

Jeopardy or Jobs? An Analysis of How to Measure the Value of Higher Education

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Historically, there has been much debate about the true purpose and value of higher education. Is it primarily an avenue for an individual to acquire a well-paying job? Is it a societal benefit? How should the benefits of a college education be measured? There are a number of indices that claim to assess the value of a college degree, for both the individual student and larger society. This paper reviews typical measures concerning the value of higher education, and suggests some potentially important questions about how to assess the overall value of a college degree.

INTRODUCTION

Historically, there has been much debate about the ‘real’ purpose of higher education. During much of the history of the United States, college was essentially reserved for the elite (Leonhardt, 2014). This was partly because the cost of a college education was well beyond the financial means of most people, and was largely funded by the individual and/or the family.

In addition, most jobs in the nation’s history did not require a formal degree. Many high school graduates were able to secure jobs in factory settings, and with a very limited amount of training could earn a family-supporting wage. In 1937, only 15% of Americans held a bachelor’s degree (often referred to as a ‘four year degree’). However, by 2013, more than 60% of jobs required a college degree. For many jobs, such as nursing or engineering, the degree in question had to be in a very specific field. Other jobs had much simpler requirements: you need a bachelor’s degree in something – anything – or you will not even be considered for the job.

Thus, there are competing philosophies sometimes about the nature of higher education. Should it be an experience that is available to everyone? If so, who should pay for it? What should be the endgame - is an investment in education worthwhile in and of itself? Or, should the value of the investment be measured primarily by seemingly objective measures, such as employment rates and income levels?

There is extensive evidence documenting the myriad benefits of higher education. In terms of economic outcomes for the individual student, the reported data is compelling. Baum, Ma, and Payea (2013) note that the median annual income for employees holding a bachelor’s degree were

approximately \$21,000 higher than the median annual earnings for those holding only a high school diploma. Leonhardt (2014) notes that the unemployment rate for those holding a bachelor's degree is significantly lower than that of the general workforce – 6.1% overall, in January of 2014, compared to 3% for college graduates.

Other benefits that appear to accrue based on college completion may be more social in nature. Baum et al. (2013) note that college graduates are much more likely to vote, thus participating in the citizenship process. They are much more likely to regularly read to their children, should they choose to have children. They generally are much healthier, with lower rates of obesity and smoking, and higher rates of physical activity. Also, the ability to acquire a 'good job' generally leads to better access to quality health care. Finally, college graduates are much less likely to be incarcerated (Hayes, 2015). Hayes (2015) notes that in the state of Wisconsin, the annual cost of incarceration is roughly \$56,000 per inmate per year.

Clearly, higher education has significant return on investment for both the individual student and for the economy and society in general. It is, however, an investment. Someone has to pay for it. It could be the individual, and/or the parents. It could be a private donor, in the form of a scholarship. It could be the government, whether it is a grant or funding to a university to help manage the cost of tuition.

Beattie, Thornton, Laden, and Brackett (2013) note that the cost of education – in other words, tuition – has steadily increased, while resources for higher education – particularly in public universities – has steadily decreased. Taxpayers are understandably expecting some measure of 'value-added.' It is, indeed, a 'rock and hard place' scenario. If we – whether individual students, or parents, or taxpayers – are spending money for college, what should be the payoff? How do we measure effectiveness?

Maio (2012) points out that the current fiscal environment in many states has forced many university systems to make difficult decisions about how limited public resources should be spent on higher education. The University of Wisconsin System, for example, is one that will be potentially dealing with very significant cuts. The current governor has proposed a slash in funding and has also proposed eliminating the current rules for faculty governance (Conroy & Shannon, 2015). The venerable 'Wisconsin Idea,' which emphasizes concepts such as 'public service' and 'the search for truth' would be stricken from state law – and state funding priority – and replaced with a vague 'meet the state's needs for a trained workforce.' Both Governor Walker and Scheider (2015) have decried the idea of tenure, and have minimized the value of general education. Kearney (2015) has noted that the governor's priority is clear: abandon 'traditional' college education, and turn the state university into the equivalent of a vocational-technical arrangement.

Baum et al. (2013) use a different framework and different language. Is a college degree valuable because of its contribution to human capital – 'this graduate can get a job and earn money,' – or is the degree important because of 'signaling,' meaning that this degree 'signals' something.

The suggestions about how to measure the effectiveness of education have met with outrage from educators, from the K-12 level to the University of Wisconsin level. It is a hugely important debate. Sparks and Waits (2011) describe the difference between 'traditional' higher education and 'aligned' higher education. The former tends to emphasize the holistic cognitive development Kearney (2015) describes, which focuses on skills such as critical thinking, reading across disciplines, and communication – skills that are essential for career growth and entrepreneurship. Aligned education, on the other hand, focuses primarily on systematic, ongoing collaboration with employers. 'What skills do you need? We'll teach students those skills.' The success of traditional education is typically measured by enrollment, retention, and graduation rates, while the success of aligned education is generally measured by employment rates post-graduation or by contribution to economic growth.

Higher education has long had a mix of liberal arts and science disciplines coexisting with more vocationally and professionally oriented ones such as Business, Engineering or Computer Science. While the latter type of programs would tend to focus more on employers' skill needs than liberal arts, any emphasis a university may place on vocationally-oriented programs doesn't mean that a university would see its mission primarily focused on post-graduation placement rates or contribution to economic growth. What would be the purpose of such a focus? Presumably outcome measures for objectives such as economic growth and post-graduation placement would be used at least in part for making decisions

about financial support for academic programs and for universities in general. Those programs or universities that fail to produce the desired outcomes would be given reduced funding or eliminated, while those contributing to the economic growth and employment deserve greater investment – or at least not cut. Since times are tough, hard choices have to be made when making investments. Although the goals of aligned education could include learning objectives across disciplines, for many universities it comes down in part to allocating resources among disciplines.

MEASURING THE VALUE OF HIGHER EDUCATION

The prior discussion begs the question of how to measure the value provided by higher education. What constitutes ‘value-added’ in terms of anyone’s investment in higher education? What kinds of efficiency and effectiveness measures should be used to assess the investment in higher education?

There are a number of rubrics that have traditionally been used to measure investments in higher education.

- Enrollment Rates: This is a common measure which is often used by higher-level administration, and is also a frequent measure of funding allocation. Enrollment figures can be kept on any number of student demographics, majors, and by freshman through senior standing.
- Persistence Rates: How many enrollees move from one academic level to the next? How many enrollees actually graduate within a given number of years? Is four years the benchmark? Do administrators make room to study the number and/or percentage of students who begin and eventually finish, even if it requires more than four years?
- Employment Rates: Do we simply study how many students have ‘a job’ after earning a bachelor’s degree, or do we examine income level, and the match to the student’s degree? For example, if a philosophy major is hired to manage a restaurant, is that success? You are not a philosopher, but you are gainfully employed.

The above rubrics measure the educational system as if it were a manufacturing system by focusing on the steps involved in transforming raw inputs (new students) into outputs (employed graduates) as indicated below.

Applicants → Freshmen → Sophomores → Juniors → Seniors → Graduates → Employed Graduates

Although these types of measures can be used to assess the strengths and weaknesses of an institution’s production system, the usefulness of enrollment and persistence data for assessing an institution’s value is limited. These measures are good for assessing the efficiency and effectiveness of the production process rather than the value added provided. Even employment rates provide only partial information on the value provided by an institution since they focus on placement directly after graduation. Longer term impacts on graduates and impacts on other facets of their lives besides employment are ignored. In addition to keeping track of employment and pay statistics, getting feedback from alumni and employers to assess a broader set of benefits provided by a higher education should be considered.

Other benefits of higher education may be harder to measure, but just as beneficial over the long term. Hensley, Galiee-Belfer and Lee (2013) note that, in addition to ‘objective’ measures of the value of higher education, a college degree generally means a positive attitude towards work, a sense of confidence, an ability to deal with new problems, the skills to work as part of a team, the ability to communicate, whether in writing or in person, and research skills in a variety of fields. Conroy (2015) points out these skills are essential for the success of an individual, and essential for creation of leadership and new businesses.

The above measures could be used regardless of whether viewed from the standpoint of traditional or aligned views of higher education’s mission. What kinds of measures might be used for aligned higher education? While one could question the goals of aligned education on philosophical grounds, embracing

aligned education still presents the challenge of determining and measuring appropriate impacts. As noted earlier, there is solid evidence regarding higher education's impact in general (Baum, Ma & Payea, 2013; Leonhardt, 2014). The focus on aligned higher education, however, would seem to call for more detail in outcome measurement and increased ability to link specific initiatives and programs with these outcomes. For instance, to the extent that aligned education translates into aligning specific majors with employer needs in certain occupations, outcome measures could include employment rates of graduates by major within these occupations. Choice of outcomes and their measures operationalizes the concept of alignment. Outcome assessment provides the feedback to determine the success of the alignment and would provide the basis for making further changes to improve the alignment.

The challenge with this approach is that the link between specific programs or other initiatives (such as the emphasis on community-based learning at the University of Wisconsin-Parkside) are not straightforward. Although the link between education in vocationally-oriented programs and employment and economic growth makes sense on logical grounds, it may be unwise to discount the potential for other programs to have similar impacts. This negative view of the less vocationally-oriented majors is exemplified when venture capitalist Mark Andreessen said "I'm sure it's fun, but the average college graduate with a degree in something like English is going to end up working in a shoe store" (Cutrone & Nisen, 2012). In other words, softer disciplines are fun but don't lead to good jobs! The same article then goes on to counter this view by providing 31 examples of CEOs of companies such as American Express, Disney and Hewlett Packard who had degrees in "soft" disciplines such as History, Philosophy or English Literature. These examples suggest that a longer-term view needs to be taken when it comes to keeping track of what happens to graduates as they progress through their careers.

Sadove (2014) notes that "liberal arts graduates are more likely to say their college was highly effective in helping them get their first job or get into graduate school than alumni from other types of public and private institutions. Liberal arts graduates also credit their undergraduate experience with helping them develop a broad range of important skills." Although specialized skills from the more vocationally-oriented programs could lead to a quicker start in some functions in organizations, graduates from softer disciplines could outperform their more narrowly trained peers over time due to the skills gain from their liberal arts education. How could universities account for these longer-term and less obvious benefits of the so-called "softer" disciplines? Failing to do so could be short-sighted and could be detrimental in the long run.

GLOBAL IMPLICATIONS

Although this paper primarily focuses on significant issues concerning how to measure the value of higher education in the United States, there are also global implications. Higher education is becoming increasingly more globalized. For example, there is growing mobility of faculty and students crossing national boundaries around the world. Educational institutions are also increasingly comparing themselves with other colleges and universities in different countries and regions (Usher & Medow, 2010). Thus, there is intense competition for top academic talent, particularly faculty, students, and administrators on a global basis.

The funding crisis impacting higher education in the United States combined with debates about the value of a college education and questions about its return on investment could become significantly detrimental to American influence and power in the global arena. At the same time that countries such as China, India, Germany, Sweden, Norway and Finland are making a college education more affordable and accessible for its citizens, students in the United States often face oppressive amounts of indebtedness and many are essentially priced out of an education (College Board, 2014; Taylor, 2012; Usher & Medow, 2010). This is exacerbated by discrepancies and inequities in the funding of American K-12 schools systems that should help prepare students for college. As previously stated, more than 60% of jobs in the contemporary workplace require a college degree and many employers are recruiting college graduates from other countries to fill highly skilled positions in industries ranging from health care to information technology (e.g., Leonhardt, 2014).

Thus, there are significant global implications regarding higher education in the United States that also need to be analyzed when considering the value of a college degree and appropriate measurement rubrics. Indeed, the global competitiveness in the “post-American world” is intensifying as nations and regions jockey for position (Zakaria, 2008). Highly educated citizens are extremely important contributors to a nation’s competitiveness.

CONCLUSION

There are many rubrics to measure the value of higher education. Many of these measures are seemingly objective, but lose sight of the long-term value of a degree including general education. A traditional college degree may have immediate value, but it can also have long-term value for both the individual and society. An investment in higher education can be measured by a variety of metrics, and the simplistic ‘do you have a job upon graduation’ may underestimate the value-added of a college degree. There are also significant global implications that need to be strategically considered.

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