

Let's Not Railroad American Higher Education!

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Politics, economics, and technology have conspired to make this an exceptionally challenging time for American higher education. Some critics claim that costs are out of control in traditional public and private nonprofit higher education. They believe these institutions will soon go the way of the railroads as for-profit institutions displace them and the Internet replaces college campuses and classrooms. Other critics bemoan the privatization of higher education and the increasing role of market forces. Still others think higher education has lost its way and fails to focus on educating undergraduates.¹

With their cries of alarm and simple nostrums for change, these critics often miss the mark because they do not recognize the strengths of the current system and the complexity of the problems it faces. Yet defenders of American higher education who paint a rosy picture are held too much in thrall by its venerable traditions, manifest accomplishments, and worldwide reputation for excellence.² King and Sen pursue a middle course by recognizing that the modern university is worth protecting but that it must also change in substantial ways.

To make the right changes, the peculiar features of higher education must be understood before any diagnosis can be made of what is to be done. The world of higher education is a bit topsy-turvy. Prices depart significantly from costs, teaching students is not the only mission of most universities, performance is hard to measure, credentialing students is just as important as imparting knowledge, government programs provide subsidies for tuition and research, and markets, prices, and competition operate in unusual ways.

The challenges are very clear. The United States is counting on institutions of higher education to educate students and to provide the research to meet the needs of a twenty-first century economy that increasingly depends on learning and innovation. Public institutions educate the vast majority (roughly three-quarters) of those in college, but as state governments have struggled with increasing health-care, correctional, and K-12 education costs in the last decade and with precipitously declining tax revenues in the last three years, they have opted to balance their budgets by making severe cuts in higher education—thus forcing public universities to increase tuition.³ State governments have done so even though Americans since Thomas Jefferson have considered higher education to be essential for creating a truly free and educated citizenry and even though studies show that investment in higher education pays off handsomely and is strongly supported by the public—in fact, the increasing price of higher education is a growing concern of Americans.⁴ The result of these actions is that the supply of higher education has become

more expensive (and is in danger of becoming constricted) just at a time when there is enormous need for more of it to educate millions of students.

Federal aid to colleges and universities has not yet decreased in the same way, but federal deficit problems may lead to large cuts in discretionary programs such as Pell grants for low-income students, student loans, and research funding at the National Science Foundation, US Department of Energy, and National Institutes of Health that supply a large fraction of dollars for academic research. Philanthropists besieged by requests from the nonprofit sector to cover shortfalls do not have anywhere near the necessary capacity to make up the difference. Additional challenges arise from for-profit (and some new nonprofit) institutions that are developing new models for educating students that compete with established institutions and from Internet and distance learning programs that provide new capabilities that must be mastered and used. Both public and private institutions face many serious challenges.

Books and articles about higher education talk about how colleges are in crisis, academically adrift, failing our children, administratively bloated, in need of revolution, and losing a generation of students.⁵ Those on the Left and those on the Right are concerned about America's universities, although they have different diagnoses. Critics on the Left worry about commercialization (often called "marketization" or "privatization"), the increasing number of administrators, declining access, and the focus on ancillary activities such as sports, dining, and recreation. Those on the Right worry about increasing costs, failures to innovate, an entrenched professoriate, and resistance to market pressures. Still, no sober person would trade America's higher education system for any of those in Europe or Asia, much less those in Latin America or Africa. What then, is the "troubled future of colleges and universities?"

IS AMERICAN HIGHER EDUCATION GOING THE WAY OF STEEL COMPANIES OR THE RAILROADS?

In 2006 the Secretary of Education Margaret Spellings released *A Test of Leadership: Charting the Future of U.S. Higher Education* that warned that:

History is littered with examples of industries that, at their peril, failed to respond to—or even to notice—changes in the world around them, from railroads to steel manufacturers. Without serious self-examination and reform, institutions of higher education risk falling into the same trap, seeing their market share substantially reduced and their services increasingly characterized by obsolescence.⁶

Will higher education go the way of the steel manufacturers or railroads that are mere shadows of what they were in the halcyon days of U.S. Steel and the Union Pacific Railroad? Indeed, will higher education go down the path of obsolete enterprises such as quill manufacturers, blacksmiths, buggy makers, or type-writer companies who are now gone from the scene?

Obsolescence is not going to happen. There are no close substitutes for a highly educated person unless IBM's Watson gets a lot smarter. College graduates will not soon go the way of elevator operators, assembly-line-workers, toll-takers, or phone operators. Robots will not be replacing highly educated people anytime soon. The pressing need is for a greater supply of higher education to increase access and to train the millions of workers needed in a high-tech economy, not to mention the importance of higher education for a politically knowledgeable, civically engaged, and tolerant citizenry.

Individual Americans also have strong economic incentives to get more higher education. The return to a college degree is very high, and Americans with bachelor's degrees can expect to make one to two million more dollars in inflation-adjusted dollars over their lifetimes than those with only a high school degree.⁷ There are also many reasons for society to encourage people to get more education because of the societal externalities it produces. Not surprisingly, the demand for higher education is growing, not declining.

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Might higher education go the way of the steel industry where demand for steel is still very high, but foreign competitors now dominate the market? Will foreign competitors start to make higher education more cheaply and more attractively? Certainly there have always been students who went abroad for higher education, but there is a simple reason that most of these students go to Britain, Canada, or Australia for four-year programs—namely language. It seems unlikely that outsourcing of this type will overtake American education—especially for the two- and four-year public colleges and universities that educate most of our students.⁸

Could higher education be like the railroads? Will the speed and accessibility of the Internet replace the classroom just as planes and cars replaced the railroads for passenger travel? Certainly the Internet provides access to information from greater distances and at greater speed than the average classroom. From almost any location, I can now search for “film noir” and get some relevant information much more quickly than signing up for a course at a local university (if there is such a course). Yet the railroads-airplanes analogy suggests that the only feature that matters is speed of delivery. If airplanes, for example, often ended up in the wrong place (as they sometimes do in bad weather) then railroads

might have a comparative advantage. Similarly, if Internet searches often give the wrong answer or even just a seriously incomplete answer, then classroom instruction with an instructor with a PhD might continue to play an important role—especially if the interaction between that instructor and the student improves the quality of learning. Because getting knowledge and information is about quality and nuance as well as about speed, the railroad analogy seems forced and incomplete.

IS AMERICAN HIGHER EDUCATION GOING THE WAY OF NEWSPAPERS?

Maybe higher education is like newspapers, which, like higher education, communicate knowledge and information and have been devastated by the Internet. As more and more people have moved to the web to get their news and information, it makes less and less sense to go to all the trouble to cut down trees, to pulp them to create paper, and then to move about a pound of paper through printing presses, into trucks, and onto people's doorsteps. All the news that's fit to print now can be made available online, instantly, and without all the trouble of the old system. So just as government-sponsored airports and superhighways replaced railroads for many forms of transportation, the government-sponsored Internet has replaced newsprint and newspapers.

But the Internet did not do this alone. Decisions by newspapers and others have contributed to the devastation of journalism. Newspaper companies were late to utilize the web, mistaken in their decisions not to charge for news online, surprised by their replacement by bloggers and aggregators, and, perhaps most importantly, decimated by the flight of advertising away from newsprint with the creation of Craig's List (replacing the classified ads), online commerce (eliminating the need for advertisements in newspapers), and web-based advertising.

Perhaps the biggest danger for traditional higher education is being late to the Internet, but some institutions are now moving there, and they seem aware of the dangers of giving away all their course content. After a quick search, for example, I found an online course on film noir at Exeter University in Britain offered at 140 pounds.⁹ It is true that massive open online courses have been offered for free, but these can be thought of as efforts at branding and promotion that assure a niche for the university in the Internet firmament. Universities seem to be moving toward providing many courses online with a fee attached.¹⁰

Higher educational institutions also have an “ace-in-the-hole” for generating revenue. It is not just the content of

higher education that matters; it is also the certification that someone has mastered the content. It is only with certification that someone can claim to truly have the "human capital" that comes with mastering skills,¹¹ and certification means more when it comes from a high-prestige and established institution. One can perhaps imagine a world in which people get certificates for reading *The New York Times* or *The Wall Street Journal*, but it is not clear that there is any market value for these certificates. A certificate from Berkeley, Harvard, Stanford, San Francisco State, or Contra Costa Community College, however, has real market value, while it is not clear that simply taking online courses from these places has much direct market value. Some people might just take courses (without getting certificates) and learn a lot, but how will employers know this? They might know from increased performance at work, but it seems more likely, given the difficulties of measuring performance, that credentials will continue to serve as convenient signaling devices for employees and certainly for job seekers.

There is also another distinct feature of education—interaction with others matters a lot. Interaction produces ideas, creates social support networks, and provides motivation. Bringing people together on a college campus is one of the best ways to do this. It is true that modern social media provide another way, but so far this is not as effective as getting people in the same place as revealed by the fact that business travel still remains robust. In fact, social media may be more of a complement to traditional ways of organizing societies than a substitute for it. This may be especially true for many young people who need the in-person motivation of a peer group to struggle through calculus, economics, physics, and art history.¹²

Nevertheless, it would be foolhardy to dismiss the Internet—at the very least it is a powerful complement to traditional methods of education, and in some circumstances, it clearly can provide a substitute. It seems unlikely that the Internet will fully replace traditional higher education, but it surely will reshape it in important ways. Perhaps the correct analogy is church-going where televangelism has attracted some congregants, especially those who are older or isolated, but it has not replaced going to church. Indeed, mega-churches, like college campuses, still attract people who want to have an in-person experience and who want to meet with, socialize with, and be inspired directly by others.

IS AMERICAN HIGHER EDUCATION LIKE HEALTH CARE?

Higher education may be a lot like health care where in-person visits with highly trained and costly professionals are essential, thus driving up the price of care. Just like health care, the price of higher education has gone up much faster than inflation in the past decade. Between 2000–2001 and 2010–2011 increases beyond inflation were about 42% at public institutions, 31% at private not-for-profit institutions, and 5% at for-profit institutions.¹³

These figures certainly provide the right sense about what is happening to prices, but they must be used with great care because the price of higher education differs from its actual costs. First, the prices at public institutions have gone up sub-

stantially relative to inflation (thereby getting closer to actual costs, not farther away) partly because state support for higher education has declined precipitously in the last decade and tuition increases have made up for part of the difference.¹⁴ Second, these "sticker prices" do not take into account substantial increases in university, state, and federal aid for going to college. Hence, the actual cost of educating students has gone up, but the cost-to-the student has not gone up by as much and, especially at public institutions, at least part of the increase in price is simply due to state disinvestment that has led to increases in tuition.¹⁵

Why do college and health-care costs keep going up? In a classic 1967 paper, William Baumol described how the need for personal attention in service industries leads to a "cost disease" that makes it difficult to have productivity improvements when proper delivery of the service irreducibly requires a fixed amount of labor. His classic example is live performance:

A half hour horn quintet calls for the expenditure of 2½ man hours in its performance, and any attempt to try to increase productivity here is likely to be viewed with concern by critics and audience alike.¹⁶

One can protest that the performance can be recorded and seen (or heard) by many others, but the obvious response is that there is something special and important about live performance that necessarily limits the number of people who can experience it directly. This seems to be true for in-person visits to the doctor, and providing patients with a recorded online doctor is unlikely to be satisfactory to them. To the extent that higher education is like live musical performances and in-person doctor's visits, it will resist technological improvements.

Baumol also showed that these kinds of intensive services will become more expensive relative to everything else as societies become richer because the demand for them will remain the same (or perhaps even increase) while the supply will depend on attracting workers away from other increasingly well-off sectors of the economy. For universities this means that they must compete with Silicon Valley for computer scientists, Wall Street for economists, bio-tech companies for life scientists, corporate America for lawyers, private hospitals for doctors, and on and on.¹⁷

In their book, *Why Does College Cost So Much?*, Robert Archibald and David H. Feldman provide a detailed articulation of this argument. Using empirical data on prices over time, they show that the real prices of higher education track with those of dentists, physicians, and lawyers—that is, with other highly educated professionals offering professional services. They also amend Baumol's theory to consider the role of technological change and the details of the labor markets for those people providing the services. They show that the tremendous demand for highly educated people in our society has driven up the salaries for professionals and PhDs while the wages of less-educated service providers have remained stagnant because of the large number of people available for those occupations. As a result, the costs for some personal services such as haircuts have not increased very much, while those requiring professionals with a great deal of education

have increased a lot. In addition, they argue that just as technological changes in health care such as expensive diagnostic and surgical techniques have increased the costs of health-care services rather than decreasing them, so too have expensive new technologies increased the cost of higher education.

Archibald and Feldman contrast their explanation of the growth in the price of higher education with two other theories. One is the revenue model of Howard Bowen that argues that universities simply spend everything they are given in the pursuit of dominance, prestige, and influence.¹⁸ Another is the somewhat related arms-race model of Zemsky, Wegner, and Massy in which universities are engaged in wasteful tournaments to recruit the best students, faculty, and staff.¹⁹ In both models, the result is enormous inefficiencies in public and private nonprofit higher education. Yet Archibald and Feldman show that tuition increases at four-year not-for-profit universities, in fact, have been very similar to those at comparable private for-profit institutions. Moreover economists have documented the many changes in public and nonprofit higher education (such as the increasing number of adjuncts and lecturers) that have lowered costs and transformed higher education.²⁰ These results do not prove that traditional higher education is efficient, but they demonstrate that efforts are being made by the traditional sector to be more

wedges between prices and costs due to health insurance, and the fact that doctors often control the demand for services that makes it impossible for competition to drive down costs.

In fact, higher education already has a lot of competition—for students, for faculty, and for prestige.²² This competition has led to economies and cost savings. What higher education does not have is an easily defined product or prices that reflect costs.

Traditional higher education engages in at least three complex activities: teaching, research, and service. Each of these can be further broken down into sub-activities. Teaching, for example, comprises undergraduate programs, masters' programs, and PhD programs. Each one has a different rhythm, cost calculus, and purpose, and the success of each program is typically measured in different ways.

Most for-profit higher education institutions offer a simpler line of products. They do not do research or service, and they do not train PhDs. They focus on degree or certificate programs for two- and four-year undergraduate programs or on masters' students—especially for those students who find it easier to work over the Internet. At most, for-profit institutions only compete with a narrow segment of traditional higher education.

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ARE MARKETIZATION AND THE PROFIT MOTIVE THE ANSWER?

An obvious criticism of these arguments is that they may have correctly described the reasons why higher education (and health care) costs so much, but they have merely diagnosed a chronic condition that must be cured.²¹ From this perspective, American higher education has become too fat, or, in a somewhat more generous interpretation, it has simply become muscle-bound. In either case, it needs to be changed.

One way to do this is to subject higher education to the marketplace and the profit motive. By allowing and encouraging private for-profit colleges and universities, higher education will be forced to find better ways to do business. The marketplace, however, is not a magical elixir that automatically creates efficiencies. Consider, for example, the heavily market-oriented health-care sector. Markets work best when there is a clear definition of what makes a good product, when prices reflect costs, and when there is true competition. Health care has suffered from lack of clarity about the product (Is it physician services or healthy individuals?), the

This competition from private for-profit universities might substantially affect public and nonprofit universities if two things are true. First, for-profit institutions might be able to offer a high-quality product such as four-year degree programs without the prestigious faculty, ongoing research, and involvement in service that characterizes traditional universities. Second, they might be able to offer this product more cheaply. The first condition questions a central article of faith among those in traditional higher education that research, faculty prestige, and service are major contributors to higher quality teaching so that for-profits simply cannot compete. Most academics believe that this is true, but the evidence is thinner than it should be, and more effort should be made to flesh out the argument to show exactly what research, faculty prestige, and a service orientation contribute to higher education. The second gets wound-up with the complexities of the pricing of American higher education.

The actual prices charged for each of the three major products of American higher education (research, teaching, and service) are different than their costs of production, and there is substantial cross-subsidization and interdependency of production. PhD students, for example, often get heavy subsidies for their tuition that comes from research funding, but they also play a big role in undergraduate education as

teaching assistants. As a result, with proper training (which, unfortunately, they do not get as much as they should), graduate students can provide high-quality teaching at a relatively low cost. Adjuncts and lecturers, who are often attracted by the prestige of traditional universities and by the exciting work that goes on there, provide another opportunity for reducing the cost of traditional higher education. As a result, many public universities manage to teach large numbers of students much more inexpensively than private nonprofit universities.²³

Although for-profit providers of higher education have a clear-cut objective—making a profit—it is not obvious that they can easily provide a high-quality product at a significantly lower price. In addition, it is not clear that private for-profits are working as hard as they might to ensure the quality of their product. Federal and state governments have expressed serious concerns about completion and job-placement rates for for-profit institutions. For many of these institutions, it is difficult to find information on the quality of the faculty or of the curriculum. And much of the advertising for them speaks of innovation and bright futures without much detail.

Furthermore, for-profit institutions are heavily dependent on government aid that ensures that the prices for students diverge from the costs of producing the program. For-profit institutions benefit heavily from federal Pell grants and state grants such as the Cal-Grant program in California that lower the price to the student, and they benefit from students who may heavily discount the future impact of large debt-loads from taking for-profit courses.

traditional university, with its mix of intellectual breadth and depth, its diverse campus social milieu, and its potentially life-changing professors, is needed now more than ever.²⁴

WHAT SHOULD BE DONE?

Traditional higher education institutions will not go the way of typewriter manufacturers, the steel industry, the railroads, or newspapers, but they cannot continue to have price increases that are greater than the cost of living and even greater than the growth of middle-class incomes.²⁵ They cannot deny access to some students because of constrictions in the supply of higher education.²⁶ They must find innovative ways to deliver higher quality education at reasonable prices. There is a growing literature on what might be done,²⁷ but four areas seem especially important.

Measuring University, Departmental, and Program Performance

One of the most distressing books about higher education of the last few years is *Academically Adrift: Limited Learning on College Campuses*.²⁸ The coauthors Richard Arum and Josipa Roksa report how much students learn between the beginning of their freshmen year and the end of their sophomore year at 24 colleges and universities. They conclude that “gains in student performance are disturbingly low,” that students are too often “academically adrift,” and that “there is noticeable variation both within and across institutions that is associated with measurable differences in students’ educational experiences.”²⁹ Their study is careful, thoughtful, and persuasive. Critics might argue that they have measured the wrong

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So far, for-profit universities have been most successful in exploiting niches such as working students who have completed two-year colleges and who want to complete a four-year degree over the Internet or students who need certificates in areas where community colleges cannot meet demand. The best of the for-profits have provided significant access for people who might otherwise not have had an opportunity to get higher education, and they have been exceptionally innovative in improving Internet platforms for distance learning. They fill an important niche.

Ultimately, even some of the most severe critics of traditional higher education conclude that for-profits are not the fundamental answer:

The traditional university is still indispensable. . . . Young college students in particular need an environment in which they can not only study but also broaden their horizons and simply “grow-up.” Though for-profit educators can play important, complementary roles in higher education, the ideal of the tradi-

things, but that does not mean that we should wash our hands of the problem they have identified. We must be able to do a better job in explaining how students are helped by higher education. One reason is purely defensive: How can we complain about for-profit institutions doing the wrong things if we can't say what the right ones are?³⁰ But an even better reason is that we must ask ourselves hard questions about the quality of our programs and our teaching.

Improving and Evaluating Teaching

Modern cognitive science has begun to unlock the mysteries of how people learn, and there is persuasive evidence that we can do a much better job of teaching if we center our efforts on helping people learn.³¹ We should take those results seriously for our own teaching, and we should make sure that we do a better job of training our PhDs for a teaching as well as a research career. Finally, we should develop valid and reliable ways of evaluating teacher performance. The widely used “student evaluations” have serious defects, and new methods of

evaluation based on mastery of the material and peer review should be developed.³²

We should also take more seriously the excellent work that is being presented at the annual spring APSA Teaching and Learning Conference. At the margin, for most scholars, taking teaching more seriously and spending time at workshops and conferences on it would be better than adding a few more articles to their vita, which may not get many citations anyway. The chance that we will affect the world through our teaching is almost surely greater for most of us than the chance that one of our marginal and least-well-thought-out pieces of research will be cited—much less be influential in affecting the world. Promotion committees should bear this in mind, and greater credit should be given to those who have thought about and really tried to improve their teaching. This requires a sea change in university priorities that demands more attention, or at least more awareness, of the institutional difficulties of making this shift that vary with the status of the institutions.

Using Modern Technology to Improve Teaching through the Internet and Online Education

It is easy to be dismissive of online courses and technology. Efforts to revolutionize education with computers go back to the 1960s with the attempts of Patrick Suppes and Richard Atkinson to develop computer-assisted instruction, but progress has been very slow and promises have typically outstripped performance. For many years, online courses were low quality given the limitations of bandwidth and computer platforms, and university efforts often ended in failure. For example, after losing millions of dollars on its online venture Fathom, Columbia University closed it down in 2003.³³

Striving for a Better Allocation of Resources within Universities by Linking Decision-Making with Improved Budgeting

Many universities remain highly centralized with a commitment to a broad range of programs that have developed literally over the centuries. University budgeting and accounting systems make it hard to know how much any one program actually costs, and entrenched programs are often happy about that ignorance. “Responsibility Centered Management” (RCM)³⁴ tries to couple decision making with its financial ramifications by developing better budgeting data and by tying incentives to these decisions. A simple version would, for example, return part of the tuition paid by a student to the units that provide courses to the student. In a chapter of his book “Kafka was an Optimist,” David Kirp shows how badly this approach can backfire as academic units sacrifice quality to attract students,³⁵ but modified versions of RCM are gaining ground around the country for the simple reason that universities should know the consequences of their budgetary decisions and administrators should be provided with incentives to develop and nurture programs that maintain quality and that attract students. Pure RCM approaches may not be the answer, but the tangle of budgetary obfuscation and perverse incentives that face most academic administrators do not help anybody produce high-quality education.

CONCLUSIONS

Almost all of these suggestions for improvement require some kind of measurement.³⁶ Lord Kelvin famously said that “If you cannot measure it, you cannot improve it,” but measurement makes many people in the academy nervous. How do

We must show that we are doing everything possible to improve learning and to control costs. To prevent the railroading of American higher education, we should follow Kelvin’s advice and measure what we do and work to improve it.

But the quality of online education is increasing with better platforms for delivering content and for facilitating interaction, and some for-profit universities are using it with great success. At the very least, students have now become accustomed to finding information about courses online, to using online repositories of class readings, to looking at videos online, and to interacting with one another using e-mails, texting, and real-time chat rooms. There is every reason to think that this use of the Internet will grow innovation by innovation, and we must think about the comparative advantage of in-person classroom learning versus learning online. In the “inverted” or “flipped” classroom, for example, students watch lectures online and come prepared to work interactively with one another and with the professor in the classroom. There are lots of reasons to believe that now is, finally, the time when online education will at least become a complement to traditional modes of instruction, and in some cases a substitute for it. We should be leaders in this area.

you measure contributions to knowledge? How do you measure a more open and inquisitive mind? How do you measure those moments in a classroom when students begin to understand the magic of art, music, literature, or physics? We probably can’t develop thermometers (using centigrade, Fahrenheit, or even Kelvin) to measure these things, but we should not immediately retreat to the current paucity of information.

We do, after all, find ways to assess the quality of young scholars when we evaluate them for tenure, and we do know that some faculty members are better teachers than others. If we work carefully, we can develop assessments of our universities, our departments, our faculty members, and our expenditures that will demonstrate our success and that will achieve cost savings. In doing this, we can also demonstrate that public and private nonprofit institutions deliver more and more value for the resources they consume.

We must continue to defend universities for their role in creating new knowledge, expanding our understanding of

ourselves, speaking truth to power, and serving as the cathedrals of civilization. But we live in a pecuniary age with real pressures on the American middle class and on state governments. We must show that we are doing everything possible to improve learning and to control costs. To prevent the railroading of American higher education, we should follow Kelvin's advice and measure what we do and work to improve it.

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NOTES

1. To be fair, many of the most misguided criticisms appear in newspaper editorials, partisan tracts, and blog-posts. The Spellings Report on Higher Education made some of these arguments about obsolescence, nonprofits, and the Internet in U.S. Department of Education, *A Test of Leadership: Charting the Future of U.S. Higher Education* (Washington, DC: 2006). Heritage Foundation scholar Stuart Butler makes them as well in "The Coming Higher-Education Revolution," *National Affairs*, Winter 2012 at http://www.nationalaffairs.com/doclib/20111220_Butler_Indiv.pdf. Critiques of the privatization of American higher education include Christopher Newfield, *Unmaking the Public University: The Forty-Year Assault on the Middle Class* (Cambridge, MA: Harvard University Press, 2008) and Marc Bousquet, *How the University Works: Higher Education and the Low-Wage Nation* (New York: New York University Press, 2008). And a recent argument that higher education has lost its way is Andrew Hacker and Claudia Dreifus, *Higher Education? How Colleges are Wasting our Money and Failing our Kids—And What We Can Do about It* (New York: Times Books, Henry Holt and Company, 2010).
2. For a loving, but highly realistic, account of the university and its accomplishments see the book by the former dean of Harvard College: Henry Rosovsky, *The University: An Owner's Manual* (New York: W.W. Norton and Company, 1990). For a more skeptical, but still respectful, analysis by the former president of Harvard, see Derek Bok, *Universities in the Marketplace: The Commercialization of Higher Education* (Princeton, NJ: Princeton University Press, 2003). David Kirp has written the best single account of the dilemmas of higher education in *Shakespeare, Einstein, and the Bottom Line: The Marketing of Higher Education* (Cambridge, MA: Harvard University Press, 2003).
3. The reasons for this seem to be the following. First, legislators are myopic and short-term cuts in higher education, especially when they are met by heroic attempts by institutions to maintain enrollments, appear as savings even though the long-term consequences are reduced human capital and growth for the state. Second, many state universities have an independent power to tax through tuition increases which can then be blamed on a group outside the legislature. Third, higher education does not have the lobbying power of prison guards, K-12 teachers, or medical institutions.
4. On the payoff from higher education see John Stiles, Michael Hout, and Henry E. Brady, "California's Fiscal Returns on Investments in Higher Education," at <http://cshe.berkeley.edu/publications/docs/ROPS.Stiles%20et%20al.ReturnOnInvestment.10.2.2012.pdf>. Also see Claudia Goldin and Lawrence F. Katz, *The Race Between Education and Technology* (Cambridge, MA: Belknap Press of Harvard University, 2010). On public opinion about higher education see John Immerwahr, "Public Attitudes on Higher Education: A Trend Analysis, 1993 to 2003," paper prepared by Public Agenda for the National Center for Public Policy and Higher Education, February 2004 at http://www.highereducation.org/reports/pubatt/Pub_Agenda_040210.pdf and see John Immerwahr and Jean Johnson (with Amber Ott and Jonathan Rochkind), "Squeeze Play 2010: Continued Public Anxiety on Cost, Harsher Judgments on How Colleges are Run," report prepared by Public Agenda for Public Policy and Higher Education, February 2010 at http://www.highereducation.org/reports/squeeze_play_10/squeeze_play_10.pdf
5. For example: Richard Arum and Josipa Roksa, *Academically Adrift: Limited Learning on College Campuses* (Chicago: University of Chicago Press, 2011); Andrew Hacker and Claudia Dreifus, *Higher Education? How Colleges are Wasting our Money and Failing our Kids—And what We Can Do about It* (New York: Times Books, Henry Holt and Company, 2010); Benjamin Ginsberg, *The Fall of the Faculty: The Rise of the Administrative University and Why It Matters* (New York: Oxford University Press, 2011); Richard P. Keeling and Richard H. Hersh, *We're Losing Our Minds: Rethinking American Higher Education* (Palgrave MacMillan: 2011).
6. U.S. Department of Education, *A Test of Leadership: Charting the Future of U.S. Higher Education* (Washington, DC: 2006), page xii.
7. Stiles, Hout, and Brady, 2012 propose a figure of \$1.6 million that would be \$32,000 per year over a 50-year career. Does this make college worthwhile? The total cost (tuition, fees, room and board, and expenses) of going to the University of California is approximately \$32,000 per year for a total of \$128,000 over four years. Clearly this investment would be quickly recouped. Claudia Goldin and Lawrence Katz, 2008 estimate annual returns to college completion beyond high school graduation in the ten to fifteen percent range (page 84).
8. Graduate education is another matter. Now American universities have an enormous lead in producing PhDs, but once so did Germany and Britain.
9. See <http://education.exeter.ac.uk/dll/details.php?code=DLFo2>
10. Even the Harvard-MIT (and now Berkeley) edX initiative that appears to be an exception at first glance is described by MIT professor Anant Agarwal in these terms: "... it helped the MIT brand. It brought a lot of goodwill to MIT, and recruiting became a lot easier." see Larry Hardesty, "Is MIT Giving Away the Farm? The Surprising Logic of MIT's free online education program," *Technology Review*, August 21, 2012, at <http://www.technologyreview.com/article/428698/is-mit-giving-away-the-farm/>. At Berkeley, edX is thought of as only one piece of a larger strategy that includes offering courses for a fee.
11. Some critics argue that higher education is just certification and that it does not necessarily impart skills—employers want college graduates simply because college graduation signals that the person is intelligent and capable. Almost all empirical research, however, suggests that college degrees provide real human capital. See Michael Hout, "Social and Economic Returns to College Education in the United States," *Annual Review of Sociology*, 38: 10.1–10.22, 2012.
12. It is also worth noting that many parents probably see great value in sending their children off to new places that provide a modicum of protection and support as they make the transition from adolescence to adulthood.
13. Calculated from the figures at <http://nces.ed.gov/fastfacts/display.asp?id=76>.
14. See Ronald G. Ehrenberg, 2012, "American Higher Education in Transition," *Journal of Economic Perspectives*, 26: 193–216 and John Quinterio, *The Great Cost Shift: How Higher Education Cuts Undermine the Future Middle Class* (New York: Demos, 2012) at http://www.demos.org/sites/default/files/publications/thegreatcostshift_o.pdf
15. See Robert B. Archibald and David H. Feldman, *Why Does College Cost So Much?* (New York: Oxford University Press, 2011).
16. William J. Baumol, "Macroeconomics of Unbalanced Growth: The Anatomy of Urban Crisis," *American Economic Review*, 57: 415–26, June, 1967, page 416.
17. Obviously the cost pressures have been greatest in professional schools, engineering, the physical and life sciences, and some of the social sciences. Universities have struggled with equity issues as this sometimes leaves the arts and humanities behind. The average pay at all ranks of the professorate in 2011–12 was \$82,556 (see <http://www.aaup.org/NR/rdonlyres/2223C57E-4F87-4C93-99F4-7BAA65C7CC80/0/Tab4.pdf>), and after accounting for inflation, "the overall average salary of a full-time faculty member in 2011–12 is less than 1 percent higher than it was five years ago, in 2006–07" (see Saranna Thornton and John W. Curtis, "A Very Slow Recovery: The Annual Report on the Economic Status of the Profession-2011–12," *Academe*, March–April 2012.)
18. Howard Bowen, *The Costs of Higher Education: How Much Do College and Universities Spend Per Student and How Much Should they Spend?* (San Francisco: Jossey-Bass, 1980).
19. Robert Zemsky, William Wenger, and William Massy, *Remaking the American University: Market-Smart and Mission Centered* (New Brunswick, NJ: Rutgers University Press, 2005). Also see Ronald J. Ehrenberg, *Tuition Rising: Why College Costs So Much* (Cambridge, MA: Harvard University Press, 2000).
20. Ron Ehrenberg, 2012 and Burton A. Weisbrod, Jeffrey P. Ballou, and Evelyn D. Asch, *Mission and Money: Understanding the University* (New York: Cambridge University Press, 2008), especially Chapters 3 and 11.
21. My own opinion is that the need for the personal involvement of highly priced professors is not so much a disease as a basic feature of how human learning occurs so that it may be very hard to change, but the

basic professorial input can probably be used much more effectively as we learn more about learning.

22. See Derek Bok, 2003; Kirp, 2003; Ehrenberg, 2000, 2012; Weisbrod, Ballou, and Asch, 2008.
23. Ehrenberg, 2000 argues that public institutions control costs better than private institutions (pages 23–26).
24. Clayton M. Christensen and Henry J. Eyring, *The Innovative University: Changing the DNA of Higher Education from the Inside Out*, San Francisco: Jossey-Bass, 2011, page xxiii.
25. Ehrenberg, 2000, page 7.
26. The impacts of reductions in state funding for higher education in California are documented in Hans Johnson, “Defunding Higher Education: What Are the Effects on College Enrollment?” San Francisco: Public Policy Institute of California, 2012 at http://www.ppic.org/content/pubs/report/R_512HJR.pdf
27. See Christensen and Eyring, 2011 and Ben Wildavsky, Andrew P. Kelly, and Kevin Carey (editors), *Reinventing Higher Education: The Promise of Innovation* (Cambridge, MA: Harvard Education Press, 2011).
28. Richard Arum and Josipa Roksa, *Academically Adrift: Limited Learning on College Campuses* (Chicago: University of Chicago Press, 2011).
29. Ibid, page 30.
30. Methods of measuring economic value-added in higher education are described in Timothy Rodgers, “Measuring Value Added in Higher Education: A Proposed Methodology for Developing a Performance Indicator Based on the Economic Value Added to Graduates, *Education Economics*, 15 (1): 55–74, March 2007. In principle, similar methods could be developed to measure increases in citizenship, tolerance, life-skills, and appreciation for art and culture. If care is taken to measure the right things and to control for the vastly different populations served by various higher education segments, then these methods can be useful for evaluating programs, but there is far too much noise and uncertainty in these measures to use them to evaluate individual faculty members.
31. Susan A. Ambrose et al., *How Learning Works: Seven Research-Based Principles for Smart Learning* (San Francisco: Jossey-Bass, 2010), and Maryellen Weimer, *Learner-Centered Teaching: Five Key Changes to Practice* (San Francisco: Jossey-Bass, 2002).
32. The problems with student evaluations are analyzed in Scott E. Carrell and James E. West, “Does Professor Quality Matter? Evidence from Random Assignment of Students to Professors,” National Bureau of Economic Research, Working Paper 14081, June, 2008 at <http://www.economics.harvard.edu/faculty/staiger/files/carrell%2Bwest%2Bprofessor%2Bquality%2Bjpe.pdf>.
33. David Kirp, 2003, Chapters 9–10, and Scott Carlson, “After Losing Millions, Columbia U. Will Close Online-Learning Venture, *The Chronicle of Higher Education*, January 17, 2003.
34. For a description see: <http://budgetmodel.uoregon.edu/content/introduction-responsibility-centered-management>
35. Kirp, 2003, Chapter 6.
36. Certainly the assessment of university performance, the evaluation of teaching, and the improvement of budgeting requires better measurement. Creating Internet courses also leads inexorably to measurements of student clicks, attention, and performance.