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Colleges and Upward Economic Mobility: The Distinctive Contribution of HBCUs[†]

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There is general agreement that American society has become increasingly stratified in economic terms (Opportunity Insights 2022b). However, colleges and universities often are credited with reducing that stratification by providing proverbial "ladders of opportunity" that enable their students subsequently to improve their economic status. Historically Black colleges and universities (HBCUs) often are cited anecdotally in this context, but the roles they play seldom have been measured with precision (exceptions include Price, Spriggs, and Swinton 2011; Price and Sheftall 2015; Hardy, Kaganda, and Aruguete 2019; and Roman, Wood, and Niederjohn 2021).

The Opportunity Insights (2022b) project has provided institution-specific data concerning the upward economic mobility of former students. This genre of information has been supplemented and extended by diverse parties including the Georgetown University Center on Education and the Workforce (2022) and Third Way (2022).

We extend this previous work in three ways. First, we focus on institutions rather than individuals. Second, we examine campus contributions to upward economic mobility within the context of a bevy of campus influences that include institutional size and mission, the campus commitment to intercollegiate athletics, the relative emphasis on graduate work and research, geographic location, institutional religious affiliation, and demographic/academic characteristics of the student body. Third, we recognize that institutions that admit predominantly wealthy students are less likely to record high levels of economic mobility because their students "already are there" by virtue of their parents' income (Koch and Swinton 2023). Accordingly, we control for both the median incomes of student households and average campus Scholastic Aptitude Test (SAT) scores.

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I. What Is the Appropriate Measurement?

When measuring economic mobility, a critical consideration is whether we measure not only the probability that students from a specific type of university subsequently will ascend economically but also the extent to which meaningful numbers of students from that campus do so. We follow Opportunity Insights (2022b) in considering both.

Table 1 demonstrates our approach using Opportunity Insights (2022a) data that focus on the students born in 1980–1982 who subsequently matriculated on a selection of campuses (including HBCUs). Column 2 of Table 1 reports the percentage of students who came from a household whose income ranked in the lowest income quintile nationally but whose income had risen to either the fourth- (Q4) or fifth-highest (Q5) income quintile in 2014. Column 3 records the percent of undergraduate students on specific campuses who came from a household whose income ranked in the bottom (Q1) quintile. Column 4 divides the product of the values in columns 2 and 3 by 100 to obtain our economic mobility coefficient.

Column 2 of Table 1 reveals that 70.24 percent of students who came to Virginia Tech from Q1 subsequently enjoyed incomes in 2014 that placed them in either Q4 or Q5 in 2014. This seems an admirable performance. The problem is that only 2.84 percent of Virginia Tech's undergraduate student body came from the households whose incomes ranked them in Q1. Thus, even though Virginia Tech did well by the

TABLE 1—CONTRASTING UPWARD ECONOMIC MOBILITIES ON ILLUSTRATIVE CAMPUSES

Institution (1)	Of those students who start in Q1, the percent who progress to Q4 or Q5 (2)	Percent of students from Q1 (3)	Economic mobility coefficient (4)
California State U Sacramento	63.73	10.45	6.66
Dartmouth College	68.31	2.77	1.89
Grambling U	35.28	34.36	12.12
Loyola U Chicago	61.74	9.18	5.67
Virginia Tech	70.24	2.84	1.99
Western New Mexico State U	32.31	23.12	7.47
Averages of 423 four-year public institutions	49.42	10.80	4.98
Averages of 715 four-year independent institutions	53.50	6.86	3.40

Source: Opportunity Insights (2022a): "Baseline Cross-Sectional Estimates of Child and Parent Income Distributions by College" ("mrc_table2")

Q1 students who enrolled there, its total impact was diminished substantially because it enrolled so few Q1 students.

Contrast Virginia Tech to Grambling State University, a Louisiana HBCU. A modest 35.28 percent of former Grambling students from Q1 families enjoyed incomes in 2014 that placed them in Q4 or Q5, but 24 percent of its student body was composed of individuals from Q1 households, and this pushes Grambling's total mobility impact well above that of Virginia Tech.[1]

II. Understanding the Landscape

Some argue that higher education today fortifies existing social and economic differences rather than reducing them and rely upon data like those presented in Table 2 to assert that the current system is "perpetuating privilege for those who can pay" (Freedman 2013). Consider that the 2019 median household income of a student attending an HBCU was $23,967, while it was $54,951 for students attending all other institutions in our sample.

The salient question is this: do differences such as those just identified influence upward economic mobility? The new ground we plow here focuses on answering this question. We consider four classes of plausible explanatory factors that might explain these differences: (i) student characteristics, including academic majors and SAT scores; (ii) family characteristics, including family incomes; (iii) campus circumstances, with special focus on institutional missions and internal resource allocation; and (iv) campus location.

III. The Data, Our Estimating Model, and the Variables

Our base dataset consists of annual observations (2004–2020) of 625 four-year accredited colleges and universities, 360 of which are independent (private) and 265 public. Among the independents, 86 institutions were ranked by *U.S. News & World Report* among the top 50 independent national universities or independent national liberal arts colleges. Among the publics, 76 are flagships, while 48 are large metropolitan institutions (though not flagships). HBCUs (32 public, 17 private) account for 49 institutions, while 109 are predominantly regional public institutions.

We estimate the following:

$$(1) \quad M_i = \alpha + \beta_1 X_{ij} + \cdots + \beta_n X_{mn} + \epsilon,$$

where M_i is a mobility coefficient for institution i in 2014, α is a constant term, β is an estimated regression coefficient for $j = 1 \ldots m$ characteristics at $i = 1 \ldots n$ institutions in

[1] The economic impact coefficients reported in column 4 of Table 1 are subject to a variety of criticisms. Among them is the signaling hypothesis that suggests that college attendance and graduation may not be responsible for the higher earned incomes of former students but instead simply reflect the sorting, grouping, and identification of gifted and ambitious individuals (Caplan 2018).

Table 2—Median and Mean Values of Mobility-Related Campus Variables in FY 2003–2004

	All	All private	Private religious	Private HBCU	Public HBCU	All public	Public flagship	Public metro leader	Public regional
Number of institutions	622	363	168	24	31	259	53	53	122
Mean mobility coefficient 2014	3.61	3.45	3.28	4.57	4.45	3.83	3.86	4.43	3.44
Mean FTE student size FY 2003–2004	8,897	4,401	3,624	2,018	5,068	13,928	24,386	18,298	9,066
Median household income 2003–2004	$62,236	$68,614	$63,856	$30,379	$30,092	$47,573	$59,672	$44,707	$49,701
Mean SAT score 2003–2004	1,093	1,131	1,074	921	863	1,041	1,137	1,046	1,012
Mean percent undergrad women 2003–2004	57.06	56.98	59.49	61.23	61.63	56.26	50.93	56.30	57.11
Mean percent undergrad 25+ years 2003–2004	16.06	7.29	16.56	15.76	22.23	17.92	11.94	21.64	21.16
Mean percent undergrad part-time 2003–2004	14.27	6.14	12.85	6.87	16.69	15.30	12.09	22.87	19.14
Mean annual faculty salary 2003–2004	$76,956	$75,977	$67,018	$57,609	$65,708	$74,564	$90,811	$81,649	$72,813

Notes: Many institutions overlap categories. The number of institutions is the number with mobility coefficients.

2004, X_{ij} is an independent variable X for characteristic j at institution i in 2004, and ε is an error term.

Our student characteristics:
- Freshman SAT examination mean score (000s)
- *U.S. News & World Report* top 50 dummy
- Percent of undergraduates women
- Percent of undergraduates part-time
- Percent of graduates 25 years of age or older

Our family characteristic:
- Median household income of undergraduates

Our campus characteristics:
- Size measured by fiscal year FTE students (000s)
- Private institution dummy
- Religious institution dummy
- Public institution dummy
- Public flagship institution dummy
- Metropolitan leader institution dummy
- HBCU dummy
- Public regional institution (not an HBCU) dummy
- Average annual faculty salary (000s)
- Percent major expenditures on instruction
- Percent major expenditures on research
- Percent major expenditures on student services
- Expenditures per FTE student on intercollegiate athletics (000s)

Our external characteristics:
- Located in one of the first to twenty-fifth largest metropolitan areas dummy
- Located in one of the twenty-sixth to fiftieth largest metropolitan areas dummy

IV. Empirical Results

Table 3 reports our empirical results. The dependent variable is the 2014 upward economic mobility coefficient described above. We focus on explaining campus variations in this mobility coefficient. Because the Opportunity Insights (2022a) data deal with students born in 1980, 1981, and 1982, most of them pursued baccalaureate degrees between 1998 and 2008. We take the midpoint year of that time span, 2004, as the year in which we record the individual characteristics that impact the campus economic mobility coefficients that we subsequently observe in 2014.

Ceteris paribus, we find institutional upward economic mobility to be highest among students attending HBCUs and large public urban institutions, those that spend less heavily on intercollegiate athletics, and those that are larger in size and pay their faculty more. Campus demographics are not important once factors such as SAT scores and family incomes are taken into consideration.

Faculty salaries (which function as a proxy for total institutional expenditures) make a difference until taking account of the distribution of student majors. Institutions that graduate lower proportions of teacher education majors

Table 3—The Determinants of Campus Upward Economic Mobility

Variables	Coefficients and SE
Independent sector dummy	0.6134
	(0.1745)
U.S. News top 50 dummy	−0.5071
	(0.2219)
Religious dummy	−0.1238
	(0.1480)
Flagship dummy	0.1420
	(0.2675)
Metro leader dummy	0.4001
	(0.2110)
HBCU dummy	0.5442
	(0.2525)
Largest metro dummy	0.7849
	(0.1478)
Medium metro dummy	0.1286
	(0.1735)
Campus size in FTE (000s)	0.0172
	(0.0088)
Average annual faculty salary (000s)	0.0240
	(0.0054)
Percent expenditures on instruction	−0.0071
	(0.0073)
Percent expenditures on research	0.0036
	(0.0082)
Percent expenditures on student services	−0.0036
	(0.0019)
Athletic expenditures per FTE (000s)	−0.1047
	(0.0427)
Freshman SAT examination mean score	−0.9344
	(0.8005)
Median household income of students (000s)	−0.0210
	(0.0037)
Percent undergraduates women	−0.0040
	(0.0050)
Percent undergraduates part-time	−0.0006
	(0.0089)
Percent undergraduates 25+ years old	−0.0012
	(0.0077)
Constant	4.1140
	(0.9741)

Notes: Dependent variable = upward mobility coefficient in 2014. $F = 17.85$, R^2 adj. = 0.388. Standard errors are in parentheses and are White (1980) standard errors.

(and higher proportions of engineers) exhibit increased upward economic mobility. Ceteris paribus, we estimate that a 10 percent increase in engineering graduates will increase the typical institution's upward economic mobility coefficient by 0.32.

An especially interesting finding is that upward economic mobility is negatively related to institutions' spending per FTE student on intercollegiate athletics. Our estimate is that a $1,000 increase per FTE student in spending on intercollegiate athletics reduces the representative institution's upward economic mobility coefficient by 0.1047.

As expected, the estimated coefficients on the median household income variable are negative and significant statistically. Campuses that admit large proportions of students who already come from higher-income households have less room to move them upward.

With respect to institutional mission and status, only HBCUs emerge as a consistent positive influence. Holding other things constant, the median upward economic mobility coefficient is 0.866 to 1.17 higher at an HBCU than at the typical institution. Once family incomes and SAT scores are given consideration, elite private campuses hold no mobility advantage over other institutions.

The specific demographics of a student body are not critical determinants of their subsequent upward economic mobility. However, graduation from an institution located in one of the nation's 25 most populous metropolitan regions confers an estimated 0.79 increase in an institution's upward mobility coefficient. Presumably, this advantage relates to postgraduation job opportunities.

V. Conclusion

HBCUs generate more upward economic mobility than independent institutions, independent institutions considered elite, public flagships, large public metropolitan campuses, regional public colleges and universities, and institutions with an identifiable commitment to religion. This provides additional evidence of the distinctive and positive roles that HBCUs fulfill in the United States.

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