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Higher Education & Economic Mobility in Nevada

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HIGHER EDUCATION & ECONOMIC MOBILITY IN NEVADA

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Prepared by: Ember R. Smith, Caitlin J. Saladino, & William E. Brown, Jr.

PURPOSE

Using methods from both the Opportunity Insights Project and the Brookings Opportunity Engines Project, this fact sheet examines Nevada's public higher education system and attempts to measure the success of these institutions in creating economic mobility opportunities for lower- and middle-income students. Only colleges with over 200 students from each of the 1980-1982 birth cohorts are included in the Brookings Opportunity Engine's analysis. This fact sheet follows suit and focuses on only those in Nevada: University of Nevada, Reno (UNR); University of Nevada, Las Vegas (UNLV); Truckee Meadows Community College (TMCC); College of Southern Nevada (CSN); and Western Nevada College (WNC).

KEY FINDINGS

1. Both UNLV and UNR are among the top 25% of colleges in the nation in moving students from the bottom income quintile to the top income quintile of post-degree earnings.
2. A large majority of students at both UNLV (62.19%) and UNR (70.75%) originate from families in the top 40% of the income distribution.
3. After graduating, 17% of students at UNLV and 14% of students at UNR advanced at least two income quintiles.

ABOUT THE DATA

Higher education plays a key role in promoting upward mobility for students from low- and middle-income families. To better understand how higher education institutions in Nevada contribute to economic mobility, this fact sheet analyzes Nevada public colleges using the framework developed in the Mobility Report Cards report, a product of the Equality of Opportunity Project.¹ Researchers matched federal income tax returns and Department of Education records to measure college attendance, parents' average household incomes for students age 15 to 19, and students' income in their early thirties to measure mobility for each college in the country for students in the 1980, 1981, and 1982 birth cohorts. The data measures income by quintile to show comparative mobility. For example, the original report investigates mobility from the lowest quintile, those in the bottom 20% of the income distribution, to the top quintile, those in highest 20% of the income distribution.

In order to reduce fluctuation in early post-graduation career wages, the dataset measures student incomes in 2014, about 14 years after students graduated college. As a result, mobility measurements are based on a university's performance from about 1998 to 2004 and may not reflect their current performance. Opportunity Insight's dataset and analysis primarily measures social mobility for students starting the bottom fifth of the income distribution who reach the top fifth of the income distribution in the decade following college graduation. To expand on this work, Dr. Sarah Reber and Chenoah Sinclair of the Brookings

¹ Raj Chetty, John Friedman, Emmanuel Saez, Nicholas Turner, & Danny Yagan, "Mobility Report Cards: The Role of Colleges in Intergenerational Mobility," December 2017, *Opportunity Insights* (opportunityinsights.org/paper/mobilityreportcards/).

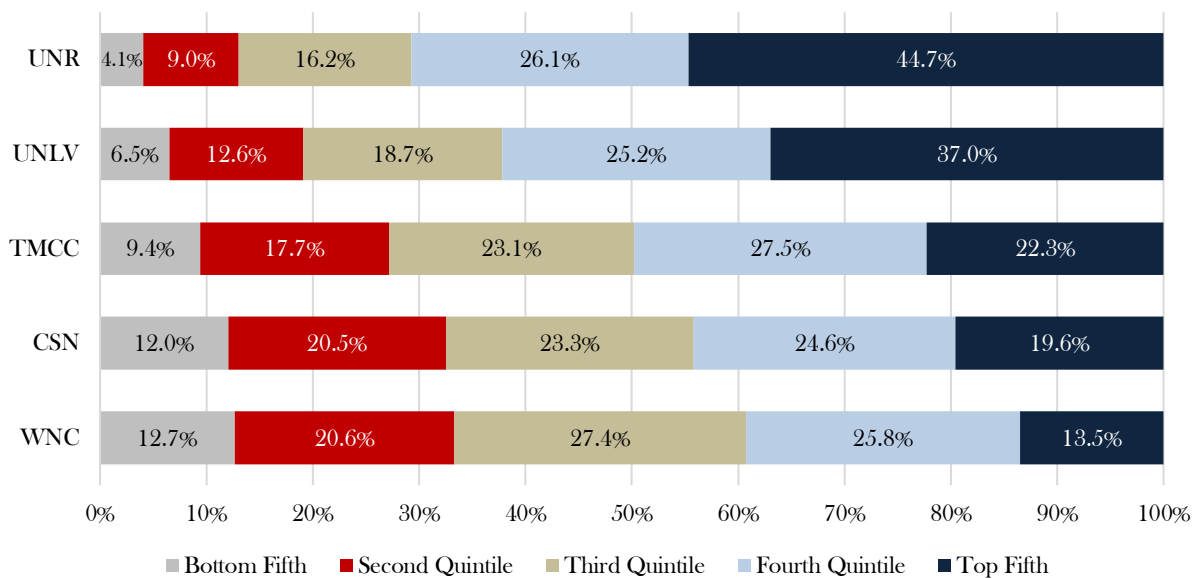
Institution investigate “Middle-Class Mobility”² by measuring the net upward mobility of college students from the middle 20% of the income distribution. Reber and Sinclair also account for the mobility of students that did not attend college and for *any* upward and downward movement, rather than focusing primarily on movement into the top fifth as does the Opportunity Insight Project. This fact sheet incorporates both “Bottom-to-Top” and “Middle-Class” mobility rates with themes in Richard Reeves’ analysis of upward mobility in the Mountain West.³

HIGHER EDUCATION ACCESS AND MOBILITY IN NEVADA

Before discussing the impact of college on mobility, it is important to recognize differences in access to higher education institutions. Students that attend college are disproportionately well-off, especially at selective four-year institutions like UNLV and UNR. Figure 1 shows the distribution of parental income for the 1980-1982 birth cohorts in Nevada colleges by parent income quintile.

Although outcomes are similar once students graduate, access to college varies greatly with parents’ income. A large majority of students at both UNLV (62.19%) and UNR (70.75%) originate from families in the top 40% of the income distribution. Even among two “selective public” universities in the same state, parents’ income distribution differs substantially; median parent income at UNR is \$103,500 compared to \$90,400 at UNLV.

Figure 1: Distribution of Parental Income, by Nevada Public Higher Education Institution⁴



After understanding the income distribution of students at each college, we can evaluate their mobility. Table 1 shows Nevada public college student outcomes given their parents’ income. The leftmost column indicates

² Sarah Reber & Chenoah Sinclair, “Opportunity Engines: Middle-Class Mobility in Higher Education,” May 2020, *The Brookings Institution* (www.brookings.edu/wp-content/uploads/2020/05/Opportunity-Engines_Final.pdf).

³ Richard Reeves, “Upward Mobility in the American Mountain West,” 2018, *Brookings Mountain West* (digitalscholarship.unlv.edu/brookings_pubs/48).

⁴ Note: Nevada State College opened in 2002 (birth cohort of 1984), so the values in the original dataset were imputed based on the inaugural class. Because the class size was small and the college was brand new, it is excluded from this analysis. Great Basin College also had fewer than 200 students from the 1980 birth cohort and was also excluded from the analysis.

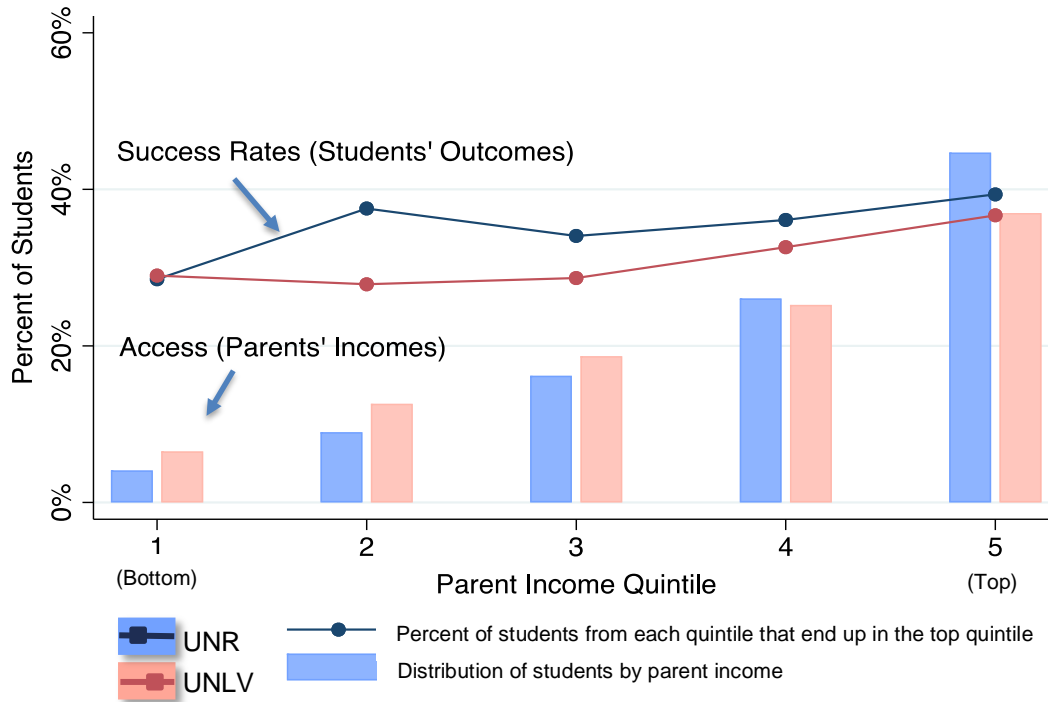
parents’ (starting) income quintile and the column immediately to its right indicates students’ (ending) income quintile given their parents’ income. For example, of all students from families in the bottom fifth of the income distribution at UNLV, 28.98% landed in the top fifth of the income distribution. Conditional income data is helpful to see which colleges most effectively influence upward economic mobility for people of different economic backgrounds. Importantly, this table does not include the number of students enrolled at each college, which plays a key role in determining which institutions have the “largest” impact on mobility.

Table 1: Mobility by Quintile - Nevada Public Colleges

			CSN	TMCC	UNR	UNLV	WNC
Student Quintile Given Parent Quintile	Parent Q1 (Bottom)	1	20.56%	18.96%	12.11%	18.12%	26.69%
		2	22.36%	24.03%	13.98%	12.32%	25.70%
		3	23.53%	22.74%	17.84%	17.86%	20.68%
		4	21.02%	22.71%	27.56%	22.72%	17.36%
		5	12.53%	11.56%	28.51%	28.98%	9.56%
	Parent Q2	1	18.49%	17.34%	9.82%	10.56%	24.58%
		2	19.32%	23.86%	13.26%	14.18%	19.04%
		3	23.65%	23.84%	17.74%	17.50%	23.36%
		4	23.29%	19.79%	21.62%	29.89%	21.68%
		5	15.25%	15.17%	37.56%	27.87%	11.34%
	Parent Q3	1	16.30%	14.04%	10.75%	13.29%	18.95%
		2	18.68%	18.65%	11.05%	12.43%	19.07%
		3	23.42%	24.89%	16.71%	17.28%	26.45%
		4	24.43%	24.99%	27.44%	28.34%	20.80%
		5	17.18%	17.43%	34.05%	28.67%	14.73%
	Parent Q4	1	17.47%	14.50%	9.19%	11.99%	18.52%
		2	16.96%	16.89%	12.96%	12.80%	15.66%
		3	22.13%	23.02%	14.14%	16.37%	22.57%
		4	24.99%	24.86%	27.63%	26.23%	27.98%
		5	18.45%	20.73%	36.09%	32.61%	15.27%
	Parent Q5(Top)	1	17.43%	12.77%	9.55%	12.63%	14.87%
		2	18.37%	21.12%	9.94%	12.06%	21.51%
		3	21.21%	18.41%	14.65%	14.62%	21.90%
		4	21.81%	23.55%	26.51%	24.01%	21.06%
		5	21.17%	24.15%	39.35%	36.68%	20.65%

Figure 2 combines key information from Figure 1 and Table 1. The bars represent the percentage of students from each parent quintile at UNLV and UNR like in Figure 1. For example, 44.69% of UNR students and 36.97% of UNLV students had parents in the top fifth of income earners. The overlaid line graph shows conditional information similar to that displayed in Table 1; each point reflects the percentage of students from each quintile that made it to the top fifth of income earners after graduation (highlighted in blue in Table 1). For example, of the 8.96% of UNR students with parents in the second to bottom fifth of the income distribution (blue bar), 37.56% end up in the top fifth of the income distribution (blue line).

Figure 2: Top Quintile Mobility, UNLV and UNR

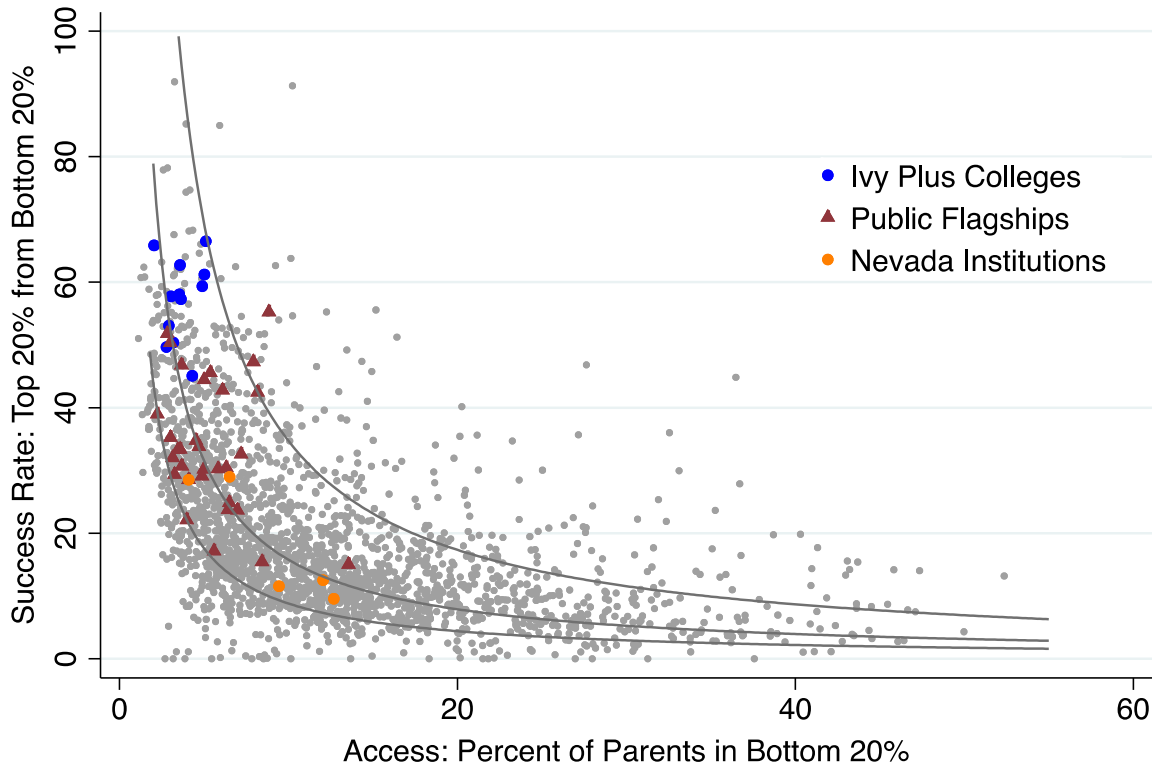


The Equality of Opportunity report suggests that graduates from the same school, regardless of their parents’ income, have approximately similar odds of ending up in the highest 20% of the income distribution. UNLV and UNR reflect this trend, visible by the relatively flat lines representing the percentage of people in the top 20% of income earners for both UNLV and UNR. Students from households in the top fifth of the income distribution at UNR will end up in the top fifth of the income distribution only 10.8 percentage points more often than their peers from families in the bottom fifth of the income distribution. For UNLV students, that figure is 7.7 percentage points.

Figure 3 highlights Nevada’s performance compared to other colleges in the U.S. by showing the access and mobility of each institution. The vertical axis shows the percentage of children with parents in the bottom fifth of the income distribution that reach the top 20% of the income distribution after graduation. This metric represents “Bottom-to-Top Mobility” by showing the portion of students that come from a low-income background that end up as high-income earners after college. The horizontal axis shows accessibility as the percentage of parents at each college in the bottom 20% of the income distribution.

The further left the data point, the fewer low-income students found at that school. The higher the data point is, the greater the mobility of the students with parents in the bottom 20% of the income distribution. Figure 3 displays all colleges in the sample but highlights a few specific categories for comparison. “Ivy plus” colleges include a handful of elite universities; public flagships include schools like UC Berkeley and UT Austin; and Nevada public colleges include UNLV, UNR, CSN, WNC, and TMCC.

Figure 3: Bottom-To-Top Mobility & Access, All U.S. Colleges



Of the 6.51% of UNLV’s students with parents in the bottom fifth of the income distribution (the University’s “access”), 28.98% advance to the top fifth of the income distribution (“success”). Of the 4.09% of the UNR student population with families in the lowest 20% of income earners, 28.41% rise to the top fifth.

As Reber and Sinclair observed, the tools used to analyze and describe mobility modelled in Figure 3 only reflect the extreme success of those that move from the bottom fifth of the income distribution to the top, even though the overwhelming majority of students in college (95.91% at UNR and 93.49% at UNLV) are not from the bottom 20% of the income distribution.

Table 2 follows Reber and Sinclair’s methods to calculate an adjusted bottom-to-top mobility rate and an adjusted middle-class mobility rate. The Bottom-to-Top Mobility rate⁵ accounts for the portion of students at each college that move from the bottom to top quintile. The Middle-Class Mobility rate⁶ measures the net performance of students from the middle 20% of the income distribution at each school. For example, 11.24% is the net upward mobility for third-quintile students attending UNLV compared to those that did not

⁵ The Bottom-to-Top Mobility rate accounts for the portion of students from households in the bottom fifth of the income distribution and their “success rate” measured by the portion that make it to the top fifth of the income distribution. Calculations are based on those in the “Opportunity Engines” report. Adjustments: Bottom-to-Top Mobility rate subtracts 3.9 percentage points to account for the average person from the bottom that did not go to college and ended up in the top quintile.

The Bottom-to-Top Mobility rate = (Percent of parents from bottom quintile) * [(percent of students with parents in the bottom quintile that end up in the top quintile)-0.039]

⁶ The Middle-Class Mobility rate measures the net performance of students from the middle 20% of the income distribution, meaning that it accounts for downwardly mobile students as well as the upwardly mobile. The Middle-Class Mobility rate adds 28.9 percentage points to account for the average downward mobility of people from the middle quintile that did not attend college. The Middle-Class Mobility rate = (Percent of parents from the middle quintile) * [(percent of students with parents in the middle quintile that end up in the a higher quintile, either 4th or 5th) - (percent of students with parents in the middle quintile that end up in a lower quintile, either 1st or 2nd) + 0.289]

attend college and 1.63% represents the portion of UNLV students that made it from the bottom income quintile to the top, with an adjustment for people that did not attend college.

Table 2: Bottom-To-Top and Middle-Class Mobility Rates

Institution	Middle-Class Mobility Rate	Bottom-to-Top Mobility Rate
University of Nevada, Las Vegas	11.24%	1.63%
University of Nevada, Reno	11.11%	1.01%
<i>U.S. Median</i>	9.58%	1.14%
Truckee Meadows Community College	8.90%	0.72%
College of Southern Nevada	8.28%	1.04%
Western Nevada College	7.24%	0.72%

For Middle-Class Mobility, both UNLV and UNR perform above the median compared to all colleges in the U.S., with rates in the top third of the sample; TMCC, CSN, and WNC perform in the bottom half of colleges in the country. UNLV also ranks in the top third of U.S. colleges for Bottom-to-Top Mobility while the remainder of Nevada institutions rank in the bottom half. Both rates represent the combination of the differences in the type of student attending each school and the impact of the college itself compared to an average student that did not attend college.

Colleges play a key role in the upward mobility of students from middle- and lower-income families, but not all colleges provide the same opportunity for those students to succeed. Understanding outcome disparities, especially in terms of access, will play a critical role in adapting colleges to suit the needs of students seeking upward mobility.