

Dynamics of the U.S. Higher Education Sector

Higher education plays a critical role in the economic success of the United States

and has greatly enhanced key components of our civil society such as knowledge generation and dissemination, open discourse, and tolerance of diverse ideas. On a worldwide scale, U.S. higher education has achieved widely recognized preeminence. However, significant developments affecting the sector are on the horizon or are already under way. Paul Jansen and Deborah Bielak of the Social Sector Practice at McKinsey & Company assess U.S. higher education using a *Structure-Conduct-Performance* framework. They note that the U.S. higher education sector historically has enjoyed a favorable industry structure and relatively benign conduct on the part of its participants, which have helped it deliver strong performance. Jansen and Bielak present several developments that could change higher education's dynamics and performance—although not all such shifts need be seen as threats. Indeed, higher education's leaders may use the changes as opportunities to take their institutions in new and positive directions.

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The U.S. higher education sector enjoys a favorable industry structure and relatively benign conduct on the part of its participants, which have helped it deliver strong performance.

A number of developments could upset the historically strong performance of the higher education sector. Their impact will vary across different types of institutions, but a fundamental economic or societal trend drives each of them and suggests that their impact will not be avoidable.

The key question at hand is what changes are under way, and what are the implications of such changes for performance in terms of education, research, and the societal obligations of colleges and universities?



The Structure-Conduct-Performance Framework

The Structure-Conduct-Performance (SCP) framework has evolved over time from work begun by Edward Mason in the 1930s and continued by Joseph Bain in the 1950s. The framework is essentially a checklist of performance drivers that have proven significant across a variety of for-profit and nonprofit industries. The performance drivers fall into several categories that aggregate naturally under the headings of industry structure and producer conduct, as shown in Figure 1.

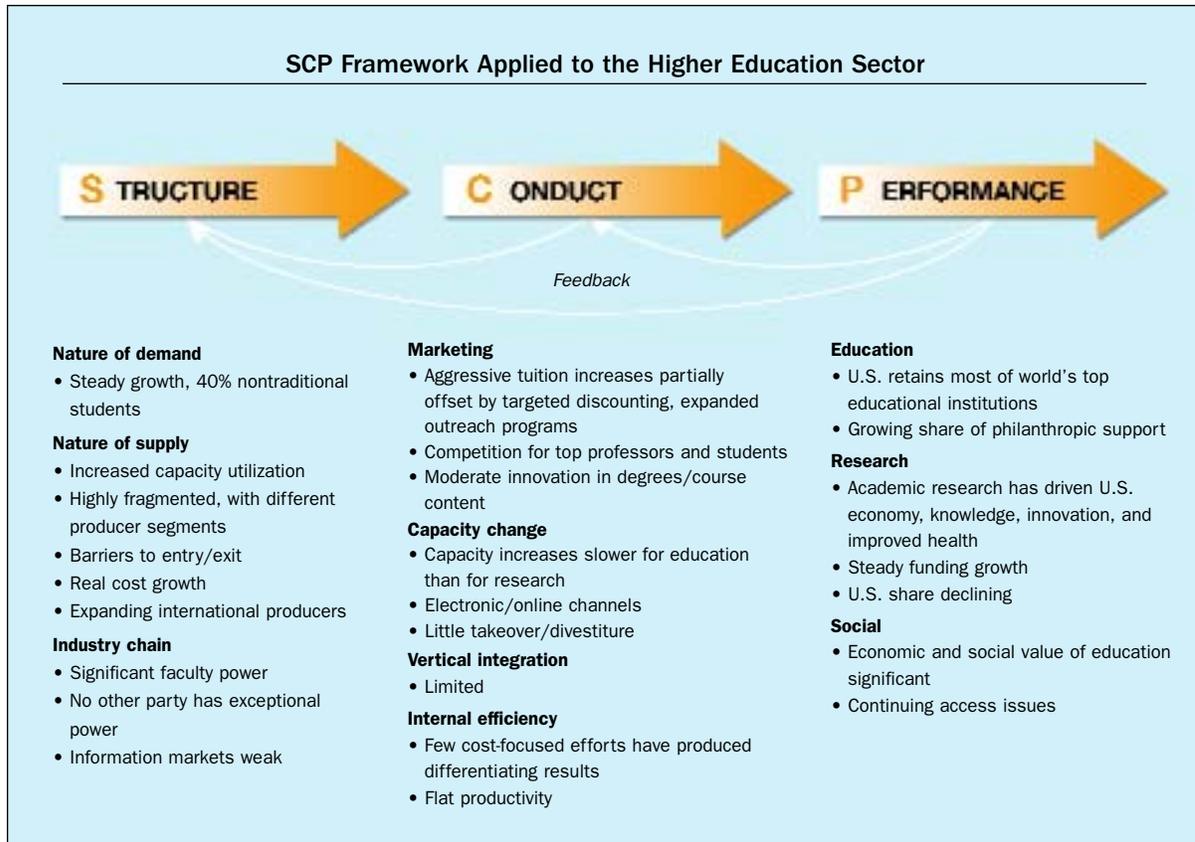
Industry *structure* includes the nature of demand, the nature of supply, and industry chain economics. *Conduct* constitutes the actions of the industry participants in response to that structure, including decisions on pricing, new product introduction, capacity, integration, and internal efficiency. Finally, *performance* measures are multifaceted; in the case of American higher education they include reputation, fund-raising efforts, research production, and the value of its product—education—to its graduates. Some of the key components of the SCP framework as it applies to higher education are discussed below.

Structure

Overall, the higher education industry structure is quite favorable. Enrollment demand has been steadily increasing over time. The demand for research, represented by research funding, has also increased impressively, growing almost threefold in real terms to more than \$35 billion during the last 20 years, driven largely by growth in federal government funding.¹

Higher education suppliers are a highly fragmented group with no participant, even broadly defined, capturing more than 2 percent of total demand.² As a result, few institutions have sustainable scale advantages to exploit to the detriment of smaller competitors. Capacity has been increasing modestly compared with demand growth, with the total number of institutions growing by about one-third over the last 25 years³ and the number of faculty increasing 43 percent in just the last 15 years, driven primarily by an increase in part-time faculty.⁴ As a result, the number of students per institution has grown slightly. The cost of incremental capacity is high under the current model, in which long-term commitments to faculty and capital to expand student housing or teaching facilities represent a material barrier to expansion. High

Figure 1.



variable costs prevent competitors from overexpanding and creating surplus capacity.

It should be noted that institutions within the higher education sector vary widely across multiple dimensions such as student enrollment, student:faculty ratios, tuition and fees, level of research conducted, and so forth. Analysis based on more homogeneous groupings of institutions yields a far more nuanced view of industry structure, as well as of conduct and performance (discussed below).

Conduct

Overall, industry conduct has been fairly benign, with the possible exception of responses to cost growth driven by increases in faculty compensation and administration costs.

How various participants respond to escalating costs has been and will continue to be one of the key dynamics in the higher education environment. During the last 20 years, inflation-adjusted instructional costs per student have risen by more than 20 percent, with faculty salaries increasing 17 percent and administrative costs growing more than 50 percent in real terms during that time.⁵ Private institutions have been at the vanguard of instructional cost increases, particularly the top private research (at 105 percent) and top private liberal arts institutions (at 121 percent), but all segments have seen substantial growth with the exception of two-year colleges (where institutional costs declined 3 percent).

Higher education appears to have been relatively unsuccessful in capturing the productivity gains typical of other industries. The student:faculty ratio, admittedly a rough measure of productivity, has declined over the last 15 years in most four-year institutions, public or private.⁶ Historically, few industries have been able to sustain low productivity growth over the long-term; thus, it may be that current performance in the higher education sector is outstripping its underlying health.

Producers have partially offset cost growth by increasing tuition and fees. Private institutions have seen 34 percent real growth in the last 10 years, while publics have negotiated 48 percent growth in tuition, albeit starting from a far lower level.⁷ However, the expanded use of merit- and need-based scholarships offsets these price increases, and the reality is that for many institutions tuition covers only a fraction of institutional costs. Although a price-high-and-selectively-discount approach may be a prudent pricing strategy, the fact that the percentage of undergraduates receiving discounts currently exceeds 75 percent in some segments (private research and private liberal arts institutions) raises the question of whether market limits are being reached and whether

future increases will be far more difficult to implement.

A telling indicator of the generally benign nature of industry conduct is the limited churn in leading institutions. A comparison of the top 25 institutions according to *US News and World Report* in 1993 with the 2006 rankings shows no substantial change: the top 25 in 1993 were the same 25 in 2006, with only six institutions moving up or down five or more spots. The story is largely the same in the research funding arena. By way of contrast, one-third of Fortune 500 companies in 1996 had disappeared from the list by 2006.

Performance

Overall, favorable industry structure and conduct have led to high industry performance across a variety of metrics.

The value of a college degree in purely economic terms is significant. Bachelor's degree holders earn \$1.3 million more during their working careers than do high school graduates. Graduate school completion adds another \$1.1 million across the mix of degree types.⁸ The benefits of a college degree, however, are not equitably captured across America's socioeconomic or ethnic spectrum. Students from economically disadvantaged, black, and Hispanic families are likely to graduate from college at a one-in-eight rate compared with a one-in-four rate for the population as a whole and a one-in-two rate for Asians or students from wealthy families.⁹

From an international view, the United States retains most of the world's top educational institutions, especially at the highest levels. Seven of the top 10 and 22 of the top 50 ranked higher education institutions are in the United States.¹⁰ Compared with other sectors, higher education has succeeded at capturing an increasing share of philanthropic support, moving from an 8 to a 10 percent share of philanthropic contributions between 1980 and 2004.¹¹ Effective fund raising and astute asset management have led to dramatic endowment growth; more than 50 institutions hold billion-dollar-plus endowments. It is true, however, that the rich are getting richer in the endowment game, with the top 10 achieving asset growth equal to the next 90.¹²

The research portion of higher education's mission is more difficult to assess in a return-on-investment sense, but it is clearly producing benefits to society. Knowledge creation has led to advances in most fields, with information technology and the life sciences most visible. Research conducted at U.S. institutions is cited more than that done in any other region, and the U.S. share of Nobel laureates in physics, chemistry, medicine, and economics has risen to preeminence over the last 20 years.¹³

Potential Trends and Shocks

A number of developments could upset the historically strong performance of the higher education sector. Their impact will vary across different types of institutions, but a fundamental economic or societal trend drives each of them and suggests that their impact will not be avoidable. Cumulatively, these developments are expected to widen gaps between segments and require new strategies as participants redefine their role and alter their economic model in response to a changing environment. Not all of these developments need be seen as threats. Indeed, tomorrow's leaders may in hindsight describe them as the opportunities that allowed innovative institutions to differentiate themselves from the pack. We identify several significant trends and issues, three each related to demand, supply, and the political environment for higher education:

Demand. Significant trends include (1) the potential doubling of degree-seeking students as a result of reforms at the K–12 level and the continuing increase of part-time and older students looking for continuing education; (2) digital-savvy students who expect customized, technology-based modes of learning and interacting; and (3) expanding international markets and outsourcing, which are changing labor markets and demanding new skills of graduates.

Supply. Significant trends include (1) increasing pressure from continually rising costs and flat productivity while nearing the limits of real tuition growth; (2) greater competition for internationally mobile students and faculty from other countries, particularly China and India; and (3) the entrance of for-profit institutions able to benefit from economies of scale in use of technology and branding.

Political environment. Significant issues include (1) shifts in the level or focus of federal research funding, which is unlikely to increase at historic rates; (2) political responses to calls for increased affordability, accessibility, and accountability, which may result in legislative mandates; and (3) threats to higher education's tax-exempt status in reaction to some institutions' massive endowments and real estate holdings.

Conclusion

This foray into the dynamics of higher education in the United States emerged from collaboration among high-

er education leaders affiliated with the Forum for the Future of Higher Education and the Social Sector Practice of McKinsey & Company. The discussion summarized here is just the beginning of what will be a multiyear dialogue about the future of the higher education sector and the factors that will disproportionately drive its evolution, for better or worse, going forward. We readily acknowledge the historical success of American higher education. The key question at hand is what changes are under way, and what are the implications of such changes for performance in terms of education, research, and the societal obligations of colleges and universities? Further, how will various producer segments respond to the changes differentially affecting their type of institutions, and what will the sector need to do to retain the collective preeminence it has achieved? We expect to more fully address these questions as we continue our exploration and dialogue at future Aspen symposia.

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- 1 National Science Foundation, data from 1983 through 2003; McKinsey analysis.
- 2 National Center for Education Statistics Integrated Postsecondary Education Data System (IPEDS), 2006; McKinsey analysis.
- 3 Department of Education, data from 1980 through 2004.
- 4 National Center for Education Statistics, data from 1987 and 2003; McKinsey team analysis.
- 5 National Center for Education Statistics IPEDS dataset, 2004; McKinsey team analysis.
- 6 Ibid.
- 7 Ibid.
- 8 U.S. Bureau of Labor Statistics, team analysis.
- 9 National Education Longitudinal Study, 1988–2000; team analysis.
- 10 *The Times Higher Education Supplement*, World University Rankings, October 6, 2006.
- 11 Giving USA, Council for Aid to Education, Center on Wealth and Philanthropy, AFRC Trust; team analysis.
- 12 NACUBO Endowment Survey, 1999–2005; team analysis.
- 13 National Science Foundation, Science and Engineering Indicators 2006.