The Supply of American Higher Education Institutions

The American higher education system is the envy of the rest of the world. At the start of the 21st century it is a mixed system of over 3,800 public and private degree-granting institutions. It provides access to higher education for a large proportion of our population. Its diversity is extraordinary. Ronald Ehrenberg, Irving M. Ives professor of industrial and labor relations and economics at Cornell University, looks at the changes taking place in higher education today. He outlines a number of issues where focused research would help guide the strategy and policy decisions that must be made as institutions adapt to the emerging new world of higher education.
The Evolution of the American Higher Education System

American colleges and universities range the spectrum from two-year community colleges that offer vocational degrees to large research universities that undertake research and offer undergraduate, graduate, and doctoral degrees in a wide variety of fields. In the mid-1990s, slightly more than 43 percent of the institutions were public, enrolling about 80 percent of all students. American higher education did not begin as a heavily public system, however. In 1900, only about 20 percent of all American college students were enrolled in public institutions. By 1940 this proportion had risen to almost 50 percent.

The growth in public higher education has been attributed to a number of forces. First, as knowledge and its teaching have become more specialized, the optimal size of higher education institutions has expanded, and research has become increasingly important. Public institutions with state support have been more likely to fill the role of modern research universities, particularly as low tuition levels encouraged students to attend them. Second, the rise of the research institution was accompanied by the demise of the independent professional institution. Additionally, the GI bill, continuing growth in high school graduation rates, and the increase in federal financial aid for students that started in the 1970s have all fueled growth in public sector higher education enrollments. Finally, state appropriations often are explicitly or implicitly tied to enrollment levels at public institutions, providing incentives to expand enrollment.

American higher education is dynamic. The number of institutions newly created in the last 25 years is well over 1,000. The net gain in the total, however, is just about 700, since during the same period roughly 350 campuses closed down. Most of those that closed, as well as those that were created, were small private institutions. Data on changes in the distribution of institutions across Carnegie categories over time suggest that institutions that survive typically remain within a category or move up to a higher one. It is a rare institution that reduces its scope and size and survives.

We do not have a wide base of empirical knowledge about the characteristics of institutions that change classifications and their reasons for doing so. It seems clear that the study of the evolution of institutions is a fertile area of research.

Public Higher Education and State Policies

Higher education in America varies widely across the states in many respects, including:
- the fraction of students educated in public versus private institutions,
- the levels of tuition and support for public institutions,
- the state-wide governance structures for public institutions,
- the proportions of students who enroll from out-of-state,
- the percentages of first-time freshmen who enroll in two-year colleges, and
- admissions policies to the top public institutions in the state.

Limited research has been devoted to examining these variations and their implications. For example, research has shown that the higher the tuition level charged by public institutions in a state, the lower state appropriations appear to be, all other things being equal. Another study, however, found that less state funding for public institutions leads to higher net (after institutional grant aid) tuition revenue, but that tuition revenue does not influence state funding. These differences in results may be due to variances in model specifications, but they also illustrate the difficulty of inferring causation from...
correlation, of teasing out behavioral relationships using cross-section data. This is an area of research that cries out for the use of panel data and the study of changes in key variables over time. Alternatively, the relationship between state appropriations and tuition levels at a single public university using extended time-series data may also be useful.

Regarding out-of-state students, research has shown that they are attracted to high quality institutions, and that the higher the quality, the higher the out-of-state tuition that can be charged. This provides an incentive for administrators to enhance their quality and attract out-of-state students. However, research has also found that states are better off—in terms of the probabilities that students will remain in state and contribute to the state’s economic well-being and tax revenue—when public universities are not selective and restrict out-of-state admissions.

Out-of-state enrollment varies widely, from about 35 to 40 percent at Michigan, Virginia, and Pennsylvania State, to less than 10 percent at Berkeley and less than 20 percent at North Carolina-Chapel Hill. Research is needed to explain these differences across institutions, as well as for single institutions over time.

Finally, in terms of initial enrollment and access, a research topic that has yet to be addressed is why states have chosen to organize in such vastly different ways. For example, in California, approximately 60 percent of first-time, full-time freshmen enroll at two-year colleges, while in other states that figure is closer to just 10 percent. Further, states’ reactions to recent court cases related to affirmative action or racial preferences have led to widely varying admissions policies. A few states guarantee the top “x” percent of high school graduates admission to the state university system; others use methods that involve multiple considerations.

How do these differences in policies affect students from different socioeconomic, ethnic, and racial groups within a state? How are the benefits from state support of higher education distributed across these groups? Research addressing these questions, along the lines undertaken for public higher education in California over 30 years ago, is clearly needed.

For-Profits, Diversification of Revenue, and Distance Learning

There has long been a proprietary, for-profit sector in American higher education. For the most part it consisted of organizations that provided vocational training in programs that lasted relatively short periods of time. Accredited proprietary college and university programs are a more recent phenomenon. In the 1990s, the number of for-profit higher education institutions grew sharply, and institutions such as the University of Phoenix, Devry, and ITT Educational Services now have campuses across the country.

Research has shown that the traditional nonprofit colleges and universities that have the smallest resources to spend per student above their tuition revenue are most vulnerable to threats posed by the growing proprietary sector. Those generally are either private two-year, small private liberal arts, or private comprehensive institutions.

Case studies of how these institutions are reacting to the emerging proprietary sector would be very useful.

Almost all public and private nonprofit higher educational institutions need to diversify their revenue streams. How they do so will depend largely on the nature of each institution and the local conditions it faces. However, we can expect to see continued expansion of master’s programs, continuing and executive education programs, and distance learning offerings, as well as the increased commercialization of research.
Advancements in technology have effectively expanded markets for distance learning, such that institutions can easily extend the reach of their degree programs far beyond their original campuses. Approaches to distance learning vary widely across institutions. Issues much speculated upon, but for which very little hard evidence exists, include whether the strategies being pursued vary systematically with measurable characteristics of the institutions, and whether the institutions most heavily invested in distance learning are the ones that have the greatest financial need to be involved in such activities. Further, while it is still early in the game, research is needed concerning whether institutions that have not moved aggressively into distance learning are at a competitive disadvantage relative to their competitors, or whether they may gain by observing the errors of the “first movers.”

**Conclusion**

While an extraordinary amount of research has been directed toward understanding the behavior of selective private institutions, very little is known about public institutions and how their states interact with them and the private institutions within their borders. Given that the vast majority of American students attend public colleges and universities, the issues those institutions face during this period of transforming change in American higher education clearly warrant serious scholarly attention.

Ronald Ehrenberg is the Irving M. Ives professor of industrial and labor relations and economics at Cornell University. He also serves as director of the Cornell Higher Education Research Institute, and co-director of Cornell’s Institute for Labor Market Policies. Ehrenberg has been a member of the Cornell faculty for 23 years. His most recent book is *Tuition Rising: Why College Costs So Much* (2000).