

**COLLEGES AND UPWARD ECONOMIC MOBILITY:
THE DISTINCTIVE CONTRIBUTION OF HBCUs**

James V. Koch and Omari H. Swinton*

Relying on a panel of more than six hundred four-year colleges (including 49 HBCUs), we show that HBCUs as a group outperform other major classes of institutions (for example, flagship state universities) in generating upward economic mobility for their graduates.

There is general agreement that American society has become increasingly stratified in economic terms (Opportunity Insights, 2022). 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 Project (2022) 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 Georgetown University’s Center on Education and the Workforce (2022) and the 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, 2022). Accordingly, we control for both the median incomes of student households and average campus Scholastic Aptitude Test (SAT) scores.

* James V. Koch, Department of Economics, Old Dominion University, Norfolk, VA 23529, jkoch@odu.edu; Omari H. Swinton, Department of Economics, Howard University, Washington, DC 20059, oswinton@howard.edu.

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 in considering both.

Table 1 demonstrates our approach using Opportunity Insights data that focus on the students born in 1980-1982 at various types of institutions (including HBCUs), and who subsequently matriculated on a selection of campuses. 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 (Q5) highest 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) multiplies the product of the values in columns (2) and (3) by one hundred to obtain our economic mobility coefficient.

Column (2) of Table 1 reveals that 70.24 percent of students who came to Virginia Tech from the lowest (Q1) income quintile subsequently enjoyed incomes in 2014 that placed them either in the Q4 or Q5 quintiles 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 the Q1 income quintile. Thus, even though Virginia Tech did well by the 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 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

Table 1

Contrasting Upward Economic Mobilities on Illustrative Campuses

(1) <u>Institution</u>	(2) <u>Percent of Students Who Progress from Q1 to Q4 or Q5 Income Quintile</u>	(3) <u>Percent of Students from Q1 Income Quintile</u>	(4) <u>Economic Mobility Coefficient</u>
California S U Sacramento	63.73%	10.45%	6.66
Dartmouth C	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 S U	32.31%	23.12%	7.47
Averages 423 Four-Year Public Institutions	49.42%	10.80%	4.98
Averages 715 Four-Year Independent Institutions	53.50%	6.86%	3.40

Source: Opportunity Insights (2022), *mrc_table2*.

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” (Harris, 2021). 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:

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).

(1) student characteristics, including academic majors and SAT scores; (2) family characteristics, including family incomes (3) campus circumstances, with special focus on institutional missions and internal resource allocation; and (4) campus location.

Table 2

	<u>All</u> (n = 625)	<u>All Independent</u> (n = 360)	<u>Independent U.S. News Highly Ranked</u> (n = 86)	<u>All Public</u> (n = 265)	<u>Flagship</u> (n = 76)	<u>Metro Leader</u> (n = 48)	<u>HBCU</u> (n = 49)	<u>Regional Public</u> (n = 115)
Mobility Coefficient (FY 2014)	3.07	2.78	2.58	3.69	2.62	4.31	8.58	3.27
FTE Student Size (FY 2013)	4,930	2,492	6,932	12,523	24,554	22,895	3,201	9,426
Household Income (FY 2013)	\$51,726	\$60,998	\$69,208	\$38,475	\$49,664	\$34,236	\$23,084	\$40,942
Average SAT (FY 2013)	1089	1118	1357	1049	1157	1064	859	1028
Percent Undergrad (FY 2013)	83.79%	88.88%	68.17%	82.94%	77.02%	81.61%	87.55%	85.92%
Percent Women (FY 2013)	55.57%	55.97%	51.68%	55.18%	51.23%	54.91%	59.93%	56.79%
Percent 25 Years+ (FY 2013)	10.71%	6.77%	1.33%	15.74%	8.74%	19.59%	17.03%	16.92%
Percent Part-Time (FY 2013)	8.19%	4.65%	1.50%	15.32%	10.19%	18.58%	9.28%	15.60%
Average Faculty Salary (FY 2013)	\$90,999	\$89,667	\$141,917	\$92,520	\$115,650	\$101,714	\$76,487	\$95,593
Six-Year Graduation Rate (FY 2013)	58.00%	64.00%	87.11%	51.24%	66.11%	53.29%	36.76%	50.41%
Percent Graduates in Education (FY 2013)	6.35%	5.52%	0.72%	7.47%	4.67%	6.83%	5.88%	8.64%
Percent Graduates in Engineering (FY 2013)	1.64%	.00%	6.44%	4.18%	8.98%	5.50%	2.17%	1.94%

Sources: United States Department of Education, Integrated Post-Secondary Education Data System (2022a) for all variables except percent of graduates which comes from the United States Department of Education, College Scorecard (2022b).

III. THE DATA, OUR ESTIMATING MODEL AND THE VARIABLES

Our base data set consists of annual observations (2004 through 2020) of 625 four-year accredited colleges and universities, 360 of whom are independent (private) and 265 public. Among the independents, eighty-six institutions were ranked by *U.S. News and World Report* among the top fifty independent national universities or independent national liberal arts colleges. Among the publics, seventy-six are flagships, while forty-eight are large metropolitan institutions (though not flagships). HBCUs (32 public, seventeen private) account for forty-nine institutions, while 109 are predominantly regional public institutions.

We estimate the following:

- (1) $M_i = \alpha + \beta_1 X_{ij} + \dots + \beta_n X_{in} + \epsilon$ where M_i = mobility coefficient for institution i in 2014, α = constant term, β = estimated regression coefficient for $j = 1 \dots m$ characteristics at $i = 1 \dots n$ institutions in year 2004, X_{ij} = independent variable X for characteristic j at institution i in 2004, and ϵ is an error term.

Our student characteristics are:

SAT = mean campus SAT score

WOMEN = percent of women undergraduate students

PARTTIME = percent of undergraduates who are part-time students

25+YEARS = percent of undergraduates 25 years of age or older

Our family characteristics are:

MEDINC = median income of the student's household

Our campus characteristics are:

SIZE = fiscal year student FTE

INDEPENDENT = dummy indicating independent institution dummy

USNEWS = dummy indicating institution ranked in Top 50 independent national institutions *or* the Top 50 independent national liberal arts colleges

PUBLIC = dummy indicating institution is public

FLAGSHIP = dummy indicating flagship status within its home state

METROLEADER = dummy indicating a large, influential public institution located within a metropolitan region

HBCU = dummy indicating an historically Black college and university

REGIONAL = dummy indicating a predominantly regional public institution

FACSalary = average academic year salary of full-time full professors

INSTRUCTPCT = percent of major campus expenditures on instruction

RESEARCHPCT = percent of major campus expenditures on research

STUDSERVPCT = percent of major campus expenditures on student services

ATHLETICSFTE = athletic expenditures per FTE student

PCTCOMPUTER = percent of graduates in computer science

PCTEDUCATION = percent of graduates in teacher education

PCTENGINEERING = percent of graduates in engineering

PCTBUSINESS = percent of graduates in business

Our external characteristics are:

LARGEMETRO = Institution located in one of the 25 largest metropolitan regions in the United States (by population)

MEDIUM METRO = Institution located in one of the metropolitan regions ranked 26th through 100th in size (by population)

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 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; among institutions that spend relatively more on student services as opposed to instruction or research; among those that spend less heavily on intercollegiate athletics; and among those that graduate larger proportions of engineering majors but lower proportions of teacher education students.

Faculty salaries (which function as a proxy for total institutional expenditures) make a difference until takes account of the distribution of student majors.² Institutions that graduate lower proportions of teacher education majors (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 .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 student FTE increase in spending on intercollegiate athletics reduces the representative institution's upward economic mobility coefficient by .102 to .135.

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 .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.

² But the cost of including student majors as predictors is the loss of 189 institutional observations.

Ceteris paribus, independent institutions do a better job than the generic public institution in launching the economic progress of their students upward. While the unadjusted median upward economic mobility coefficient of public institutions as a group is higher than that of private institutions (3.69 versus 2.78), this advantage evaporates when control variables are introduced.

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 twenty-five most populous metropolitan regions confers an estimated .66 to .79 increase in an institution's upward mobility coefficient. Presumably, this advantage relates to post-graduation job opportunities.

Table 3
The Determinants of Campus Upward Economic Mobility
Dependent Variable = Upward Economic Mobility Coefficient in 2014

(1) <u>Variables</u>	(2) <u>Coefficients and Standard Errors</u>	(3) <u>t- Statistic</u>	(4) <u>Coefficients and Standard Errors</u>	(5) <u>t- statistic</u>
CONSTANT	8.0933 (1.1165)	7.25	7.3630 (1.3791)	5.34
SIZE (000s FTE, 2004)	.0118 (.0117)	1.01	.0133 (.0123)	1.08
INDEPENDENT	.3510 (.1985)	1.77	.5169 (.2614)	1.98
USNEWS	-.4207 (.2763)	-1.52	.0329 (.3156)	.10
RELIGIOUS	-.0256 (.1813)	-.14	-.0195 (.2353)	-.08
FLAGSHIP	-.3377 (.3105)	-1.09	-.2904 (.3108)	-.93
METROLEADER	.1254 (.2811)	.45	.4930 (.3037)	1.62
HBCU	1.1718 (.3360)	3.49	.8657 (.3808)	2.27
SAT (000s, 2004)	-.0010 (.0009)	-1.20	-.0011 (.0010)	-1.14
MEDINCOME, 2004	-.0332 (.0053)	-6.30	-.0374 (.0060)	-6.26
FACSALARY (000s, 2004)	.0096 (.0041)	2.34	-.0026 (.0055)	-.48
PCTINSTRUCT, 2004	-.0152 (.0058)	-2.48	.0003 (.0128)	.02
PCTRESEARCH, 2004	-.0007 (.0058)	-.12	.0184 (.0129)	1.42
PCTSTUDSERV, 2004	.0179 (.0076)	2.34	.0302 (.0180)	1.68
ATHLETICSFTE (000s, 2004)	-.1021 (.0466)	-2.19	-.1350 (.0473)	-2.85
PCTWOMEN, 2004	-.0255 (.0099)	-2.57	.0009 (.0121)	.07
PCTPARTTIME, 2004	.0065 (.0124)	.53	-.0109 (.0130)	-.84
PCT25+, 2004	.0012 (.0103)	.12	.0034 (.0111)	.31
LARGEMETRO	.7917 (.2133)	3.71	.6591 (.2706)	2.44
MEDIUMMETRO	.0298 (.1927)	.15	.0617 (.2557)	.24
PCTCOMPUTER, 2004			.0065 (.0304)	.21
PCTEDUCATION, 2004			-.0429 (.0195)	-2.20
PCTENGINEERING, 2004			.0319 (.0132)	2.42

PCTBUSINESS, 2004			.0044 (.0118)	.37
F = 18.55	R ² adj. = .392	n = 519	F = 10.91	R ² adj. = .409
				n = 330

Standard errors are in parentheses and are White (1980) standard errors.

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.

REFERENCES

- Caplan, B. (2018). *The Case Against Education*. Princeton: Princeton University Press.
- Georgetown University. (2022). Center on Education and the Workforce. “Ranking 4,500 College by ROI,” accessed July 29, 2022, <https://cew.georgetown.edu>.
- Hardy, P, E. Kaganda and M. Aruguete. (2019). “Below the Surface: HBCU Performance, Social Mobility, and College Ranking,” *Journal of Black Studies*, 50 (July), 468-83.
- Harris, A. (2021). *The State Must Provide: Why America's Colleges Have Always Been Unequal—and How to Set Them Right*. New York: Harper Collins.
- Koch, J. and Swinton, O. (2022). *Vital and Valuable: The Relevance of HBCUs to American Life and Education*. New York: Columbia University Press, forthcoming.
- Opportunity Insights. (2022). “What We Do” and Data Library, *mrc_table2*. Accessed July 1, 2022. <https://opportunityinsights.org>.
- Roman, I., W. Wood, and S. Niederjohn. (2021). “Higher Education and Economic Mobility: Who Punches Above Their Weight?” *Atlantic Economic Review*, 49(September), 317-19.
- Third Way. (2022). “A New Approach to Rating Institutions of Higher Ed: Upgrading the Economic Mobility Index.” Accessed July 1, 2022. www.thirdway.org/blog/a-new-way-of-rating-institutions-of-higher-ed-upgrading-the-economic-mobility-index.
- United States Department of Education. (2022a). Integrated Post-Secondary Education Data System accessed July 1, 2022, [The Integrated Postsecondary Education Data System](#).
- United States Department of Education. (2022b). College Scorecard. Accessed July 1, 2022. [College Scorecard | College Scorecard \(ed.gov\)](#).
- White, H. (1980). "A Heteroskedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroskedasticity," *Econometrica*, 48(4), 817–838.

