. After the inception of HOPE, however, this ratio increased to 1.04, implying that four of the six-percentage point total increase in enrollment attributable to HOPE is due to the scholarship's influence on the in-state-out-of-state decision. Together with the evidence that many of the scholarship recipients are students who chose to attend four-year, rather than two-year institutions, and that many of the spaces in two-year institutions were filled by students who received HOPE grants, this ratio implies that, *at most*, one-third of the overall increase in enrollment associated with the HOPE scholarship represents an expansion of access.

HOPE'S EFFECT ON STUDENT QUALITY AND COLLEGE SELECTIVITY

The shift in enrollment from out-of-state to in-state colleges and from two-year to four-year institutions has changed the characteristics of students enrolled at Georgia universities. As measured by SAT scores, the freshmen class in Georgia colleges and universities became substantially better prepared during the 1990s (Figure 4-2). In 1989, the average SAT of high school seniors nationally was 1000, approximately 35 points higher than the average score for Georgia college freshman average and 50 points higher than the average for Georgia high school seniors. By 1998, the national average had risen 20 points, to 1020. But during that period, the average SAT score for Georgia college freshmen rose 50 points, making them even with the national average.

Figure 4-2: SAT Scores in Georgia and the US, 1989-90 to 1998-99

Source: Cornwell, Mustard and Sridhar (2002).



As student quality has risen, Georgia institutions have become more attractive to the very top high-school graduates in the state. In 1993, only 23 percent of Georgia high school graduates with SAT scores over 1500 matriculated at a Georgia college or university; now the rate is up to 76 percent. Consequently, the state's top universities have been able to raise admissions standards. This is especially true at the state's flagship school, the University of Georgia. During most of the 1980s, Barron's *Profiles of American Colleges* rated the University of Georgia's admissions selectivity as merely "competitive," the fourth highest out of six categories. By 1997, Georgia's selectivity rating had climbed to "highly competitive," the second highest category (which includes elite public universities like the University of North Carolina).

This dramatic increase in SAT scores is not only evidence of HOPE's incentive for high-achievers to remain in-state, but it also explains the jump between 1996-98 in the number of Georgia residents attending Auburn University (an increase of 24 percent), the University of Alabama (38 percent), Clemson University (26 percent), Florida State University (20 percent), the University of Mississippi (44 percent) and the University of Tennessee (27 percent). Notably, these out-of-state universities, while sharing the characteristics of a large state school with the University of Georgia, are now all listed below it in Barron's selectivity index. This suggests that affluent students who no longer qualify for the University of Georgia's increasingly stringent requirements are choosing to attend these out-of-state colleges, rather than in-state institutions that are considered less prestigious. A recent Georgia high-school graduate who was not eligible for admission to the University of Georgia with an 1150 SAT score and a high-school grade-point average of 3.4 puts it this way: "As a result of the HOPE Scholarship, above-average-but-not-quite-outstanding students are handing over the dough to schools like Auburn, Tennessee, Clemson, Alabama, Ole Miss and other large universities throughout the South" (Roberts, 2001).

HOPE'S EFFECT ON WHITE AND BLACK ENROLLMENT RATES

At a time when the issue of access to college for blacks is a particular concern, understanding how HOPE affects black enrollments is important.⁶ Yet we find that, as with the overall trends in enrollment, the scholarship program appears to have had a substantially greater influence on college choice than on college access for blacks.

Between 1993 and 1997, HOPE raised the enrollment rates of blacks at four-year public and private colleges by 21 percent and 16 percent, respectively. This exceeds the effect for whites, whose enrollment rates went up by 5 percent in four-year public institutions and by 12 percent in four-year private institutions (Table 4-4)⁷. The difference is partly explained by the fact that blacks have much lower enrollment rates to begin with, and therefore, a relatively small increase in enrollment rates can account for a relatively large percentage change. In addition, Georgia is home to a large number of historically black colleges and universities (HBCUs), which amplifies HOPE's incentive to remain in state for blacks.

⁶ Our findings are limited to whites and blacks, because the National Center on Education Statistics (NCES) data do not provide the statistical power necessary to analyze the enrollment of students from other racial and ethnic groups.

⁷ The results for enrollment rates by race use a slightly different measure than the effects by institution type in Table 4-2. Because the NCES does not provide annual data on recent high school graduates by race, the enrollment rates by race use the eligible population of 18- and 19-year-olds.

Table 4-4: HOPE Effect by Race

Type of Institution	Pre-HOPE Average Enrollment	Estimated Increase in Enrollment Due to HOPE	Implied Percentage Change in the Enrollment Rate
Public 4-year			
All Races	0.099	0.008	8%
White	0.115	0.006	5%
Black	0.065	0.013	21%
Private 4-year			
All Races	0.045	0.008	17%
White	0.039	0.005	12%
Black	0.060	0.010	16%

Note: Enrollment rates are measured by the ratio of first-time freshmen to 18- and 19-year-olds.

Source: Cornwell, Mustard and Sridhar (2002).

To what else do we attribute the large percentage increase in black enrollment in Georgia institutions? Has HOPE significantly expanded access to higher education in Georgia? The data show that this is unlikely. For both whites and blacks, the increases in enrollments represent students who would have attended an out-of-state college absent HOPE.⁸ Between the fall of 1992, the year prior to HOPE's introduction, and the fall of 1994, the number of Georgia residents attending college out-of-state fell over 20 percent in the top-20 out-of-state destinations and fell 8 percent in all out-of-state institutions. Five of the top 20 out-of-state destinations for Georgia students are HBCUs (Florida A&M University, Alabama State University, Tuskegee University, Alabama A&M University, and Hampton University). Between 1992 and 1994, enrollments of Georgia freshmen at these five institutions dropped 34 percent.

Further, the increases in black enrollments have generally occurred at the state's less selective schools, principally Georgia's HBCUs, all but one rated by Barron's as "less competitive," the fifth of the six ranking categories (Table 4-5). There has been no corresponding increase in black enrollment at the state's more selective institutions, the University of Georgia and Georgia Institute of Technology. Bugler, Henry and Rubenstein (1999) reported that the average black fraction of first-year, in-state enrollments in *all* state postsecondary institutions was 18 percent over the 1988-92 period. Between 1993 and 1998, the average share rose to 22 percent. In contrast, the black share of freshmen enrollments at the state's most selective institutions, the University of Georgia and Georgia Tech, has fallen during the HOPE period (Figure 4-3). At the University of Georgia, which has experienced the largest increase in SAT scores of entering students, the percentage of blacks in the freshmen has class dropped sharply since 1995.

⁸ This is consistent with Dynarski's findings (presented in chapter 5) that HOPE has *not* increased college attendance among black Georgia *residents*.

Table 4-5: Barron's Selectivity Index Ratings of Georgia HBCUs

Institution Name	1999 Barron's Selectivity Index Rating
Public	
Albany State University	Less Competitive
Fort Valley State University	Less Competitive
Savannah State University	Less Competitive
Private	
Clark Atlanta University	Less Competitive
Morehouse College	Competitive
Morris Brown College	Less Competitive
Paine College	Less Competitive
Spelman College	Less Competitive

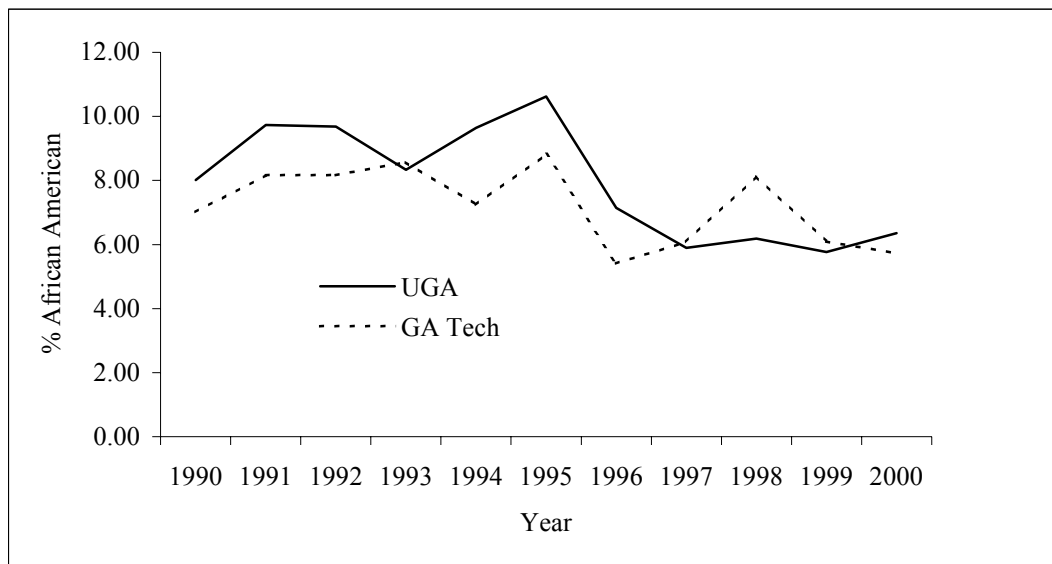
Note: There are six Barron's Selectivity Index Ratings: Most Competitive, Highly Competitive, Very Competitive, Competitive, Less Competitive and non-Competitive.

Source: *Profiles of American Colleges* (24th ed.). (2001). Hauppauge, NY: Barron's Educational Series, Inc.

As suggested by the data in Figure 4-3, by making it more difficult to gain entry at the state's best schools, HOPE may be exacerbating the racial stratification of Georgia colleges and universities. This can have serious social consequences, because of the effect of schooling quality on economic success. Narrowing the racial differences in the level and quality of educational attainment has substantially reduced wage inequality between blacks and whites between 1940 and the late 1970s (O'Neil, 1990) and in the 1990s (Couch & Daly, 2002). By targeting financial aid to academically proficient students who are more likely to come from middle- and upper-income households, HOPE may be impeding further progress in narrowing wage inequality.

Figure 4-3: Percent of Freshmen at UGA and Georgia Tech who are Black, 1990-2000

Source: NCES Integrated Postsecondary Education Data System (IPEDS). Annual enrollment data by race are available from IPEDS since 1990.



WHO PAYS FOR HOPE?

If middle- and upper-income households are the primary beneficiaries of the HOPE Scholarship, who bears the costs? Since HOPE is financed by a state lottery, the obvious answer to this question is, “lottery players.” But who are they? The literature is remarkably consistent: lottery players are disproportionately low-income, poorly educated, and black. As a result, lotteries are a regressive form of taxation, one that places a greater burden on lower-income families than on more affluent families.⁹ Recognizing this feature of the lotteries, the National Gambling Impact Study Commission (1999) recommended, “States with lotteries reduce their sales dependence on low-income neighborhoods” (pp. 3-19).

Compared with the other 37 state lotteries, Georgia’s is widely recognized as one of the most successful. It is the only lottery that increased revenue in each of its first seven years, and it has the second highest per capita sales of any lottery in the nation. Revenue was \$1.12 billion in fiscal year FY94, \$1.42 billion in FY95, \$1.59 billion in FY96, \$1.72 billion in FY97, \$1.74 billion in FY98 and \$2.03 billion in FY99.¹⁰ By 1997, per capita sales were \$238 per person, trailing only those of Massachusetts (National Gambling Impact Study Commission, 1999).

While Georgia’s lottery might be distinguished in terms of its success in generating revenue, Cornwell and Mustard (2002) show that the typical player is very similar to that of lotteries in other states. Per capita sales, by county, decrease as the income level of the county

⁹ The evidence for regressivity comes from survey data in Pennsylvania (Spiro, 1974), Connecticut and Massachusetts (Brinner & Clotfelter, 1975), California (Clotfelter & Cook, 1987), Canada (Livernois, 1987, Vaillancourt & Grignon, 1988), Illinois (Borg & Mason, 1988) and Texas (Price & Novak, 2000); and aggregate data in Pennsylvania (Heavey, 1978), Massachusetts (Brinner & Clotfelter, 1975), Maryland (Clotfelter, 1979), Michigan (Brinner & Clotfelter, 1975), and Colorado (Hansen, 1995).

¹⁰ Georgia’s fiscal years run from July 1 to June 30.

increases; the typical county in the top quintile of the income distribution contributed about \$90 less per person per year than the average bottom-quintile county (Table 4-6). In terms of the fraction of income spent on lottery tickets, the disparities are even larger: the share in the lowest-income quintile (1.88 percent of income) is more than twice that of the highest-income quintile (0.86 percent of income).

Similarly, residents of counties with high concentrations of blacks are much more likely to buy lottery tickets than those in counties with relatively few blacks (Table 4-7). Sales in the counties with less than a 36.1 percent black population averaged about \$200 per person. By contrast, counties that are more than 46.6 percent black spent on average \$402 a year, twice the rate of those in the bottom three quintiles.

Table 4-6: Lottery Sales by County Income Quintile, 1998 data

Variable	Quintile 1 <\$17,445	Quintile 2 \$17,445-18,745	Quintile 3 \$18,746-19,953	Quintile 4 \$19,954-21,900	Quintile 5 >\$21,900
Lottery Sales Per Capita	\$308.41	\$273.91	\$220.03	\$233.91	\$218.93
Ave. Per Capita Income	16,369	18,087	19,212	20,928	25,399
Ave. Sales as % of Ave. PCI	1.88%	1.51%	1.15%	1.12%	0.86%
Number of Counties	32	32	31	32	32

Note: All income variables are in real dollars calculated using the Consumer Price Index with 1998 as the base year.

Source: Cornwell and Mustard (2002).

Table 4-7: Lottery Sales by County Percentage Black Quintile, 1998 data

Variable	Quintile 1 < 11.50%	Quintile 2 11.50-28.00%	Quintile 3 28.01-36.10%	Quintile 4 36.11-46.60%	Quintile 5 >46.60%
Lottery Sales Per Capita	\$200.74	\$201.24	\$200.10	\$250.12	\$402.37
Number of Counties	32	32	31	32	32

Source: Cornwell and Mustard (2002).

The patterns of spending on lottery tickets can be seen graphically on a map of Georgia (Figure 4-4). Lottery sales as a percent of income are highest on the borders and in the band of counties across central Georgia, areas that are disproportionately black. The largest cluster of counties with low lottery sales as a percent of income is in the north, in the areas with relatively high personal income.

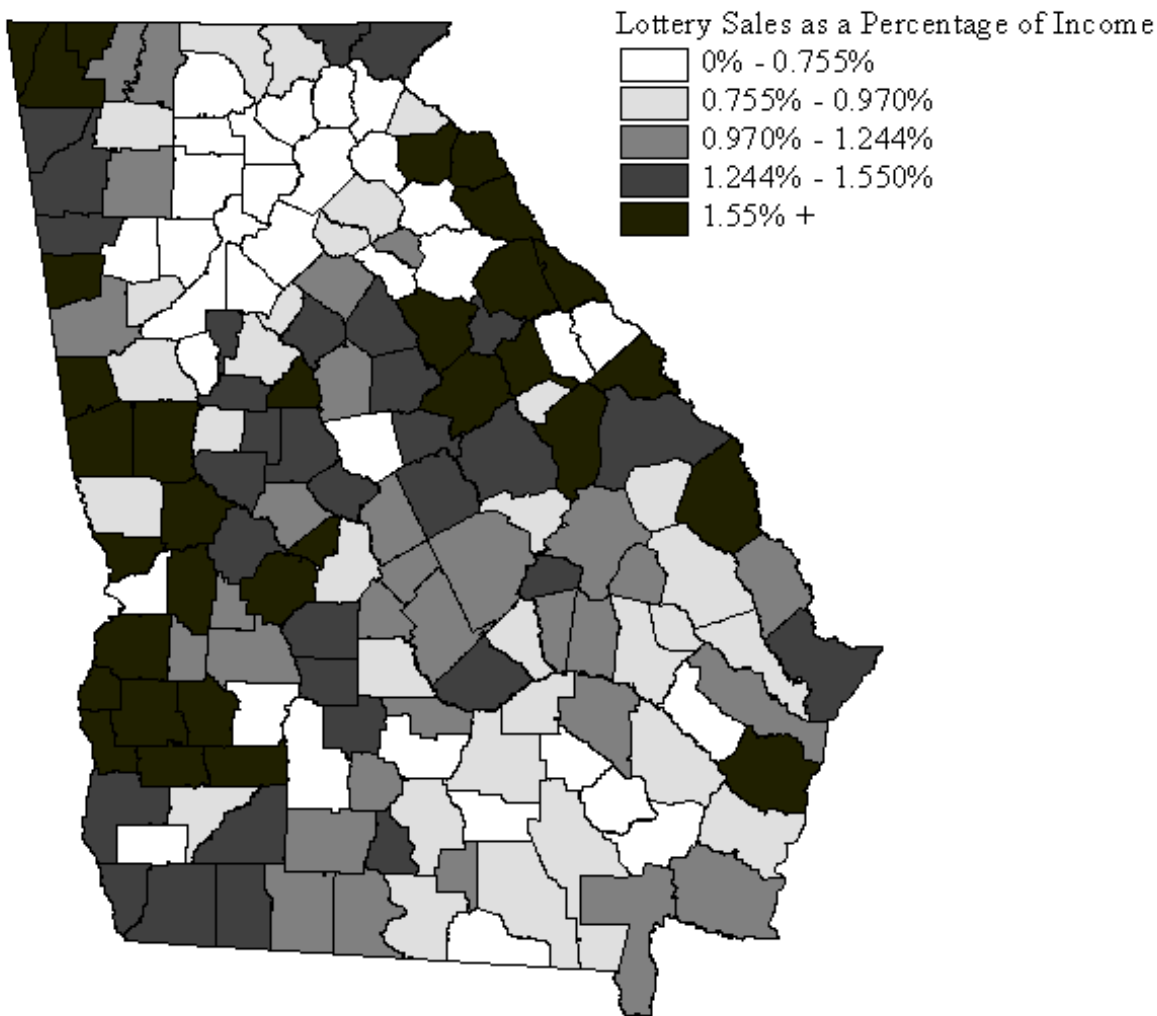


Figure 4-4: Lottery Sales as a Percentage of Income by County

Source: Cornwell and Mustard (2002).

CONCLUSION

In the first five years of the program, Georgia's HOPE Scholarship raised the freshman enrollment rate about eight percent relative to the enrollment rates of other member states of the SREB. This gain was realized primarily at four-year institutions, a pattern that held for both whites and blacks, although the percentage increase for blacks was higher. The relatively large response in the enrollment rate for blacks at four-year schools is due, in large part, to the presence of several popular HBCUs in Georgia. Two-thirds of the total enrollment rate rise can be explained by the scholarship's incentive to remain in state, leaving *at most* one-third that can be attributed to an expansion of access. For blacks, Georgia's HBCUs amplify the HOPE discount for in-state schools.

By encouraging the academically proficient to stay home for college, HOPE has increased the quality (as measured by SAT scores) of students enrolled at Georgia colleges and universities. Since HOPE began, the average SAT score of Georgia college freshmen rose almost

40 points. As average student quality has improved, the state's flagship universities, the University of Georgia and Georgia Tech, have become increasingly more selective. As a result, some students, who in the past would have been admitted to these institutions, now either enroll in one of the state's less prestigious schools or pursue their educations outside the state. Thus, HOPE may exacerbate student sorting by ability and race (to the extent black test scores lag behind those of whites), leading Georgia colleges to become increasingly stratified along these lines.

Finally, since the program is financed by a state lottery, its costs are disproportionately borne by lower-income and black families, who spend a larger share of their incomes on the lottery than more affluent and white families. However, because high-school academic achievement and family income are positively correlated, the HOPE Scholarship tends to benefit students from middle- and upper-income households. Overall, the primary role of the scholarship has been to influence where, not whether high-school students attend college, but only a small fraction of HOPE expenditures affects college-going behavior at all. Over the first five years of the program, we estimate that HOPE raised total freshmen enrollment by about 3800 students, which accounts for only about 4 percent of all freshmen awards during this period. This indicates that 96 percent of HOPE expenditures had no impact on expanding college access in the state.

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