

FAQ for College Value-Added Paper

- 1) *What does value-added mean?*
- 2) *Are Payscale and LinkedIn accurate sources of information about alumni?*
- 3) *Why not just rank or rate colleges based on alumni outcomes?*
- 4) *How do these rankings differ from popular college rankings like U.S. News?*
- 5) *How should prospective college students use these data?*
- 6) *What alumni outcomes does this research analyze and why?*
- 7) *Are Payscale and LinkedIn accurate sources of information about alumni?*

1. *What does value-added mean?*

Here, value-added refers to the relative contribution made by schools to alumni economic success. A value-added score of zero means the college's alumni perform no better or worse than average college alumni from schools that grant degrees at similar awards levels to students with similar test scores and demographic characteristics.

It is analogous to the concept of value-added in other areas. In economics, value-added often refers to the difference between the dollar value of output (say, a product like a smartphone) and the inputs (like the cost of materials and production equipment). In K-12 education, value-added refers to the contribution teachers make to student learning.

2. *Does a school with negative value-added harm a student's economic prospects?*

Not necessarily. A negative value-added measure means that the predicted outcomes for alumni success, on a given measure, exceed the actual outcomes. There are many reasons why this could be the case:

- The predicted level of success may be inaccurately estimated, because of imperfections in the model and/or data;
- The actual outcomes may be inaccurately estimated, because of bias in the sample size, or the college may contribute to student economic success on other unmeasured dimensions;
- Even the lowest scoring schools on value-added measures may be contributing substantially to student learning and economic success, just not as much as the average college.

3. *Why not just rank or rate colleges based on alumni outcomes?*

Ranking colleges based only on alumni outcomes biases the results in favor of colleges that admit the students most likely to have favorable post-graduation outcomes, without shedding light on the college's contribution to student success.

Colleges have very different missions and serve diverse populations with varying levels of academic preparation. Value-added measures attempt to account for these differences in order to evaluate colleges on an even playing field. Highly selective research universities admit only the most highly prepared students, as measured by high school grades and admission test scores, while many two-year colleges have open admissions policies, accepting students who struggled to finish high school and have very low test scores. Because, the most prepared students tend to earn higher salaries than the least prepared students, evaluations of college quality should consider student characteristics and adjust predicted outcomes and final ratings accordingly.

4. How do these rankings differ from popular college rankings like U.S. News?

The Brookings value-added measures differ conceptually and empirically in important ways.

The Brookings rankings are less biased by student characteristics. Conventional college rankings consider a range of college characteristics that they consider good or bad and add up performance on these characteristics, using a weighting scheme deemed reasonable by the organization's staff. They do not use value-added measures for their overall measure, though some, like *Money*, use some value-added measures for sub-components of their final rank. As a result, conventional rankings largely reflect the characteristics of students who attend the various colleges and do not shed much light on the college's contribution to student success.

Only the Brookings measures consistently predict better alumni economic outcomes, once student test scores and family income are considered. There is a modestly high correlation between the conventional rankings and the Brookings rankings, but this is largely because students with higher family incomes and test scores tend to go to better schools, using either the conventional rankings or the Brookings value-added rankings.

5. How should prospective college students use these data?

The value-added measures, quality measures, and alumni outcomes, can be used to help decide where to apply and where to attend, but many other considerations are at least as important.

If comparing schools with different admission standards, the value-added measures will be particularly helpful in showing which colleges contribute the most to student success.

For two schools with similar admission standards (or predicted outcomes), comparing the economic outcomes of students may be the most relevant.

There is also useful data here even for colleges missing alumni economic outcomes or value-added data. Schools that score well on STEM orientation, alumni skills, or curriculum value will likely prepare you for a high-paying job, provided you persist through school to complete your degree program. If you are at high-risk of dropping out (your high school grades and test scores were mediocre or worse or you have to work full-time or take care of a child), choosing a college with a high retention and graduation rate may be particularly important, as they suggest that the college is better at helping students finish.

6. *What alumni outcomes does this research analyze and why?*

This study reports and analyzes data on alumni earnings (for those who have worked at least 10 years), student loan repayment rates within three-years after enrollment (a measure of economic self-sufficiency), and occupational earnings power (a measure of career prospects).

These measures were chosen for three primary reasons: they are important to individual and collective well-being; they can be measured with precision; and they are available for a large number of colleges.

Of course, there are other economic outcomes that individuals and elected officials care about, such as the prospects for becoming a great leader, or accomplished artist, scientist, or entrepreneur. All of these are extremely difficult to measure, and it would be easy to mistakenly attribute rare individual accomplishments (like Academy Awards or Nobel prizes) to the institutions they happened to attend.

Educators may be more interested in how well the students acquire knowledge. Presently, however, there are no reliable post-alumni exams administered at a scale wide enough to assess individual colleges, and it would be very difficult to determine what alumni should be tested in or expected to know. The OECD's Programme for the International Assessment of Adult Competencies may be the best candidate exam, but it has not widely administered. Ideally, such an exam would be administered before and after attendance.

Others may prefer to know how alumni contribute to social justice or their likelihood of living good lives. In principle, the method used here could be applied to such outcomes, if they could be measured, but a great many practical limitations make that unlikely.

7. *Are Payscale and LinkedIn accurate sources of information about alumni?*

Yes, with qualifications.

The Payscale data are highly correlated with actual earnings of alumni, as shown through state tax records. Moreover, Payscale national data on earnings by major are highly correlated with data from the U.S. Census Bureau on earnings by major. Bias at the college level, however, could not be determined.

LinkedIn data come from a much larger sample size of users, but there does appear to be a significant bias in favor of higher-paying majors. In other words, people with degrees in high-earning fields like computer science and business are more likely to have created a LinkedIn profile than people with degrees in lower-earning fields like education or blue collar trades. This bias also differs by college, but fortunately, an estimate of this bias could be calculated for each college and is used to adjust predicted earnings in the value-added model. Finally, data from LinkedIn alumni records are highly correlated with administrative data from the Department of Education, suggesting that there is a fairly high level of accuracy in using these data to measure college quality and alumni outcomes.

We conclude that these social media sources provide highly useful information that is not otherwise available to the public or to researchers.