The Coming Higher-Ed Revolution

Stuart M. Butler

In recent decades, key sectors of the American economy have experienced huge and disruptive transformations—shifts that have ultimately yielded beneficial changes to the way producers and customers do business together. From the deregulation that brought about the end of AT&T’s “Ma Bell” system, to the way entrepreneurs like Steve Jobs forever changed the computer world once dominated by IBM, to the way the internet and bloggers have upended the business model of traditional newspapers, we have seen industries completely remade—often in wholly unexpected ways. In hindsight, such transformations seem to have been inevitable; at the time, however, most leaders in these fields never saw the changes coming.

The higher-education industry is on the verge of such a transformative re-alignment. Many Americans agree that a four-year degree is vastly overpriced—keeping many people out of the market—and are increasingly questioning the value of what many colleges teach. Nevertheless, for those who seek a certain level of economic security or advancement, a four-year degree is absolutely necessary. Clearly, this is a situation primed for change. In as little as a decade, most colleges and universities could look very different from their present forms—with the cost of a college credential plummeting even as the quality of instruction rises.

If this transformation does come to pass, it could have profound and beneficial implications. It could significantly increase the international competitiveness of American workers in a world in which we need higher skills and productivity to compete. It could sharply improve the employability of those on the bottom rungs of America’s income ladder, giving them the tools they need to move up. And it could do much

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to restore the American Dream for those who have begun to believe that opportunity in this country is disappearing. In other words, such a change could hardly come too soon.

**THE NECESSARY CREDENTIAL**

A transformation in higher education is likely to be driven by a few key factors that, in combination, pose a serious threat to the industry’s status quo. Of these, perhaps the most urgent are the increasing importance of higher education and its increasing expense. Today, most Americans realize that a college degree is essential to upward economic mobility—and yet many are simply unable to obtain one. This glut of demand, set against a shortage of suitable and affordable supply, is bound to lead to serious change.

Americans’ concerns are certainly reinforced by the data. A review of the research on economic mobility indicates that education is the largest factor in explaining the connection between parents’ earnings and the lifetime earnings of their children. Put another way, the lack of adequate education is a daunting obstacle to an individual’s future economic success.

In some ways, this situation is hardly new: Completing a certain level of education has long been crucial to securing good employment. The difference is that, just a generation ago, the attainment level needed to assure a reasonable chance at the American Dream was a high-school diploma. And with our system of public K-12 education, that key credential was within reach for almost anyone who wanted to obtain it.

Today, however, the high-school diploma has been supplanted by the college degree; making it through four years of college is now virtually a prerequisite for economic advancement. Indeed, Census Bureau data show that an American with a bachelor’s degree will earn, on average, about 70% more each year than one with only a high-school diploma. The income advantage offered by a college degree is nearly double what it was just a generation ago. And it is the full bachelor’s degree that counts: Even someone with a two-year associate degree can expect just 29% more in annual income than a person who holds only a high-school diploma.

Thus an American from a modest-income household who stays in school and obtains a college degree has an excellent chance of reaching the middle and even higher rungs of the economic ladder, as will his or
her children. But an American from a similarly modest background who fails to obtain a college degree is likely to remain stuck at the bottom. And this alarming opportunity gap is widened by graduation rates: For the children of low-income families, college-graduation rates are much lower, and the economic consequences more significant, than they are for wealthier students. In fact, students from families in the bottom quartile of household income are now graduating from college at the lowest level in 30 years, with fewer than 10% obtaining a degree.

As for the perceived accessibility of a college degree, it is true that total enrollment is rising. Relative to other countries, however, America’s graduation rate has slipped sharply. According to a 2010 College Board report examining data from 2007, the United States—once the world’s leader in college-graduation rates among young adults—is failing to keep pace in educating rising generations of workers. Among citizens aged 55 to 65, the U.S. ranks fourth in the world, with 38.5% holding an associate degree or higher. But as these Americans retire, they will be replaced by a generation only slightly better educated: Today, among citizens between the ages of 25 and 34, only 40.4% of Americans hold an associate degree or higher. That number drops our graduation rank to 12th, putting the United States behind Canada, Korea, Russia, Japan, New Zealand, Ireland, Norway, Israel, France, Belgium, and Australia.

Why do so many Americans fail to attend or complete college even though it is critical to their long-term economic well-being? According to a recent survey by the Pew Research Center, the primary reason is financial, exacerbated by the perception that a degree is not worth the cost. In the survey, 57% of adults (18 and older) said that the higher-education system fails to provide good value for money, and 75% said it is unaffordable. Two-thirds of young adults (18-34) said that they could not attend college because they needed to support a family.

Moreover, 2011 surveys of graduates by Adecco, the work-force recruiting company, indicate that almost one-fifth of recent graduates have been forced to turn to full-time work outside their fields of study, often in jobs for which a college degree is not required. More than half of recent graduates have not been able to find full-time jobs in their chosen professions.

Higher-education suppliers thus face an enormous untapped market: those demanding an affordable path to a qualification that is essential to moving up the economic ladder. The challenge is to respond to this demand in a form and at a cost that fit the lifestyles and pocketbooks
of young people and their families. Such a cost reduction will require fundamental changes in the business model and pricing of higher education—changes that do not appear to be priorities for the industry’s established providers.

THE FINANCING FIASCO

Yet even as college leaders seem unwilling to reverse the current trends of rising tuition and growing student indebtedness, serious alternatives to the status quo are beginning to emerge. The existence of this competition, combined with widespread public frustration, has produced the conditions that may allow for a sweeping makeover of American higher education.

The chief catalyst for this transformation will be money. The financing vision of traditional higher education, which assumes steadily rising tuition and heavily indebted graduates, is increasingly at odds with the financial capacities of typical households. Just when the need for a college education is becoming more obvious, the cost obstacle is growing dramatically. Something has to give.

Over the past 25 years, the cost of a college education, adjusted for inflation, has almost trebled, while inflation-adjusted median family income has risen by only about 10%. The cost of college has thus climbed steadily as a percentage of family income, especially for four-year private colleges. According to the College Board, over the past ten years, in-state tuition and fees have been rising (in inflation-adjusted terms) at 5.6% annually for four-year public colleges and almost 3% for private non-profits. In 2011, in the midst of the Great Recession and an avalanche of home foreclosures and persistently high unemployment, tuition and fees soared 8.3% at public universities and 4.5% at private universities. The average annual published figure for in-state tuition, fees, room and board, and other expenses now exceeds $17,000 ($29,000 for out-of-state students) at four-year public colleges, and tops $38,000 at private non-profits.

At these rates, it is hardly surprising that families face sticker shock. And in a sign of possible developments to come, the burgeoning expenses in higher education bear a close resemblance to the growing costs of health-care coverage. Like higher education, health insurance is a large family budget item that has long been increasing much faster than underlying inflation. When those growing insurance costs reached
a tipping point in the early 1980s, a strong consumer reaction—led by employers who had to foot most of the bill for increased premiums—triggered years of turbulence and government interference in the health-care market. There is little reason to believe that the higher-education sector will avoid a similar fate.

Even so, as often happens when an industry edges toward a pricing tipping point, university leaders seem oblivious. They appear to believe that their own cost increases can be addressed by hiking tuition rather than by restructuring to drive those costs down. The problem, however, is that such tuition increases raise the prospect of a more daunting student-debt burden—the other side of the financing conundrum.

According to the College Board, by 2009, 55% of graduating bachelor’s-degree students at public colleges were in debt, with an average indebtedness of $19,800. Among private non-profit college graduates, 65% were in debt, up from 63% in 2000, with an average loan burden of $26,100 (up from $22,300 in 2000, in 2009 dollars). Among all 2009 graduates with outstanding loans, the average debt burden totaled $24,000. And for those students who fail to graduate, the burden of debt can be truly devastating: Of every 100 high schoolers today, just 50 will graduate and go to college, and only 30 will actually complete college. Many of the others will rack up enormous debts without securing the credential they need to pay down those obligations.

Looking ahead, the college prospects of less affluent Americans are likely to become much bleaker if the system does not go through some significant change. Last year, total student-loan debt surpassed credit-card debt in America—a chilling milestone—and it is likely to exceed $1 trillion next year. Moreover, as that debt burden grows, it is becoming more difficult for borrowers to keep up: According to the U.S. Department of Education, swelling student debt (exacerbated by the economic downturn) has produced an increase in the student-loan default rate—from 6.5% in 2003 to 11.2% this summer.

Another reason for rising student debt is diminishing support from parents. According to surveys by Sallie Mae, the largest financial-services company specializing in education, student and parental borrowing covers an average of 22% of a student’s college costs, compared with 30% from parental income and savings. But for less affluent families, recent economic developments—such as the erosion of stock values—have left parents increasingly unable to help pay college bills through borrowing
or drawing down wealth. This is particularly true of minority families: A recent study by the Pew Research Center shows that, while median net worth for white households fell by 16% between 2005 and 2009, the (already much lower) net worth of black households fell by 53%. For Hispanics, it declined by an even sharper 66%.

The Pew study found that the largest factor in this decline was plummeting housing prices. Black and Hispanic Americans have a disproportionate amount of their wealth in their homes; the collapse of the housing market has therefore meant a sharp reduction in equity that can be cashed out or used as collateral. Research has shown a close correlation between home equity and the decision to attend college: Michael Lovenheim of Cornell has found that, between 2000 and 2005, a 1% increase in home prices led to a 0.13% increase in total enrollment at public colleges. A $10,000 change in home equity, he found, affected the likelihood of college attendance by 0.71%. The decision to go to a two-year college was especially sensitive to fluctuations in home equity: A 1% rise in equity, Lovenheim showed, drove up two-year college enrollment by 0.23%, but increased enrollment at four-year public colleges by just 0.08%. Similarly, a decline in a family’s home equity reduced the probability of a child’s attending college. The sharp reduction in housing prices and home equity since 2008, to the tune of trillions of dollars nationwide, has thus significantly reduced the capacity of families — particularly those families that are most dependent on home equity for their wealth — to financially support their children who are contemplating college.

Cost is also a significant factor in the decision to drop out of college. According to a 2010 survey of students by Public Agenda, among those students who failed to graduate, 31% said a major reason for dropping out was that they could not afford the tuition and fees, with another 21% saying that cost was a minor reason. Of all the students not completing school, 54% said a major reason was that they needed to go to work and earn some money. For others, of course, the rising financial bar has prevented them from contemplating a four-year college at all, or has required them to take an alternative route — such as attending a community college, either as a final credential or as a less expensive way to get two years of education en route to a four-year degree.

The relentless rise in college costs, together with the growth of indebtedness and the erosion of household wealth, is effectively splitting
high-school and college-age Americans into two groups: those who can afford to attend and complete college and those who can’t. For the first group, generally from households that are well off, college is expensive but deemed to be worthwhile. In fact, among these students, satisfaction with the higher-education system has actually been rising, with an increased number holding the view that higher education is a good value for the money and that financial aid is adequate. But for the second group — young Americans generally from less affluent households — the financial obstacles to completing college are daunting, if not insurmountable, and likely to grow worse in the years ahead.

With upward mobility in America so dependent on a degree, this means that poor students’ ability to move up the economic ladder will decline relative to that of young Americans whose families have already achieved the American Dream. The result will be an effective economic-mobility caste system. And in our society — which so prizes equality of opportunity — it seems unlikely that such a divide will be allowed to stand.

A NEW WAY OF DOING BUSINESS

Adding to the pressure is the third, and likely most decisive, threat to the current structure of higher education — namely, that its traditional business model is coming under attack from new kinds of institutions. The timing is right: In U.S. News & World Report’s 2010 college rankings, editor Brian Kelly wrote that the existing structure invites aggressive new forms of competition. “If colleges were businesses, they would be ripe for hostile takeovers, complete with serious cost-cutting and painful reorganizations,” Kelly observed. “You can be sure those business analysts would ask: Is the consumer getting the product we promised? What do you actually learn here? Can you guarantee a job? Admission to graduate school?”

In truth, a takeover scenario is less likely than an end run — in which new technological developments, and new educational institutions with very different business models, circumvent higher education’s established players. Today, competitors are exploring markets that are ill-served by the traditional model, such as working Americans who want to enhance their skills and lower-income potential students looking for much cheaper degrees. Meanwhile, rapid change in information technology is giving creative new entrants a growing technological edge — an essential precondition for transformative change.
The most obvious technological threat to the comfortable world of higher education is online education. Online learning changes the entire relationship between student and teacher; it enables information to be transferred, and student performance to be monitored, at a fraction of conventional costs. Often called “distance learning,” online education has the potential to completely upend today’s established universities.

The concept of distance learning actually has a long history. The business model was pioneered in 1858 by Britain’s London University, which established an “External System” through which students around the world could obtain degrees through correspondence courses. London boasts five Nobel laureates among its external graduates, and in 2008 its updated system had 41,000 students around the world. In 1969, the British government ushered in another distance-learning innovation when it chartered a television-based university — the Open University — aimed primarily at employed people who had never acquired a degree. Since then, 1.6 million people have studied at the university, with 250,000 students currently enrolled in the United Kingdom and around the world. In fact, the Open University is the largest producer of law graduates in the U.K., and is among the top three universities for student satisfaction, tied with Oxford.

These creative ventures did not lead to fundamental changes in the general higher-education landscape. But the rise of online learning — now also utilized by London and the Open University, among many other institutions — is likely to be the technological advance that triggers a broad transformation.

The main reason is that online education is growing rapidly in both scale and scope. For the past seven years, online enrollments in the United States have increased much faster than overall university enrollments. According to a survey of more than 2,500 colleges and universities by the Babson Survey Research Group, the proportion of students taking at least one online course grew from 10% in 2003 to 25% in 2008. And that figure continues to rise: In the fall semester of 2009, the share of students taking at least one online course was up 21.1% from the previous year and represented 29.3% of total enrollment — an enormous figure when compared to the increase in total post-secondary enrollment, which grew at just 1.2%.

The appeal of online education, and the nature of its threat to traditional universities, are not hard to fathom. Online education allows students, such as those working while studying, to learn from their own
homes at times of their choosing. It permits far greater flexibility, so that students do not have to follow the traditional semester structure and can learn at their own paces. For an increasing number of today’s students, whose K-12 educations and social lives have been built around technology, computer-based learning is more natural than the traditional “sage on a stage” model. And the quality of online education improves all the time: Babson reports that two-thirds of college and university administrators at public institutions now view online instruction as equal to or better than face-to-face instruction.

Accompanying this steady improvement have been important bursts of innovation. One example is the Khan Academy, a free, non-profit service that now provides more than 2,700 lectures online via YouTube, mainly in the sciences and primarily at the pre-college level. The service started when a Bengali-American hedge-fund analyst, Salman Khan, began tutoring his cousin in mathematics and decided that YouTube was the best platform to use. Because YouTube allows anyone on the web to access Khan’s engaging lectures, they have become an international phenomenon, and are now widely used in schools. With funding from the Gates Foundation and others, the volume and breadth of the lectures have increased dramatically. Even more important, the Khan Academy now offers a sophisticated learning strategy that allows students to take graded tests and obtain feedback that steers them in a customized way toward appropriate material. Moreover, Khan can now provide a detailed education record based on a student’s use of the site, such that teachers can tailor their assistance to that student’s particular needs.

The Khan Academy is just one example of the creative use of online instruction and monitoring software that is transforming education and providing better quality at a fraction of the cost. And yet, despite the proliferation of such competitors, the major universities have been complacent in their responses to the challenge of online education. Their reaction has been simply to try to incorporate web-based learning into their traditional business model, rather than to treat it as a fundamentally different approach to learning. Most see online classes as merely a profitable not-for-credit extension of the university, designed for non-students to improve their general knowledge. Others see online education as a way of providing niche courses for credit to supplement the classes taught by full-time faculty — essentially a web-based version of the low-paid adjunct professor.
But like the early response of newspapers to internet technology, universities have generally kept charging their regular students high prices for access to online courses in order to protect the pricing of their standard on-campus classes. Harvard, for instance, operates an impressive extension school, offering a wide range of courses for either personal enrichment or degree credit. But it charges different prices according to the course viewer’s status, in order to avoid creating an incentive for students to pass over on-campus programs in favor of online instruction. And a colleague of mine who took a Yale master’s degree in nursing almost entirely online (while working at a hospital in Texas) observes wryly that the only discount she received off the regular campus-based course was that Yale waived the fee for a parking pass in New Haven.

To be sure, the established universities recognize that they face an unwelcome threat from for-profit schools that aim primarily at working students seeking professional qualifications. These include such competing institutions as the University of Phoenix, which blends online learning with instruction at local campuses across the country, and Kaplan University, owned by a subsidiary of the Washington Post. But because older working students have not been the primary market for traditional four-year universities, the established institutions have not viewed these alternatives as serious competition. Part of their confidence stems from the fact that these for-profits can be relatively expensive: Indeed, Phoenix and others have been criticized for supposedly understating their total costs and leaving many students with heavy debts. Furthermore, the traditional universities believe they have a decisive edge in quality and brand image, often sneering at the accelerated degree courses offered by the for-profits. (Of course, this dismissive reaction is eerily reminiscent of the attitude that major newspapers had during the early days of online news, when now-defunct publications believed that their journalistic quality and name brands would protect them from any serious competition.)

But while the emergence of online instruction is sure to drive change in higher education, it is not the whole story. The larger threat to the traditional university system seems more likely to come from institutions that combine online education with new, innovative business models. It is worth remembering that Apple’s Macintosh was not the first personal computer: Rather, it was Steve Jobs’s transformation of the interaction between user and machine that revolutionized the industry.
Similar potential exists in higher education, where the development of several intriguing new business models holds out the promise of radical change. For example, Harvard business expert Clayton Christensen points to Western Governors University, a non-profit created in 1996 by the governors of 19 western states. WGU not only uses online education but also eschews curricula and grades, instead identifying the core knowledge needed for competency in a subject area and testing for that knowledge, licensing the necessary study material. Members of WGU’s faculty function as mentors and tutors, assisting students with the material, rather than as formal instructors. WGU has won accreditation, and with its focus on undergraduates and master’s students (rather than Ph.D. students or research programs), the university now has more than 20,000 students nationwide. Perhaps most noteworthy, its annual tuition is below $6,000.

Brigham Young University-Idaho is another intriguing innovation. Created out of Ricks College in 2000, BYU-Idaho does not have a long summer recess or competitive athletics. It supplements regular professors with peer-to-peer instruction. For some students, the school allows technical certifications in core courses before moving on to electives, which means that students acquire official qualifications as they advance toward a bachelor’s degree. If, for any reason, the students do not graduate with a degree, they still have the certifications — unlike many students elsewhere, who may drop out of college with a large debt but no formal qualification of any kind. In some BYU-Idaho programs, students who can avoid room and board costs by living at home are able to complete a four-year degree for less than $8,000.

The small, private Southern New Hampshire University is yet another example. Now the second-largest online-education provider in New England, SNHU’s 7,000 web-based students outnumber the on-campus student body. At the university, “course authors” with a strong understanding of online education develop classes but don’t necessarily teach them; often, the teachers are adjuncts who use the course authors’ materials. Next year, SNHU expects online education to bring in more than $100 million — a windfall that subsidizes the money-losing undergraduate campus. In a sharp break with most established universities, SNHU views online courses not as a sideshow to its traditional on-campus programs, but rather as the key to its future.

These innovative ventures have a great deal of potential, assuming they can clear a few critical hurdles. One is the perception that online
or distance learning cannot provide the experiential benefits—especially the development of close personal relationships—offered by a traditional campus. As it happens, however, the traditional university’s supposed edge in providing face-to-face mentoring and instruction is already rapidly eroding. With advances in meeting software, the experience of a video tutorial is getting close to the “real thing.” Moreover, improvements in customized and sophisticated student-education data, such as those being developed by Khan Academy, make it easy to imagine the interaction quality of online tutorials surpassing the effectiveness of the traditional system. Today, it is remarkable if a professor (or, more likely, a teaching assistant) in class knows each student’s name. But in an online world, it is entirely conceivable that, during an online tutorial with a small group of students, the professor will be able to bring up a student’s performance data on-screen, much as a batter’s performance information is displayed in a ballpark as he comes up to the plate. With information about every student’s strengths and weaknesses, the professor can adapt each tutorial to make it far more useful to each individual student—providing a much more personalized educational experience than can be obtained on most campuses today.

Traditional universities are even losing their edge when it comes to forming the networks and lifelong friendships that used to be a hallmark of the campus experience. True, probably nothing will take the place of being a member of Skull and Bones, but for most young people today, electronic friendships and networks are the norm. In any case, $120,000 over four years seems a steep price to pay for making friends. Moreover, to the extent that an on-campus experience has a unique value, a blended on-campus and online experience may be sufficient for most students—especially if the total cost of such a degree is a fraction of the price of full-time attendance at a traditional university. The Open University in Britain has provided this sort of blended arrangement since its inception, with students typically attending on-campus courses for only a few weeks each year. It is even possible to imagine consortia of “virtual universities” organizing intramural and intercollegiate sports in home cities rather than on campuses.

Of course, the most obvious hurdle facing upstarts is the assurance of quality. Accreditation is not a serious problem for a new college with a different business model; unlike, say, the medical and legal professions, there is no state or national accreditation monopoly than can regulate
the type and number of entrants into the higher-education field. The real challenge for new entrants, rather, is to show potential students and their parents that the programs on offer actually do rival or outperform their established competitors in terms of value for money. When it is difficult for customers to compare value between alternative suppliers, the established provider does enjoy the relative protection of a known and respected brand. Institutions like Princeton or the University of Michigan can sustain their customer bases and prices because people generally think they are high-quality providers, even if the data to justify their costs may be lacking. Places like BYU-Idaho and other innovative entrants do not have the luxury of resting on hazy laurels.

With college costs rising, however, would-be students are demanding clear demonstrations that their money will be well spent. Traditionally, value-seekers have been at a disadvantage: Compared with the value-for-money data available for many other products and services, obtaining the financial and other information needed to make a wise decision about college is confusing and difficult. But the situation is steadily improving, thanks to rankings and data like those supplied by *U.S. News & World Report*, *Kiplinger’s*, and *Forbes*. Colleges are likely to see a significant increase in prospective students’ ability to make informed decisions, to the detriment of complacent colleges that have relied on their brand names and historical reputations to coast along. The result is sure to help newer institutions that have found better ways to provide value and to compete effectively in the higher-education marketplace.

**THE COMING REVOLUTION**

To be sure, well-established leaders in any industry are used to dealing with competition from new technologies and new entrants with different business models. While they must always be on their toes, they do have advantages precisely because they are established and typically have well-developed and loyal customer bases. As Harvard’s Clayton Christensen observes, leaders generally respond to new technologies and business arrangements by incorporating them and using them to provide greater value to their customers, gaining revenue in return. He calls this process “sustaining innovation.”

For example, when Merrill Lynch encountered competitors offering online trading to investors, the financial firm improved the technology for use by its own brokers to enhance services to its existing customers.
Similarly, major newspapers first responded to the internet by using it to amplify stories and nudge viewers to subscribe to their print editions, “hiding” much of their best content from web readers or charging for access to online copy. In response to the new world of online learning, universities have done much the same: As noted earlier, Harvard Extension and many other established schools have merely tweaked their business models to improve their services to existing customers (and to bring in new ones) without significantly altering their pricing or core business structures. In all three cases—the brokerage, newspaper, and higher-education industries—existing leaders have attempted to use establishment advantage and brand loyalty to absorb new ideas while retaining their dominant positions and approaches.

An industry leader does not face an existential threat from a technology or business plan that it can readily incorporate into its business model. What does present a serious danger, Christensen and his colleagues have found, is when an upstart focuses initially on a new or underserved part of the market with a breakthrough technology and business plan that are far from ready for “prime time” in the established market. During this period, the entrant focuses on customers the industry leaders have been steadily ignoring or may not particularly care about, perhaps because the leaders see little potential revenue. In many cases, the new entrant is indeed offering an inferior product or service, and because it is targeted to a “thin” area of the market, the leaders don’t perceive any real competition.

Real trouble for the existing leaders begins if and when new entrants update their creative business plans, steadily refine their new technologies and methods, increase their scales of operation, improve their lower-cost products, and start eyeing much larger possible markets. At some point, one or more of these suppliers in a minor or boutique market may—sometimes quite suddenly—decide to “invade” the long-established main market and deliver a knockout blow to the existing leaders. Christensen calls this process “disruptive innovation”—and its final stage is about to hit higher education.

The experiences of other industries indicate that the results can be dramatic. Christensen points out that when Sony introduced the first commercial battery-powered transistor radio in 1955, it did not initially aim at the high-end market, where companies like RCA provided a vacuum-tube living-room entertainment center controlled by the father of
the house. Instead, it aimed at a part of the market that had not seemed profitable to firms like RCA: teenagers with limited budgets. Teenagers were not looking for a high-quality living-room listening experience; they were more interested in listening to the latest musical hits in their own rooms, and so did not mind the cheap and crackly plastic device Sony was marketing to them. Over the next decade, however, Sony improved the transistor radio to such a degree that it became a serious technical competitor to the vacuum-tube radios, offering similar quality at a much lower price. The company applied the same strategy to portable televisions, again aiming at potential buyers who were not even customers for the costly established products. Having perfected the transistor-based products for customers in these new markets, Sony then invaded the leading firms’ core markets— displacing the old technologies and the seemingly unshakable companies that employed them.

Not all industries are equally vulnerable to such devastating disruptions, of course. Aside from the nature of the industry itself, another key factor is the degree to which regulations and statutes shape the industry’s market and cost structure. Rules, laws, and government-imposed standards can provide protection against competition even if they raise costs to consumers; by erecting artificial obstacles and expenses for potential new entrants, such regulations can erode or eliminate any advantages a newer, more nimble upstart might have. Established leaders will often take advantage of this red tape, lobbying government to enforce or alter rules in order to create barriers to new entrants and thus stave off competition.

One example of this dynamic is the field of telecommunications, where the technological transformation that has brought us everything from television and movies by phone line to Bluetooth was delayed in the United States for several years. The cause was the land-line monopoly provided to AT&T, as well as rules that made it difficult for other forms of communication to emerge. Before the computer revolution and the advent of the internet—developments that made the existing communication regulations seem irrelevant—it took access-rule changes and a statutory break-up of AT&T to lay the groundwork for today’s regime of mobile phones and wireless networks.

Like AT&T, established players in higher education do receive some regulatory protection, as the industry is subject to certain rules and subsidies that influence its business model and shield current industry leaders.
Requirements associated with subsidized student loans, for instance, tend to favor existing institutions; accreditation, while not a significant barrier, does offer some protection for established providers. Organizations representing major universities maintain strong lobbying operations in Washington and state capitals; well-connected research universities often obtain revenue from government grants; and, at least in periods of economic stability, state universities have the built-in financial advantage of state appropriations, which serve as a buffer from market pressures.

Despite these advantages, however, government programs, subsidies, and regulation will not save higher education. Among experts in the fields of education and industry transformation, there is a growing sense that higher education is approaching a tipping point—and that the industry will encounter disruptive innovation quite soon. The Innosight Institute’s Michael Horn, co-author with Clayton Christensen of several studies and publications on education, predicts: “I wouldn’t be surprised if in 10 to 15 years half of the institutions of higher education will have either merged or gone out of business.” According to Christensen, this change will not seriously threaten exclusive top-brand universities like Harvard and Yale, given the perceived high value of their brands and the connections and other extras they provide. Public universities, however, are in for a real shock.

There are two reasons why public universities are particularly vulnerable to the coming higher-ed revolution. The first is their typical market: Most state-school students are ideally suited to the online education and flexible approaches to instruction offered by low-cost upstarts. Furthermore, prospective state-school students generally come from households that are more price-sensitive than those considering elite private universities.

The second, and perhaps more urgent, reason for public schools’ vulnerability is the ongoing fiscal disaster in the states. As state budgets come under increasing pressure, tuition costs are likely to continue growing and services at state schools are likely to be slashed further by hard-pressed legislatures. California, for instance, hiked in-state tuition by 21% this year; over the next few years, the University of California system envisions annual tuition increases ranging from 8% to 16%. Other states face similarly grim prospects.

And the problem is only exacerbated by public universities’ politicized governance structures—which, when combined with the state schools’ lack of endowments to rival private universities’, makes it much
more difficult for public schools to adjust and innovate in response to changing conditions and competition. Those looking for signs of the coming revolution in higher education would thus be wise to keep their eyes on America’s bloated public universities.

A Role for Government?

A fundamental restructuring of higher education—one that dramatically lowers costs and increases flexibility for millions of students—would be of enormous benefit to the country. As America faces stronger global economic competition, increasing the cost effectiveness of our approach to developing the human capital of our workforce will be essential. Within our own borders, transforming higher education will also do much to increase the economic mobility of young Americans from lower-income families, and allow a broader swath of the population to grasp the American Dream.

But if reforming higher education is so important, shouldn’t we begin crafting public policies to help facilitate the change? No and yes. Because higher education is less constrained and distorted than other industries by statutes and regulation, there are far fewer impediments to the “natural” pressures of innovation; a strong case can thus be made for keeping lawmakers out of the way. Moreover, there is a danger that, once the federal government or even state governments begin to try to manage change—by, say, imposing or altering accreditation rules—they will become tools of established institutions, used to block new entrants and competitors.

That said, it might seem reasonable for the government to require some measurements of quality and effectiveness when taxpayer funds are at stake, such as in the rules for federal student aid or direct grants to universities. To that end, some proponents of radical change in higher education argue for a government quality metric such as the “Quality-Value Index” recommended by Christensen and others. For each institution, the index would combine data on such measures as placement rates, salaries earned by graduates, graduate satisfaction, and loan-default rates. The idea is that Pell grants, subsidized loans, and other government funding to a university would be contingent on the institution’s maintaining a high quality score.

Other observers argue that government should also take the lead in creating a clear and standardized information system, which students
and families could use to compare higher-education providers. But there is a danger here: Government-designed quality measurements are subject to manipulation by well-connected interest groups, and can lead providers to seek to increase their government scores by gaming the rating system. There is also the problem of government’s tendency to focus more on inputs rather than outputs when measuring quality. The advantage of value measurements that are developed by a range of non-government institutions, on the other hand, is that no single rating organization has a monopoly; the information industry itself can more easily evolve and improve in response to market demands.

Government policy can, however, help to improve students’ post-graduation bottom lines by shifting college costs away from debt financing and toward more financing through saving. Our current tax and subsidy structure, in particular, favors debt over savings for higher education. While there are certain education tax breaks for modest- or low-income students and their families, federally subsidized student loans encourage indebtedness while making it easier for colleges to raise tuition.

The federal government could also help reduce student indebtedness and boost savings for higher education by overhauling the way the tax code treats higher education. Today, the tax system treats fixed capital — such as investments in equipment — far more generously than investment in human capital, such as tuition for a college degree. The tax code needs to treat these different forms of investment more equally. For example, in a recent Heritage Foundation proposal for long-term fiscal reform, Saving the American Dream, Alison Acosta Fraser, William Beach, and I suggest introducing a tax deduction for up to four years of higher education.

Second, ending the double taxation of savings would provide a strong incentive for Americans to save for college and for other major investments. The Heritage proposal exempts all saved income from taxation until it is spent (and in the case of higher education, savings used for tuition are not taxed even at that point). This change in federal taxation would reinforce the state tax benefits associated with state-sponsored 529 college savings funds, which have grown rapidly in recent years despite the troubled stock market (holdings now top $150 billion).

Looming on the horizon could even be a futures market in higher education. Some states already allow investors in 529 plans to lock in future tuition prices at state institutions, much as an investor might buy
a futures contract for oil. With an expansion of savings for higher education, and thus a growing pool of funds linked to the financing of higher education, one could imagine commercial managers of large portfolios of college-savings funds beginning to develop a tuition futures market. Such a market might include tradable fixed-price contracts for, say, a year of tuition at the University of Virginia, and even put and call options so that parents could lock in the costs of a complete college education well before they have saved the full amount. Though the obvious advantage of such an approach would be providing parents with more predictability about future costs, a futures market might also provide added impetus for reform: Portfolio managers with billions in college savings and futures contracts would take a much keener interest in the long-term business model of colleges and universities, putting further pressure on the institutions to restructure their finances and improve the value they offer for money.

THE IMPOSSIBLE DREAM NO MORE

For a growing number of Americans, a college degree is something obtained only through enormous sacrifice and indebtedness on their part or their parents’, or a dream that is entirely out of reach. Meanwhile, most college leaders live in a bubble in which the costs of ever more elaborate facilities, expanding administrative bureaucracies, and high-profile professors with light teaching loads can simply be passed on to customers in the form of higher tuition.

But those days are about to end. Underneath the surface, upstart institutions are perfecting radically new education technologies and business plans at the same time that young people and their parents are becoming more frustrated with the traditional higher-ed model, and more open-minded about alternatives. There is every reason to suspect that, quite soon, these new institutions will do to higher education what Sony did to radios and Apple did to computing. Afterward, our colleges and universities will never be the same. Few Americans, one suspects, will look back in regret.