



Is College Worth the Investment?

By Mark Schneider

As the cost of higher education rises, more and more students are struggling over the decision to attend college. But they now have help from PayScale.com, which recently released data on the return on investment (ROI) from over five hundred colleges and universities. This Outlook interprets the data using Barron's selectivity categories, revealing that ROI increases as colleges become more selective and that the ROI from public colleges and universities tends to be higher than from private ones. It also compares individual colleges within each level of selectivity, which can help students see where their investment in higher education may have a better return. But while the PayScale data represent a promising beginning, students still lack information about many colleges and individual degree programs. Going forward, we need to find ways to make these detailed ROI data available for more schools and help students make worthwhile investments of their time and money.

For many years, I ran the political science department's graduation ceremony at the State University of New York–Stony Brook, where I was chair. Because political science was a popular major, these events attracted hundreds of parents. I tried many of the usual nostrums that pepper commencement speeches, but over time I found that the line parents appreciated best (and which made the graduating seniors blanch the most) focused on the economic returns from a college education. Addressing the graduates, I would say something like this:

Remember all those years when people kept telling you that college education was a great investment? Well, now is the time to test that advice. Until today, your parents looked at you as an investment opportunity. Now they look at you as a profit center.

While I always emphasized that the rewards for graduating college were not simply economic, for

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the majority of parents in the audience and for most of the students—many of whom were the first in their families to graduate from college—the monetary reward, not the ability to parse Proust, was the most important motivation for attending college.

I am sure that most of the audience had heard, and probably believed, the much-touted “fact” that a college degree is worth a million dollars. In an earlier *AEI Outlook*, I called this the “million-dollar misunderstanding.”¹ I showed that making

Key points in this Outlook:

- The return on investment (ROI) from a college degree is higher at more selective universities and at public universities.
- Within each level of selectivity, ROI varies widely among individual colleges.
- With many colleges simply not worth the investment, we need to find ways to collect and publish ROI data so students can make better decisions about what college or university to attend.

simple (but necessary) adjustments to the cost of a college degree and applying a conservative discount rate to earnings reduced the million-dollar payoff to something far more modest. In that *Outlook*, using a national data set, I explored differences in the payoff for a college education by college selectivity and by whether the school was private or public. But I was not able to drill down to the campus level to identify which schools outperformed others in turning their graduates into profit centers. Since students earn their degrees from *particular* colleges and universities, individual campus-by-campus differences matter.

Recently released data from PayScale.com provide just that type of information for over five hundred colleges and universities across the nation.² These data are collected from individuals who completed PayScale's online employee survey, which they filled out usually because they were thinking about finding a new job and were interested in learning what an appropriate salary might be. PayScale's data focus only on individuals who have a bachelor's degree (alumni who have gone on to earn higher degrees are not included).

In its recent study, PayScale reported data for almost every institution in the country with more than five thousand students, plus some of the smaller, nationally ranked liberal arts colleges, such as Wesleyan University in Connecticut. For these campuses, PayScale calculated the median and thirty-year work-life earnings. Along with these earnings data, PayScale also calculated an annualized rate of return measuring the monetary payoff for all the time and money a former student (now in the labor market) had invested in college.

PayScale's calculation of the ROI starts by estimating in current dollars the thirty-year work-life earnings of bachelor's-degree holders from each school.³ But we cannot simply use these salaries as the economic payoff for graduating from college without some necessary adjustments; attending college costs both time and money, and the benefits of higher wages must be balanced against these costs. PayScale measures the costs of getting a degree by calculating tuition and fees, the length of time it takes to get the degree (at some schools it takes far longer than at others), and the probability of actually earning the degree (at far too many schools, most students do not graduate at all⁴). Balancing out the earnings estimate with the costs of achieving the degree, PayScale can calculate a rate of return on the investment in any specific college.

There are obvious limits to the PayScale data. It is based only upon alumni from schools that, for one

reason or another, signed on to PayScale and supplied data, and unknown biases likely result from this self-selection process. For some universities, large numbers of alumni may have gone on to earn professional degrees, which would indirectly increase the value of the undergraduate degree, but which would not be captured in the PayScale data, based only on individuals with bachelor's degrees. For other institutions, large numbers of students may not find PayScale's comparative salary analysis worthwhile to consult because they are considering teaching—a profession with fixed salary schedules. In addition, as with any estimate, the values reported are imprecise (PayScale puts the margin of error at around 5 to 10 percent), so schools that are close to each other cannot be distinguished.⁵

For most students, college is as much
an investment strategy as anything else.

How Do Campuses Compare to One Another?

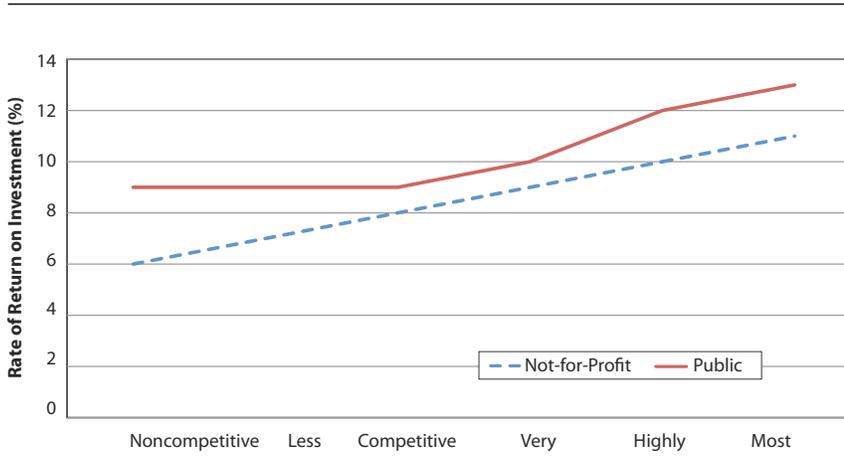
One way to think about how well graduation from a college or university pays off is to compare how individual institutions are doing *relative to other schools* that a student might have attended. Given the highly stratified nature of American higher education, separating campuses using the *Barron's Profiles of American Colleges* classification of school selectivity allows for comparisons that are more “apples to apples” and reflects the choices that students might have been making when considering colleges.

In the following analysis, I use the *Barron's* categories to compare rates of return. I also separate colleges into public and private, not-for-profit sectors—because the costs of attending them vary so widely. Unfortunately, the data set included no for-profit institutions, such as the University of Phoenix or Kaplan University. Figure 1 presents the overall pattern of ROI across schools classified by their status as public or private and by their level of selectivity.

Two patterns stand out. First, in general, attending a more selective school increases a student's payoff. For not-for-profit colleges, this increase is a straight line, rising from an average of 6 percent for the two non-competitive schools in the PayScale data set (Davenport University in Michigan and Mercy College in New York) to an average of 11 percent for the most

FIGURE 1

RATES OF RETURN BY BARRON'S LEVELS OF SELECTIVITY, PUBLIC VERSUS PRIVATE, NOT-FOR-PROFIT COLLEGES AND UNIVERSITIES



SOURCE: PayScale, "Which Colleges Are Worth Your Investment?" available at www.payscale.com/education/average-cost-for-college-ROI (accessed October 5, 2010).

selective not-for-profit schools (California Institute of Technology, Massachusetts Institute of Technology, and Yale University).

Among the public institutions, there is no observed change among the colleges and universities at the three lowest levels of selectivity, which includes noncompetitive campuses, such as the University of Alaska–Anchorage and the University of Nevada–Reno; less competitive campuses, such as New Mexico State University and California State University–Fresno; and competitive ones, such as Texas Tech University and California State University–Long Beach. But ROI does increase among public institutions from that point forward, topping off with the highest average ROIs among the most selective public institutions, such as the University of California–Los Angeles and the University of North Carolina–Chapel Hill.

Second, public institutions have a consistent advantage over private not-for-profits at every level of selectivity. Any wage premium that graduates of private, not-for-profit colleges and universities may earn is not enough, on average, to overcome the high monetary cost of obtaining the degree.

The above findings are based on *averages*, but colleges and institutions, even at the same level of selectivity, vary widely in the quality of education they deliver, the rate at which students graduate, and the tuition they charge. As students consider where to invest their time and money, the *variation* in rates of return is as important as the averages.

The variation among schools at the same level of selectivity is large: campuses with the lowest ROI often have half the return of better-performing schools in the same selectivity group. I illustrate this variation using box-and-whisker charts of rates of return for institutions grouped according to the *Barron's* index. Box-and-whisker charts present an easy-to-grasp visual display of variation within different groups. In figure 2, the few dark "bubbles" indicate extreme outliers, such as Brigham Young University. The boxes themselves span the twenty-fifth to the seventy-fifth percentile—the fatter the box, the greater the variation. The line in the middle of the box marks

the median, and the horizontal lines mark upper and lower "adjacent values" (which show the extent of variation short of the extreme outliers marked by the bubbles).

The wide variation in the rates of return within each category is clearly visible. In figure 2, the competitive category extends from Campbell University in North Carolina (with an ROI of 5 percent) to Howard University in Washington, D.C. (10 percent). Union College in New York tops the highly competitive category, with an ROI that is 5 percentage points higher than the lowest-performing school.

Among public institutions, there is equally dramatic variation (see figure 3). In the nonselective, open-admission category, the range spans the University of Arkansas–Little Rock, with a rate of return of 6 percent, to Kansas State–Manhattan at approximately 11 percent. In the competitive category, in which the majority of institutions fall, the range spans Chicago State, with a rate of return of 6 percent, to California State Polytechnic–Pomona at 12 percent. (See table 2 at the end of this *Outlook* for more detailed data.)

Just as considerable variation exists among ROIs of individual colleges, large variation likely exists among different programs *within* a particular college. Using these linked data sets, ROI could be calculated not only at the campus level, but also at the department or program level. Unfortunately, the country is not yet at this point. The PayScale data set is a unique, national-level starting point to begin the analysis of the returns from a college education.

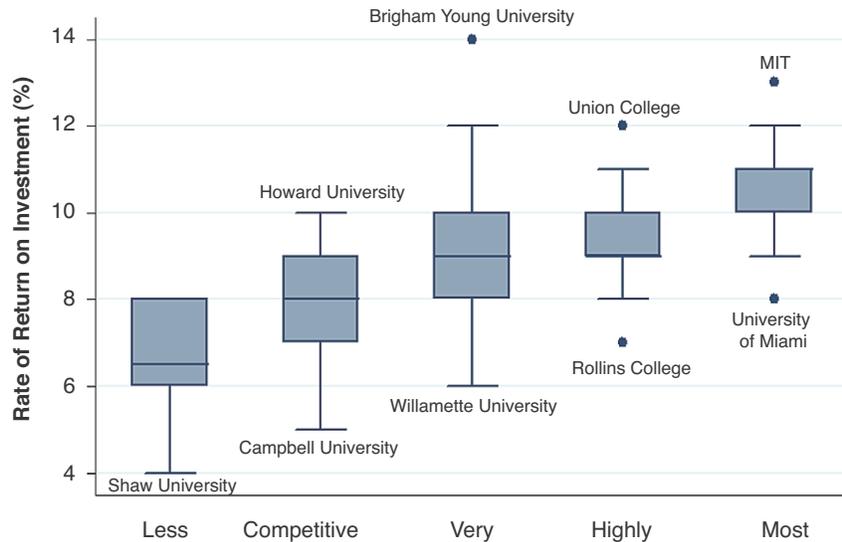
When Is a Return on Investment Good Enough?

One way to judge whether the ROI is worthwhile is to figure out how much it costs students to borrow money to attend a college and compare those costs to the rate of return. Currently, unsubsidized student loans from the federal government carry a 6.8 percent interest rate. This rate is a natural starting point to compare student ROIs; if the rate of return is lower than the cost of the borrowed money, attending that college does not seem like a prudent choice.

Of the schools for which PayScale reported data, seventeen colleges (listed in table 1) fail this basic test. While about half of the colleges are in the two lowest levels of selectivity, an equal number are in the middle, and one is in the “very competitive” category. Twelve are private, not-for-profit institutions, while only five are public institutions, which reflects the higher cost of attending a private institution.

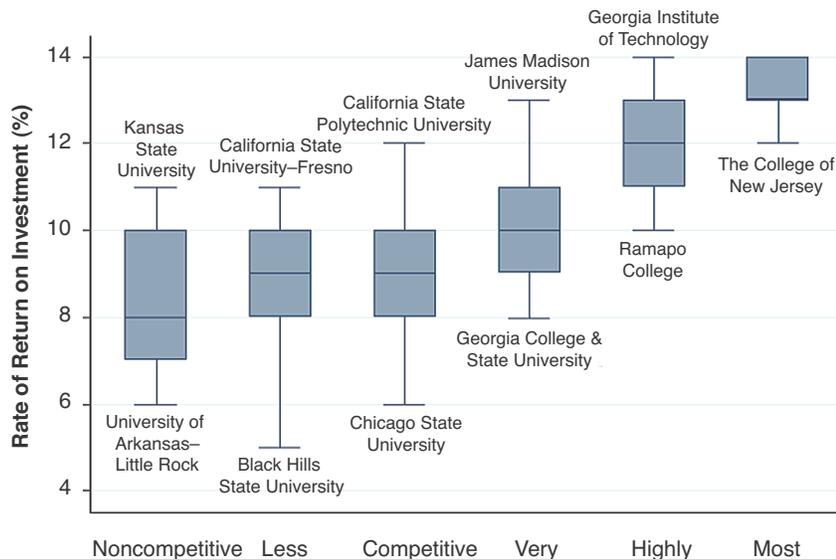
While this analysis sets an absolute threshold keyed to a well-known and published interest rate, other loans that students may take out have higher rates. These private loans have variable interest rates that can reach 9 or 10 percent. Obviously, as we move the cutoff from the 6.8 percent federal-student-loan rate used in the above example to the higher costs for a mix of federal and private loans, the number of schools whose ROIs fail to surpass the cost of money grows quickly. For example, if we set the cost to attend college at 8 percent, over a quarter of the schools in the data set (147 out of 533) fail the test; if

FIGURE 2
RATES OF RETURN ON COLLEGE INVESTMENT,
NOT-FOR-PROFIT COLLEGES AND UNIVERSITIES



SOURCE: PayScale, “Which Colleges Are Worth Your Investment?” available at www.payscale.com/education/average-cost-for-college-ROI (accessed October 5, 2010).

FIGURE 3
RATES OF RETURN ON COLLEGE INVESTMENT,
PUBLIC COLLEGES AND UNIVERSITIES



SOURCE: PayScale, “Which Colleges Are Worth Your Investment?” available at www.payscale.com/education/average-cost-for-college-ROI (accessed October 5, 2010).

we set the cost at 10 percent, then over half (284) have failing ROIs.

TABLE 1
 INSTITUTIONS WITH RETURNS ON INVESTMENT OF LESS THAN 7 PERCENT

Institution	State	Type	<i>Barron's</i> Level of Selectivity
University of Arkansas—Little Rock	Arkansas	Public	Noncompetitive
Davenport University	Michigan	Not-for-Profit	Noncompetitive
Mercy College	New York	Not-for-Profit	Noncompetitive
Cameron University	Oklahoma	Public	Noncompetitive
Black Hills State University	South Dakota	Public	Less Competitive
Shaw University	North Carolina	Not-for-Profit	Less Competitive
Clark Atlanta University	Georgia	Not-for-Profit	Less Competitive
Columbia College	Illinois	Not-for-Profit	Less Competitive
Friends University	Kansas	Not-for-Profit	Less Competitive
Northeastern State University	Oklahoma	Public	Less Competitive
Point Park University	Pennsylvania	Not-for-Profit	Competitive
Chicago State University	Illinois	Public	Competitive
Lindenwood University	Missouri	Not-for-Profit	Competitive
Liberty University	Virginia	Not-for-Profit	Competitive
Saint Ambrose University	Iowa	Not-for-Profit	Competitive
Campbell University	North Carolina	Not-for-Profit	Competitive
Willamette University	Oregon	Not-for-Profit	Very Competitive

SOURCE: PayScale, “Which Colleges Are Worth Your Investment?” available at www.payscale.com/education/average-cost-for-college-ROI (accessed October 5, 2010).

Caveat Emptor

Clearly, a college education should deliver far more than simply economic returns, and I am sure that attending Black Hills State University has many intrinsic rewards. Not everyone can become an engineer, one of the nation’s highest-paying professions, or attend the most selective schools—factors that help explain the high returns for universities such as CalTech and MIT. Rather, most students attend schools that are in the middle of the *Barron's* selectivity scale. Many may struggle between choosing to enroll in a large state college or in a private school with higher name recognition and a more intimate education experience.

Although all of these factors matter, most students are like the ones I taught at Stony Brook. For them, college is as much an investment strategy as anything else. They know that completing a college degree is close to a necessary—if not sufficient—condition for achieving a middle-class lifestyle. And they know that getting that college degree represents a major investment of time and money. For decades, a college education was the second-most-expensive commodity families ever paid for, after their house—and given rising tuition and falling house values, college may now be the most expensive pur-

chase. Knowing how that investment is going to pay off is a critical consideration that should factor into the decision about which school to attend.

In an ideal world, we would not have to rely on data from PayScale; rather, we would have comprehensive data that link college graduation and workforce outcomes. Given the high costs of college and the importance that policymakers, parents, and students place on college as a key tool for improving our workforce and influencing lifetime earnings, federal or state governments should be responsible for collecting and disseminating this type of data.

Indeed, some states have taken up the challenge. Supported by the federal, statewide longitudinal-data-system grant program, a growing number of states are now developing links between student-level data from colleges and unemployment-insurance records.⁶ As these databases grow, they will provide a robust measure of rates of return for many more colleges and universities. This information will help students make more informed choices and will increase market-based accountability, to the extent that campuses with low rates of return face falling enrollment and student concerns about poor performance. But getting that information into the public square will take years. In the meantime, the PayScale

data present some important information that parents, students, and other stakeholders in higher education should consider as they decide where to invest scarce higher-education dollars.

Notes

1. Mark Schneider, "How Much Is That Bachelor's Degree Really Worth?" *AEI Education Outlook* (May 2009), available at www.aei.org/outlook/100034.

2. PayScale, "Which Colleges Are Worth Your Investment?" available at www.payscale.com/education/average-cost-for-college-ROI (accessed September 17, 2010).

3. PayScale, "PayScale 2010 Return on Investment Data Package—Compare College Costs & ROI," available at

www.payscale.com/education/compare-college-costs-and-ROI (accessed September 17, 2010).

4. Frederick M. Hess, Mark Schneider, Kevin Carey, and Andrew P. Kelly, *Diplomas and Dropouts: Which Colleges Actually Graduate Their Students (and Which Don't)* (Washington, DC: AEI, June 2009), available at www.aei.org/paper/100019.

5. *Bloomberg Businessweek* has a state-by-state analysis of the PayScale data. See Francesca Di Meglio, "College: Big Investment, Paltry Return," *Bloomberg Businessweek*, June 28, 2010, available at www.businessweek.com/bschools/content/jun2010/bs20100618_385280.htm (accessed September 17, 2010).

6. See U.S. Department of Education, Institution of Education Sciences, "Statewide Longitudinal Data Systems Grant Program," available at <http://nces.ed.gov/programs/slds> (accessed September 17, 2010).

TABLE 2
**HIGHEST AND LOWEST RETURNS ON INVESTMENT BY BARRON'S SELECTIVITY LEVEL
 FOR PRIVATE NOT-FOR-PROFIT AND PUBLIC COLLEGES AND UNIVERSITIES**

Private, Not-for-Profit		Public	
Level of Selectivity	ROI	Level of Selectivity	ROI
Private, Most Competitive		Public, Most Competitive	
(Average for All Institutions)	11%	(Average for All Institutions)	13%
University of Miami, FL	8%	The College of New Jersey, NJ	12%
Massachusetts Institute of Technology, MA	13%	College of William and Mary, VA	14%
California Institute of Technology, CA	13%	University of Virginia–Main Campus, VA	14%
Private, Highly Competitive		Public, Highly Competitive	
(Average for All Institutions)	10%	(Average for All Institutions)	12%
Rollins College, FL	7%	SUNY at Geneseo, NY	10%
Union College, NY	12%	Ramapo College, NJ	10%
Worcester Polytechnic Institute, MA	12%	University of Pittsburgh, PA	10%
Grove City College, PA	12%	Ohio State University–Main Campus, OH	11%
		Georgia Institute of Technology, GA	14%
		Colorado School of Mines, CO	14%
Private, Very Competitive		Public, Very Competitive	
(Average for All Institutions)	9%	(Average for All Institutions)	10%
Willamette University, OR	6%	Georgia College & State University, GA	8%
Siena College, NY	11%	California Polytechnic State University– San Luis Obispo, CA	13%
Manhattan College, NY	12%	University of Delaware, DE	13%
Brigham Young University, UT	14%	James Madison University, VA	13%
Private, Competitive		Public, Competitive	
(Average for All Institutions)	8%	(Average for All Institutions)	9%
Campbell University, NC	5%	Chicago State University, IL	6%
Liberty University, VA	6%	California State Polytechnic University– Pomona, CA	12%
Point Park University, PA	6%		
St. Ambrose University, IA	6%	Public, Less Competitive	
Lindenwood University, MO	7%	(Average for All Institutions)	9%
Wentworth Institute of Technology, MA	10%	Black Hills State University, SD	5%
Lawrence Technological University, MI	10%	Northeastern State University, OK	7%
Assumption College, MA	10%	California State University–Fresno, CA	11%
Howard University, DC	10%		
Private, Less Competitive		Public, Noncompetitive	
(Average for All Institutions)	7%	(Average for All Institutions)	9%
Shaw University, NC	4%	University of Arkansas–Little Rock, AR	6%
Clark Atlanta University, GA	6%	Cameron University, OK	6%
Columbia College–Chicago, IL	6%	Utah State University, UT	11%
Friends University, KS	7%	University of Wisconsin–Platteville, WI	11%
Dowling College, NY	8%	Kansas State University, KS	11%
Wayland Baptist University, TX	8%		
University of Bridgeport, CT	8%		
Private, Noncompetitive			
(Average for All Institutions)	6%		
Davenport University, MI	5%		
Mercy College–Main Campus, NY	6%		

SOURCE: PayScale, "Which Colleges Are Worth Your Investment?" available at www.payscale.com/education/average-cost-for-college-ROI (accessed October 5, 2010).