Federal Tax Policy Regarding Universities

Endowments and Beyond

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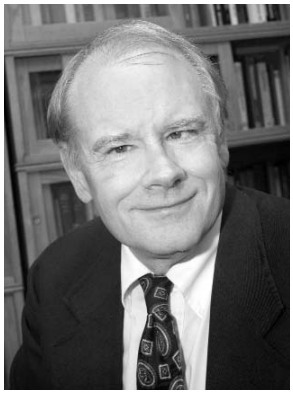

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Center for College Affordability and Productivity

The Center for College Affordability and Productivity (CCAP) is a non-profit research center based in Washington, DC, that is dedicated to research on the issues of rising costs and stagnant efficiency in higher education, with a special emphasis on developing market-based solutions.

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Introduction

The vast bulk of economic activity in the United States is taxed by the federal government. There are exceptions carved out, primarily for charitable operations, including universities. The rationale is that these organizations serve the public good and should not be reduced in magnitude by the deleterious effects of taxes. Universities in particular get a wide range of tax breaks. Contributions to universities are tax deductible. Earnings from endowments in the form of capital gains, dividends, rents, royalties, or interest are non-taxable. Property owned by universities is rarely taxed at the local or state level, and university fees and often even commercial activities are frequently not subject to sales taxes. Customers of universities typically get tax breaks, such as tuition tax credits, or are allowed to create tax sheltered savings accounts to help pay for college.

As university costs have risen, both to student consumers and to society as a whole, people have started to question historic assumptions about university activities. People are asking questions like: Should a person who donates or "buys" a stadium skybox get a tax break for this non-academic expenditure? Should universities be allowed to amass huge endowments from tax free gifts and investment income and then spend only small amounts from the fund, allowing the endowment to rapidly accrue in a tax free fashion? Should universities be allowed to spend monies received via tax breaks to provide vast incomes to members of the university community, such as multimillion dollar golden parachutes for presidents and football coaches? Should upper class individuals be allowed to lower their taxes so their kids can go to expensive elitist schools that favor alumni children and people with wealth? Should university endowment funds be allowed to operate without the level of financial reporting and transparency required of other businesses that fall under IRS and SEC rules? When universities use tax-exempt endowment funds or even annual gifts in a matter different than directed by the donor, should universities be subject to severe criminal or civil penalties for committing fraud?

Should universities be allowed to amass huge endowments from tax free gifts and investment income and then spend only small amounts from the fund, allowing the endowment to rapidly accrue in a tax free fashion?

Should federal tax policy towards universities be reviewed and changed? This study is *not* a comprehensive look at all the issues raised above, but discusses some of the major ones. Special attention is placed on the tax treatment of university endowments, and what are reasonable rules that should be enacted, if any, to assure that monies are expended in a manner consistent with the granting of tax-exempt status. Lesser attention is placed on other issues, such as the use of tuition tax credits.

Why Should Universities Receive Favorable Tax Treatment?

Used car dealers pay taxes to state, local, and federal governments, while universities, generally speaking, pay taxes to none of these entities. Why the difference? Why do we tax most business enterprises, but we actually directly or indirectly subsidize higher education?

I can think of at least two lines of reasoning why favorable tax treatment might be justified: Universities can promote equal economic opportunity, high levels of intergenerational income mobility, and the American egalitarian ideal that "all men are created equal." Secondly, it might be argued that universities have several types of positive spillover effects, which economists call "positive externalities." Where positive externalities exist, economic theory suggests there will be under-consumption of the relevant good or service in the absence of external incentives, such as tax breaks or governmental financial grants.

The egalitarian argument for favorable tax treatment focuses on the teaching/instructional component of higher education. College graduates earn a great deal more, on average, than those without a college degree. It is difficult to succeed economically without a college education. Yet college education is costly: high (and rapidly rising) tuition charges have to be paid, plus there is the loss of several years of work-related income while completing a degree. Affluent people can afford these costs more than the poor and disadvantaged. In the absence of third party assistance (either public or through private charity), the ability of lower income families to move up the economic ladder over the generations is impeded by the cost barrier imposed—a barrier that is relatively less consequential for the affluent. In the absence of governmental intervention, it is argued that intergenerational income mobility will suffer, and poor but talented persons may be thwarted from realizing their potential—to the detriment of themselves, America's egalitarian tradition, and the nation as a whole.

The egalitarian arguments for colleges have problems. It is even possible that making college more accessible for large numbers serves to raise rather than lower income inequality.

Moreover, it is argued that colleges impart benefits even to individuals who are not direct participants in the university experience. For example, universities allegedly make their students into more informed citizens, and their graduates are more likely to make intelligent choices in selecting persons for elective office, being able to discern those individuals who have substance and integrity as opposed to shallow demagogues with dubious ethical characteristics. As part of their general education component, universities allegedly teach materials that tend to bind us together as peoples—our history, the workings of our civic institutions, etc. University graduates also exhibit less anti-social behavior—they commit fewer crimes, for example. They are less likely to be a burden on the community because of unemployment or low incomes. They pay more in taxes than they take in the form of benefits from the government. They even smoke less—subjecting non-college graduates less to the effects of secondhand smoke.[1]

Similarly, it is argued that university sponsored research can have positive externalities as well. A university-invented vaccine that protects persons from communicable diseases benefits society—even persons who do not choose to get the vaccine (since their chances of contracting the disease fall as others gain protection). Some would argue that research can foster economic growth, which benefits everyone, not just those doing or using the research directly. Studies show that a majority of economic growth does not come from increasing the raw ingredients of growth—especially capital—so much as it comes from improving how we use those ingredients—through technology and scientific progress, much of it fostered within universities.[2]

Are the Egalitarian/Externality Arguments Valid?

For all the vast resources universities devote to researching the most esoteric things, they spend little or nothing on objective research into validating or refuting the standard arguments for universities. Are universities agents for greater equality and income mobility? Do universities have all sorts of positive externalities as advocated by proponents of higher education, who accordingly argue that universities should be viewed primarily as public, not private goods, largely publicly financed?

Do Universities Promote or Hinder Income Inequality?

The egalitarian arguments for colleges have problems. It is even possible that making college more accessible for large numbers serves to raise rather than lower income inequality. The great move to making

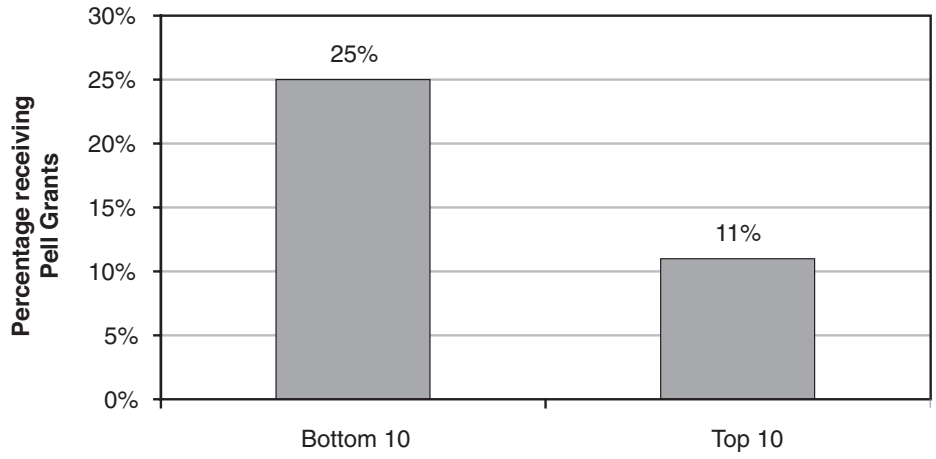
college education available for all has come in the sixty years since World War II, yet measured income inequality has actually grown at the same time that college participation has risen.[3] That does not prove causation, but it certainly reduces the likelihood that increased college access has been a major positive force for greater equal economic opportunity.

Two factors reduce the extent to which colleges have provided a path to affluence for able younger persons from modest economic circumstances. First, the college attrition rate is extremely high—over 40 percent of students fail to graduate within six years, so for many individuals college access does not translate into the acquisition of high levels of skills leading to high paying jobs.[4] Second, many of the ostensibly better colleges whose graduates presumably garner most of the best and highest paying jobs have severely restricted supply, not increasing numbers of relatively poor students admitted even as demand has risen.

The better schools that are presumed to be gatekeepers to the best jobs for young college graduates show a decided preference for students from prosperous families. As figure 1 shows, students attending the wealthiest schools, as determined by endowment per student in the 105 highest endowment institutions, have a lower proportion of Pell Grant recipients (relatively lower income students) in the population than those attending other, less prosperous universities. Within higher education, there seem to be the equivalent of gated communities that are occupied largely by children from affluent families.

FIGURE 1

STUDENTS WITH PELL GRANTS BY ENDOWMENT PER STUDENT



Source: www.economicdiversity.com.

This is illustrated by a study reported by the National Center for Education Statistics which looked at 1992 high school seniors of high mathematical ability. By 2000, 74 percent of those students from families with "high socioeconomic status" had acquired at least a bachelor's degree, compared with just 29 percent of those of low socioeconomic status.[5] The proportion of students receiving Pell Grants (denoting lower income students) is actually very low at many major state universities ostensibly founded to serve the masses of citizenry, including the University of Virginia, founded by Thomas Jefferson.[6] As one observer puts it, we are heavily subsidizing "educational gated communities."[7]

Indeed, given the seeming abandonment of the goal of equal educational opportunities by many institutions of higher education, a fairly good case can be made that universities today serve to perpetuate income inequalities over generations. The perceived best schools give preferences to their own alumni, children of wealthy persons willing to make large gifts, and others in privileged positions.[8] Some observers have noted that intergenerational income mobility in the United States today is less than in some other nations, and probably less than it used to be before universities were as important in American life.[9] While it is my view that income mobility is still relatively high and probably roughly constant over time, it is probably also true that the growing universality of higher education in the United States has not been accompanied by either reduced inequality in static measures of the size distribution of income, or by indications of greatly enhanced income mobility over time.

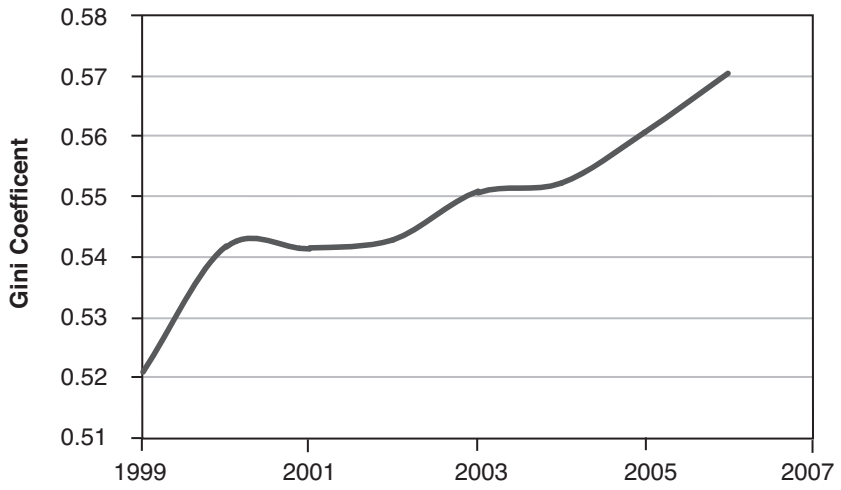
There is also considerable evidence that there is growing inequality *within* the university community. The gap between the elite private institutions and typical public schools has widened by almost any measure: average expenditures per student, salaries of professors, average SAT scores of students, etc.[10] Growing institutional inequality appears to also be tied to the "gated community" effect discussed above. The average percent of students receiving Pell Grants at the ten highest per student endowment institutions is eleven, for example, compared with 25 percent at the ten lowest endowment schools in the sample of 105 schools that my associate Thomas Ruchti gathered for the 1999–2006 time period.

Moreover, Ruchti found that endowment inequality, even with this sample confined to relatively prosperous schools, grew consistently over time, with a Gini coefficient rising from about .52 in 1999 to about .57 in 2006—already huge endowment differentials expanded significantly over time.[11] As figure 2 shows, the Gini rose in every single year except 2000–2001.

Part of the reason relates to the fact that larger endowment schools earned higher rates of return on investment income.[12] The rewards from risk taking are enhanced by the tax-exempt nature of endowment incomes. Since poorer schools have a stronger need for endowment funds to finance operating

FIGURE 2

ENDOWMENT GINI COEFFICIENTS FOR TOP 105 SCHOOLS



Source: National Association of College and University Business Officers (NACUBO).

expenses, they may feel compelled to follow less risky endowment strategies, increasing the probability that certain minimal endowment revenues will be available in the short run, but reducing the longer run rate of return on investment. The fact that the rich schools are more elitist and less open to poorer Americans extenuates the impression that colleges are far less agents for promoting income equality or mobility than colleges would like to have us believe.

Positive or Negative Externalities?

Do universities have the positive spillover effects that they often so confidently assert exist? That question is particularly difficult to answer, since positive and negative externalities are notoriously difficult to measure, and, indeed, what may be a positive externality to one person is a negative one to another.[13] Still, many of the claims of positive spillover effects appear to be on a somewhat shaky foundation. This is revealed in the annual *Education Pays* publication of the College Board.[14] There are page after page of tables that show college graduates smoke less, commit fewer crimes, are less likely to be unemployed, pay higher taxes, volunteer more, etc. Yet showing association is not the same thing as showing causation. I would hypothesize that at age eighteen, before entering college, the college bound students tend to have positive social attributes relative to the high school graduates who do not continue on—they probably already smoke less, work harder, are more disciplined, volunteer more, commit fewer crimes, etc. What is the amount that college *adds* to these positive attributes or reduces negative ones? On that note, we have little in the way of tangible empirical evidence. The claim of significant positive externalities may hold, but the evidence is far from clear on that point.

Moreover, some indirect empirical evidence makes claims of widespread positive externalities less compelling. If higher education improves the quality of life of communities, we would expect to see in-migration into higher-education-intensive communities or states—areas that spend a lot on higher education, or that have a lot of college graduates. Yet statistical examination of the migration/higher education relationship does not show strong, unambiguous evidence that people want to move into university-intensive areas to share in the positive spillover effects—indeed, there is some evidence almost saying the opposite—implying universities might have negative spillover effects.[15]

The fact that the rich schools are more elitist and less open to poorer Americans extenuates the impression that colleges are far less agents for promoting income equality or mobility than colleges would like to have us believe.

This author knows of little empirical evidence that specifically addresses the issue of research externalities, but it is striking, given the amount of subsidization of that activity, that the academic community has not demonstrated that the spillover effects are sizable. Is this because the evidence does not support that perspective, one that is clearly in the self-interest of the academic community to promote? The lack of widespread empirical evidence is particularly suspect given the fact that there is some evidence that faculty salaries are positively correlated, other things equal, with the magnitude of federal research grants.

To be sure, the evidence is not all one-sided. There is some evidence, for example, that the presence of college-educated workers raises the productivity of non-college educated employees, suggesting definite positive externalities. The point is, however, that the assumption of positive externalities that underlies federal (and, for that matter, state and local) tax policy is far from being clearly established empirically. The existing empirical evidence is contradictory. In the face of a situation where some evidence points to positive externalities, while other evidence points to negative externalities, one could argue that the net

externalities of colleges are a wash and are close to zero. In that case, from an externality perspective, the evidence would support taxing universities like other business enterprises—neither more (justified if negative externalities are present) nor less (justified if positive externalities exist).

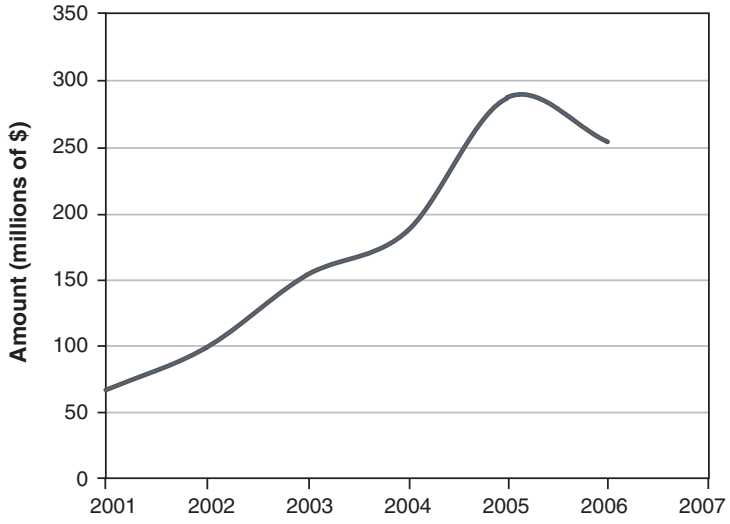
In short, the current federal tax policy of unambiguously favoring institutions of higher education from a tax and subsidy perspective seems hard to justify given the fact that the evidence strongly confirms neither the egalitarian nor the externality arguments are in favor of it. A review of tax policies towards universities, then, seems justified from the standpoint of maximizing the allocation of resources. That review should also start with the question: are the current tax breaks justified? Could society be better off if the tax preferences were removed and the resulting income used for other purposes, either within or outside of higher education?

Federal Tax and Subsidy Policies Concerning Universities

With the important exception of for-profit institutions, colleges and universities do not pay federal taxes. It is interesting that the for-profit institutions often pay tens or even hundreds of millions of dollars in federal taxes while competing non-profit institutions performing similar instructional services and sometimes offering similar degrees pay nothing. Figure 3 demonstrates this with respect to the largest for-profit provider, Apollo Corporation (the University of Phoenix). Not only does the company pay a lot of taxes, but the amounts have risen substantially over time, just as the not-for-profit competition has had an increase in subsidies. This creates an un-level playing field, treating providers of higher educational services in different ways that are hard to justify. Why is it that the University of Phoenix, which pays taxes, does not receive similar treatment?

FIGURE 3

APOLLO GROUP: YEARLY PROVISION FOR TAXES



Source: The Apollo Group.

What are the tax breaks received by most institutions of higher education? First, they pay no federal income taxes on the earnings from their invested funds, or on any accumulation of cash reserves arising from running budget surpluses.[16] This includes taxes on cash received from investments (e.g., rents, dividends, interest payments), or on realized capital gains. Second, new donations to universities by third parties are not taxable. This increases the quantity of new gifts to institutions beyond what otherwise would occur.

The value of these tax breaks is not trivial. Take university endowments. It is probably true that higher educational endowments funds in mid-2007 aggregated to about $400 billion.[17] Assuming an annual total rate of return on those funds of 10 percent, annual investment earnings approximate $40 billion. Some of those gains are non-realized capital gains that even for individuals and for-profit corporations are taxable only when the gains are realized. Yet some endowment gains reflect short term capital gains that for others are not only taxable, but at relatively high rates. Some capital gains from previous years are realized currently even though earned in the past.

The current federal tax policy of unambiguously favoring institutions of higher education from a tax and subsidy perspective seems hard to justify given the fact that the evidence strongly confirms neither the egalitarian nor the externality arguments in favor of it.

It is probably not far out of line to assume that if current endowment income were taxable, universities would pay an average marginal tax rate on that income of at least 15 percent. Assuming a $40 billion annual investment income, that means universities receive about $6 billion in annual tax breaks from not taxing endowments. Suppose that it were decided to tax those endowments but to earmark the proceeds to promote access among lower income students by expanding the Pell Grant program. Given recent funding levels, that would allow a Pell Grant expansion in dollar terms of about 40 percent. Moreover, the financial burden on this change would fall largely on the wealthiest universities that, by and large, have relatively small Pell Grant populations—the gated communities of higher education. The egalitarian goals of higher education would be served by enhancing Pell Grants, with schools like Harvard, Yale, and Princeton (which alone have nearly 20 percent of total university endowments) funding greater aid which would flow in part to schools that do not restrict access severely for lower income Americans. I am not necessarily advocating such a policy change, and indeed can build a good argument against it, but I am merely using this illustration to show that the potential impacts on college access of changing federal tax laws can be important and substantial.

Endowments: Should There Be Federal Spending Requirements?

Some political figures and commentators on higher education issues have advocated imposing minimum spending requirements from endowment funds in order to qualify for federal tax exemption.[18] Why should outsiders interfere in the spending policies of universities? The argument for doing so can be made by using an admittedly extreme example. Suppose a university received vast amounts of new endowment gifts, spurred on by the tax benefits that such gifts confer on the donor. Suppose it decided to spend nothing from the endowment and simply reinvest all funds for the future. In this case, in the time period of the gift, there are no observable improvements in how the university performed in its missions as a consequence of the gift, but the individual donor receives a tax break not given for most other forms of expenditure. The purpose of the tax exemption is to fulfill the mission of the university, but the

institution, at least in the short run, is doing nothing with the funds that would help it achieve that mission. Many persons would say in such a case the award of the tax exemption was unjustified. The government permits gifts to be made in a tax-exempt manner under the assumption that funds are going to be used to further the institution's goals, which presumably have some social benefits to society beyond the private benefits derived by customers (e.g., students) of the institution.

As table 1 shows, endowment growth has dramatically outdistanced inflation at the large endowment schools. The table takes the fourteen schools that in 1991 had an endowment valued at over $1 billion in terms of 2007 purchasing power, and compares that with the actual endowment value in 2006. Note the huge growth in endowments at every school—at least a doubling allowing for inflation. Indeed, for the fourteen schools collectively, *endowments more than tripled in real terms, growing at an annual compounded inflation-adjusted rate of 8.55 percent per year*. Since most colleges and universities have strict limits on enrollments, even adjusting for enrollment growth, many of these institutions saw a doubling in inflation-adjusted wealth per student. With this massive growth, why couldn't colleges accelerate their spending growth from endowments? If endowments are trivial relative to overall financial needs, then even large endowment growth would have little overall impact. And certainly that is the case for most public universities. However, there are a large number of trendsetting prestigious private schools that had both vast tuition increases in real terms and massive increases in real endowment wealth per student, suggesting that endowment wealth probably has not been seriously used to contain costs to students. Rather than using endowment to substitute for tuition increases, the schools have simply accelerated institutional spending and/or the growth in the endowment itself.

TABLE 1

ENDOWMENT GROWTH, 14 HIGH ENDOWMENT SCHOOLS, 1991–2006

Institution	1991 Endowment[a]	2006 Endowment[a]	% Growth
Harvard	$7,213.6	$29,545.7	309.6%
Yale	3,969.2	18,423.5	364.2
Stanford	3,489.7	14,391.6	312.4
Texas	4,680.1	13,523.2	189.0
Princeton	3,538.4	13,329.1	276.7
MIT	2,210.0	8,550.4	286.9
Columbia	2,439.5	6,067.2	148.7
Emory	2,058.5	4,976.1	141.7
Pennsylvania	1,267.6	5,429.0	328.3
Wash. U.-St.Louis	2,245.6	4,786.8	113.2
Northwestern	1,558.5	5,252.7	237.0
Chicago	1,584.9	4,973.0	213.8
Cornell	1,076.7	4,415.4	310.1
Rice	1,733.4	4,073.5	135.0
All 14 Above	39,065.7	137,737.2	252.6

Notes: a) Numbers in millions of dollars adjusted for inflation by the Consumer Price Index for All Urban Consumers, and expressed in 2007 dollars.
Source: National Association of College and University Business Officers (NACUBO), National Center for Educational Statistics.

These are not a few atypical universities of minor importance. Collectively, they hold over one-third of all endowment wealth for U.S. institutions. Moreover, the table may actually understate growth. For one thing, if the analysis were extended to 2007, the growth rates would have been even higher, since endowment growth at schools like Harvard and Yale were actually in the double digits for 2005 to 2007, even after adjusting for inflation. The criteria for selection was based on 1991 endowment size, rather than 2006 endowment size, which biased findings towards the inclusions of some moderately slow growing schools in terms of endowment.

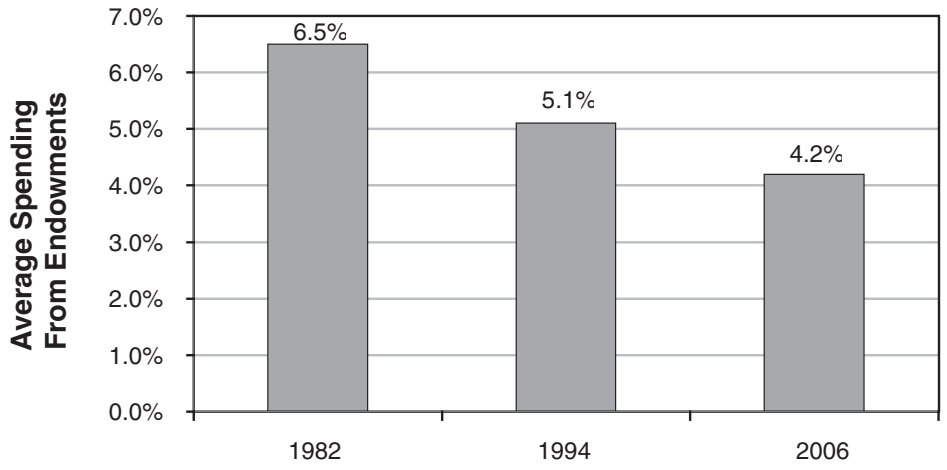
Indeed, for the fourteen schools collectively, endowments more than tripled in real terms, growing at an annual compounded inflation-adjusted rate of 8.55 percent per year.

The size of endowment needs to be related to the size of the student body to ascertain resources available per student. To be sure, some endowment funds are used to promote non-instructional functions—finance research activities, pay for the football coach, etc. Nonetheless, other things equal, we would expect the potentialities for endowments to relieve student costs varies very strongly with enrollment, so the more relevant statistic is the available endowment per student. As table 2 shows, using this criteria, many of our nation's best endowed schools are liberal arts colleges.

It appears that universities have, on average, been reducing their spending from endowment principal over time.[19]As figure 4 indicates, spending today is about one-third less per endowment dollar than it was a generation ago. This is despite the fact that there has not been a corresponding decline in the rate of return on investment income (including capital gains); indeed, if anything, the opposite appears to be the case.[20]

FIGURE 4

AVERAGE SPENDING FROM ENDOWMENTS, 1982–2006



Source: *Wall Street Journal.*

Without a doubt, most American universities have effectively used some of their endowment funds over the past decade to increase the principal amount of the endowment rather than to meet current university operating or capital needs.

How much should universities spend out of their endowment? It seems to me that a good rule of thumb would be for universities to spend that amount consistent with the endowment maintaining its real value, or, more arguably, its real capacity to fund activities at the current inflation-adjusted level. Of course, with the passage of time new endowment inflows through new charitable contributions would continue to increase real spending and the inflation-adjusted size of the endowment principal. If universities spent more than that indicated above, they would be reducing the effective purchasing power of the remaining endowment, and jeopardizing the institution's mission by potentially forcing some future reduction in real expenditure. If the institution spends less than that amount, it is using the endowment to expand the principal. While there is nothing inherently evil about this, it means that incremental endowment spending associated with each dollar of tax revenues foregone (because of the tax breaks associated with giving) are quite small in the short run. Taxpayers, who suffer from the erosion of the tax base associated with tax exemptions and deductions, will see little in the way of benefit for the "tax expenditure" associated with charitable giving now, although in theory this should be corrected in the long run. It is this concern that has led to statutory requirements that non-university private foundations seeking tax exemptions spend 5 percent of the principal amount of endowments each year.

TABLE 2

15 SCHOOLS WITH OVER $500,000 ENDOWMENT PER STUDENT, 2005[a]

Institution	Endow/Student	3.5% Yield[b]	4.6% Yield[b]	6% Yield[b]
Princeton	$1,763,539	$61,724	$81,123	$105,812
Yale	1,439,114	50,369	66,199	86,347
Harvard	1,409,498	49,332	64,837	84,570
Stanford	1,001,208	35,042	46,056	60,072
Grinnell	958,675	33,554	44,100	57,522
Pomona	902,899	31,601	41,533	54,174
Swarthmore	842,882	29,501	38,772	50,573
Rice	773,709	27,080	35,591	46,423
Amherst	763,398	26,719	35,116	45,804
MIT	719,214	25,172	33,084	43,153
Williams	697,313	24,406	32,076	41,839
Cal Tech	696,793	24,387	32,052	41,806
Wellesley	613,502	21,473	28,221	36,810
Berea	600,667	21,023	27,631	36,040
Dartmouth	513,222	17,963	23,608	30,793

Notes: a) Expressed in 2007 dollars. b) Investment income per student for fiscal year 2006.
Source: National Association of College and University Business Officers, National Center of Education Statistics, author's calculations.

The 5 percent rule was devised because it was thought that a 5 percent payout is roughly consistent with maintaining an inflation-adjusted endowment corpus—not effectively dipping into endowment principal. A decent case can be made that that figure is inappropriate, probably significantly too low in most cases. For larger endowments, the longer term (ten year) annual rate of return on endowment funds typically exceeds 10 percent, or perhaps 7 percent after allowing for inflation. A 5 percent spending rule seems extremely conservative. NACUBO data indicates typical spending from endowment principal is around 4.2 percent a year presently, somewhat lower than the payout required under a 5 percent rule. *Without a doubt, most American universities have effectively used some of their endowment funds over the past decade to increase the principal amount of the endowment rather than to meet current university operating or capital needs*. Whether this was done by accident or design is a matter of conjecture—it may well be the actual rate of return of investments consistently exceeded the rate planned and assumed by university financial planners.

Alternatives to a 5 Percent Rule

I am not certain whether a minimum endowment payout rule makes good public policy sense and feel that its impact on colleges may be less and of a different nature than advocated by proponents. Nonetheless, if a rule is going to be adopted, alternative approaches deserve consideration. One idea would be to *tailor the minimum required payout rule (to maintain tax-exempt status) to the past investment experience of the relevant institution*. Institutions that have had a poor record with their investments—say a long run rate of return before inflation adjustments of just 7 percent—should not be expected to spend as much as an institution with an extraordinary high return—say 15 percent. One possible rule would be to *make endowments spend an amount equal to the ten year average compounded rate of return on investments minus the rate of inflation as determined by the Consumer Prince Index minus an additional 1 percentage point*. Thus if a university had an 11 percent long run rate of return on investments during a period of 3.5 percent annual price inflation, the minimum spending requirement would be 6.5 percent (11 minus 3.5, minus another 1). The additional 1 percentage point partially allows for the lamentable fact that university spending inflation exceeds the general inflation rate. Universities would argue for a bigger number for this factor (say 3 percent), but that would be enshrining and validating in public policy the inefficiencies manifested in rapid increases in university spending per student. The 1 percent extra adjustment is a compromise between those who reject the concept of any special college differential and those who would favor a large special adjustment factor.

One possible rule would be to make endowments spend an amount equal to the ten year average compounded rate of return on investments minus the rate of inflation as determined by the Consumer Prince Index minus an additional 1 percentage point.

Table 3 looks at endowments at ten wealthy private schools over a very long period. It shows clearly that there are huge variations between schools in growth in endowment, at least partly a consequence of varying investment experience. For example, the University of Rochester was a wealthy school early in the period on the basis of huge holdings of stock in Eastman Kodak and Xerox. The decline in the relative fortunes of those companies had a severely adverse impact on Rochester. In the reverse direction, the high technology boom in Silicon Valley, near Stanford University, helps explain that institution's rapid endowment growth. All of this increases the argument for tailoring any endowment spending rule to the institution's own situation.

TABLE 3

ENDOWMENT GROWTH AMONG TOP INSTITUTIONS, 1958–2006[a]

Institution	1958	1980	2006	% increase
Harvard	$3,891,564	$4,027,123	$29,952,767	670%
Yale	1,896,608	1,718,923	18,677,267	885
Chicago	1,234,168	871,960	5,041,558	308
MIT	1,048,107	1,084,178	8,668,186	727
Northwestern	1,043,940	775,268	5,325,038	410
Rochester	998,744	956,234	1,544,760	55
Princeton	978,681	1,392,073	13,512,755	1281
Cornell	790,171	644,898	4,476,179	466
Stanford	681,233	1,605,623	14,589,822	2042
Johns Hopkins	676,172	601,071	2,435,059	260

Note: a) Numbers in thousands of dollars adjusted for inflation by the Consumer Price Index for All Urban Consumers, and expressed in 2007 dollars.
Source: National Association of College and University Business Officers (NACUBO) and World Almanac.

The data also show the problems with a rigid (say 5 percent) spending rule for all schools. In the 1958 to 1980 period, real per student endowments were not rising at a number of schools, even with those schools spending well under 5 percent of endowment principal. In part, this is because equity markets were stagnant in this highly inflationary period, and also because colleges followed much more conservative investment strategies than at present. A 5 percent rule in a period similar to 1958–1980 would have led to real endowment declines at many American institutions.

There are a number of technical issues that any such approach would have to deal with. A detailed discussion is beyond the scope of this paper, but one issue is: how does one define endowment funds? If the ratio of operating funds to endowment nationally is similar to that prevailing at Harvard, there probably are close to $60 billion of university funds residing in non-endowment investment accounts.[21] Should there be limits (say equal to 50 percent of annual expenditures) on non-endowment invested funds not subject to the spending rule? There are issues about the time period used in formulating any endowment rule. Any endowment rule based on only a short period of investment experience (say one to three years) very possibly could significantly misjudge the typical or normal investment experience of the institution, and could open institutions up to abrupt changes in spending. On the other hand, any extremely long period of investment experience, say forty years, could lead to modern spending requirements dictated by investment experiences that are far from representative of those existing at the current time. It would seem to me a ten year time period might be about right, minimizing somewhat both of these problems, although not eliminating them. The rate of return on endowment used for tax and rule making purposes would equal the average annual rate of return over the past decade.

Still another alternative approach would not be to overtly prohibit spending below certain threshold levels, but to impose a tax on it (sort of an un-consumption tax, since it would apply only if universities did not adequately spend from their endowments). The goal would be to tax endowment accumulation in enrollment and inflation-adjusted terms that arise from saving and reinvesting from endowment income. The principle would be that 100 percent endowment income after adjusting for inflation and

enrollment growth should be spent on furthering the institutional mission consistent with donor intent. Some fraction of any real, inflation and enrollment adjusted principal accumulation arising from under spending of endowment should be taxed, as tax exemptions are granted for university giving on the assumption it will lead to spending to improve higher education services in the current time period.

The "under spending tax" approach has an advantage in that it is not a new rigid mandate on colleges. It merely says that tax exemptions for college endowments have limits. Ideally, the under spending tax's basis would be determined by each individual institution's own investment behavior, although that does pose some administrative costs and loss of simplicity relative to a tax triggered by spending below a common percent of endowment, say 5 or 6 percent.

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Colleges and universities argue for using the Higher Education Price Index as a measure of inflation. This is totally inappropriate in my judgment. Indeed, federal legislation should prohibit its use in federal statistical calculations of "real" changes in college costs. This index, which is not even compiled by the federal government like other indices such as the Consumer Price Index, Producer Price Index, or GDP Price Deflator, is largely determined by input prices in higher education. If administrative salaries rise, then the Higher Education Price Index rises. Colleges can give their employees huge salary increases, claim that "higher education costs are soaring," and demand larger government subsidies, etc., as a consequence. This price index adds to the "academic arms race" that is contributing to rising costs of higher educations. In terms of some of the endowment spending rules discussed above, the use of the Higher Education Price Index would lead to a lower spending requirement, at least if trends of the past two decades are maintained in the future. There are other real technical problems with any college cost index, particularly arising from the lack of good measures of output or performance.

Other Endowment Issues

Some proposals for an endowment spending rule would apply only to colleges with large endowments, say $500 million. This would reduce the scope of regulation and target the wealthiest of schools. A good case can be made, however, that perhaps any rule should be based on endowment per student. A small school with a $300 million endowment is better off than a huge school with a $600 million endowment. If the goal is to force relatively high levels of spending among the schools that have the most resources compared with the size of their educational mission, the endowment spending rule should be on a per student basis.

Some individuals have expressed a desire to mandate how increased endowment spending (dictated by a federal spending rule) should be allocated. There are a number of difficulties with such an approach. There is the fact that much endowment money is spent according to the wishes of donors, and if spending is to be increased because of federal tax policy, in some instances, a strong case could be made that spending should be increased proportionate with the wishes of institutional donors. Suppose university A is spending only 4 percent a year out of $3 million given by donor A, or $120,000 a year. Suppose university A is forced to increase spending to 6 percent a year under federal regulations. It seems that would require spending increases from donor A's funds to $180,000 a year, and it would be inappropriate for the federal government to mandate how those incremental funds ($60,000 in this case) would be spent. To do so would be to effectively impose a somewhat capricious tax on those donations and possibly lead to actions highly inconsistent with donor wishes.

Those wanting incremental endowment spending to meet instructional or research needs could achieve their objective by restricting tax-exempt donations and investment income to those areas. It strikes me as odd that if I die and leave $5 million to Northwestern University (my alma mater) to build luxury skyboxes for the stadium or to help construct a luxury dormitory for that institution's mostly affluent students, I can reduce federal estate taxes by $2 million or more, but if I leave that money to my kids, I have to pay that huge amount in taxes. Perhaps contributions for some functions should not be tax-exempt. Examples might include:

- intercollegiate athletic facilities and, more arguably, scholarships
- student union buildings, recreational centers, etc.
- dormitories and eating facilities
- commercial enterprises operated by universities
- other activities not *directly* tied to the instructional or research mission

Universities raise a more fundamental objection to endowment spending regulation with respect to earmarked endowment funds. Suppose an endowment is created to give a scholarship to a student graduating from Washington High School. Yet in some years there is no good candidate for the scholarship, and prudence dictates the money should not be spent, but rather the principal be enhanced, giving the award out when an able candidate is identified. A rigid rule dictating a minimum spending requirement would lead to suboptimal use of monies such as this, or so it is argued.

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While it is a legitimate issue to consider, I believe the problem is somewhat overstated. Universities have hundreds, often thousands, of endowment accounts, and any spending rule would apply not to individual accounts but to the aggregate university endowment (however, note the point above about meeting donor intent). Moreover, almost every endowment has a fair amount of unrestricted funds. If spending from the account for the scholarship for Washington High is zero this year, perhaps the spending from another account could appropriately exceed the statutory minimum rate (maybe because there are multiple good applicants for a scholarship), and, if necessary, some above statutory limit spending from some unrestricted accounts (perhaps to pay for some one-time equipment or software needs) can occur to assure the institution achieves the institutionally required minimum spending in a way that is fiscally prudent and meets the intent of donors.

As the data in table 2 indicate, it is true that there are a number of prestigious institutions with huge endowments per student. The vast increase in endowments over the past couple of years suggests that, if anything, table 2 understates the potential increase in institutional operating income from enhanced spending out of endowments. In my reading of investment reports from Harvard University I found that it spends about 3.5 percent or so annually from its endowment, although its own reporting shows a somewhat higher level (although below 5 percent). Suppose it increased spending to 6 percent—still quite conservative. Spending per student would rise by $35,238 under my calculations. My guess is the *net* (after scholarships) tuition, room and board charges paid by students is lower than that figure, including not only those attending Harvard College but those at all of the graduate and professional schools.

Harvard has the means to eliminate all tuition, room and board charges for its students without dissipating its endowment. Recent initiatives to lower the net tuition rate for many students, while welcome, are modest in relation to the potential indicated by the endowment's size. Again, however, there are very good arguments suggesting wealthy students *should* be paying part of their education.

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Therefore, I am not suggesting that students getting an MBA from Harvard should pay no charges, particularly since such a degree typically provides a high payoff to those pursuing it. But, at the very minimum, tuition and fees should be eliminated at Harvard College (which comprises less than 40 percent the university's total enrollment) for students from even moderately prosperous families. One suggested approach for the super rich schools like Princeton, Yale, and Harvard: eliminate tuition for families making less than two times the total average tuition, room and board charge—if that is $45,000 a year, then eliminate all charges for students from families with under $90,000 annual income. Have a partial tuition remission for those making between two and six times the typical tuition, room, and board charge—$270,000 a year in this case (care has to be taken to avoid near confiscatory "taxes" on increment income approaching 100 percent.). In the example here, tuition, room and board charges would equal 25 percent of income over $90,000 until the maximum rate is reached at $270,000 income. Rich kids (say from families with incomes of $300,000 a year or more) likely would still pay sticker prices (unless given a merit based scholarship). Such a scheme would be very consistent with a 5 percent spending rate for Harvard and several other wealthy institutions, and make these elite schools more clearly affordable to the middle class without forcing huge amounts of borrowing. Harvard's recently announced revised pricing system is similar to that proposed here—indeed, for some income groups (say families making $150,000 to $180,000 a year) even more generous than proposed above, while for other groups it is somewhat less generous (those making from $60,000 to $150,000 a year, or $180,000).

Wealthy colleges who say, "we cannot do that—we cannot make college free or relatively low cost for all but the super rich" are simply not being truthful. An honest response would be "we have higher priorities than reducing college costs—we want lower teaching loads, fancier facilities, better paid and more well-known faculty, etc. This is what raises our ranking and our academic reputation." And some statistical work that my colleague Matt Denhart and I have done suggests that for public schools every $1 in higher tuition charges is associated with roughly $2 in higher salaries for full professors. In short, it is not in the self-interest of the faculty and staff of colleges to promote tuition reduction or elimination for large portions of the student population.

How endowments can work to make colleges more affordable is illustrated best by Berea College. Berea is a good quality liberal arts college, ranking 75th in the national rankings of liberal arts colleges by *U.S. News & World Report*. The school prides itself on promoting access to lower income persons, and *75 percent* of students are on Pell Grants, one of the highest percentages for any institution in the country. It is a college for poor kids.

Berea says on its web site:

> Every Berea student is awarded a 4-year, tuition scholarship. . . . The actual cost to students and their families is $0. . . . But a Berea education isn't free. We have the same financial obligations that other colleges do. The difference is our endowment. It's a resource made available by people who believe exceptional students shouldn't be denied an outstanding education.[22]

Berea uses its huge endowment to cover the tuition costs for all students (the tuition is nominally $23,000), and some outside scholarship money keeps the amount that Berea spends per student below that—but the endowment is used to cover basic educational costs (some students pay some room and board, but traditionally all students are expected to work to cover some of these costs). Berea's philosophy is: our endowment is dedicated to making our school affordable to all rather than to make the school more luxurious with more frills. Other wealthy schools choose not to do what Berea is doing, but it is not because they are incapable, but rather that they are unwilling.[23] Meg Whitman of eBay, for example, recently gave a huge gift to Princeton to build Whitman College, a residential facility that will cost over $300,000 a bed—roughly the cost of a luxury hotel of the Ritz-Carlton variety. She could have insisted her funding go to support lower costs for student enrollees. Princeton no doubt told her "we need this luxury facility to help lure students here that would otherwise go to Harvard or Yale." There is nothing wrong with Whitman making such a gift—it is a free country, although one might question whether it is an abuse of the tax-exempt nature of university giving. If donations for student housing were not tax-exempt, would Ms. Whitman have made such a gift to Princeton? Questions like that need pondering as we consider revisions in federal tax policies towards universities.

Unintended Consequences of a Spending Payout Rule

If, in fact, wealthy colleges used incremental expenditures resulting from an endowment spending rule mainly to hire more faculty, pay faculty more, add non-administrative staff, build luxury dormitories, etc., it may well be *the spending rule would have the unintended consequences of accelerating the academic arms race*. As Harvard, Princeton, and Stanford offer more amenities—smaller classes, etc.—for their students, Harvard wannabes will feel the need to do the same. Instead of reducing the cost to students of higher education, such a policy might ultimately increase the use of resources by society for higher education, with dubious payoffs in terms of outcomes. Thus an endowment spending rule *could* become potentially part of the problem, not the solution.

That possibility cannot be ignored. Although price competition is notoriously muted in higher education (ever hear of a college advertising a sale on its educational services on television or the Internet?), schools compete vigorously in other ways, including providing expensive student amenities. Higher endowment spending at the top very well could induce the second tier of private universities and the selective public institutions to increase non-academic spending on amenities that have little to do with advancing instruction or the frontiers of knowledge. If you force Harvard to spend more, ultimately it will impact even the Slippery Rock colleges of the world.

Conclusions

Universities have absorbed more of society's resources over time. More of the national income is going to support higher education than ever before, and wealth owned by institutions of higher learning has grown sharply faster than the overall growth of income, wealth, and population. Thus, with the passage of time, the fiscal consequences of favorable tax treatment of colleges and universities have grown.

Policymakers first should ask: should public subsidies to universities continue to grow, or should their growth be curbed and possibly even reversed? I believe the underlying theoretical premises justifying massive government subsidies are flawed, given the realities of modern higher education. It is costly and becoming more so over time. It is rather elitist, at least at the schools which consume the most attention and resources. The twin goals of equal economic opportunity and economic growth are not being positively

addressed by current high levels of subsidization and favorable tax treatment if the data I have examined are at all relevant, as I think they are.

Even if assistance is to continue, might we alter policies to make it more efficient? I think there is a strong case to do so. This paper is not the place to outline a comprehensive reform plan that would increase efficiency, improve quality, raise productivity, or achieve other objectives. Rather, we are focusing on tax policy. A case can be made for the government to impose conditions on institutions accepting tax-exempt funds. Minimum spending requirements from endowments, for example, are one approach. Conceptually superior alternatives to a rigid 5 percent rule are available that would alter spending requirements as rates of return on investments change over time or between schools, with the spending requirement varying with each school's own investment experience. An alternative to rigid mandates, an under spending tax, is an option. For example, if college A faces a 5.4 percent spending requirement from its endowment but spends only 4.4 percent, a 20 percent tax on the difference between 4.4 and 5.4 percent (0.2 percent of the endowment's value) could be imposed. Universities that insist on not spending from endowment funds could do so if they are willing to pay taxes to compensate for lost revenues to the government from favorable tax treatments of endowments. Similarly, subjecting non-instructional or non-research related spending to taxation seems justified, and might even have the healthy effect of slowing down the spending on amenities that raise costs but do little for academic quality.

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At the same time, those believing changing federal tax policy will fundamentally alter the problem of rising college costs are almost certainly overstating the importance of this factor in the college cost explosion. The factors that cause tuition fees to rise so much, triggering calls for greater endowment spending—things such as heavy reliance on third party payments, the dulled incentives to enhance efficiency arising from the non-profit nature of universities, the lack of good measurement of college outcomes, etc.—all are matters beyond the purview of tax policy.[24] Altering taxation of universities or endowments can, at best, have a secondary impact on the college affordability problem. That does not mean, however, that the attempt should not be made.

Notes

1. For a study advocating this perspective, see Sandy Baum and Kathleen Payea, *Education Pays: The Benefits of Higher Education for Individuals and Society* (Washington, D.C.: College Board, 2005), available at: http://www.collegeboard.com/prod_downloads/press/cost04/EducationPays2004.pdf.

2. Much of the pioneering work was done by Edward Denison. See, for example, his *Accounting for United States Economic Growth, 1929–1969* (Washington, D.C.: Brookings Institution, 1974). Subsequent research by other scholars reaches similar conclusions, namely that much of economic growth is not explained by the growth of inputs used in the production process.

3. While income inequality fell for two decades after World War II, it has risen by most standard measures since that time. For example, the Gini coefficient of household income inequality rose from .397 in 1967 to .469 in 2005, according to data from the Current Population Survey of the U.S. Bureau of the Census.

4. Data showing the differences for full-time male workers in annual earnings for three groups—bachelor's degree, some college, and high school grad—most recent year. Current Population Survey data from the U.S. Bureau of the Census website, www.census.gov.

5. The results are reported in the Sandy Baum and Jennifer Ma, *Education Pays: The Benefits of Higher Education* (Washington, D.C.: College Board, 2007), 35, available at: http://www.collegeboard.com/prod_downloads/about/news_info/cbsenior/yr2007/ed-pays-2007.pdf.

6. "Pell Grant Enrollments at America's 'Best' Universities and Colleges FY 2000 to FY 2008," *Postsecondary Education Opportunity* 186 (December 2007), available to subscribers at www.postsecondary.org/last12/186_1207pg1_9.pdf.

7. Ibid.

8. See Daniel Golden, *The Price of Admission* (New York: Crown Publishers, 2006).

9. For a good summary of the literature, see Chul-In Lee and Gary Solon, "Trends in Intergenerational Income Mobility" (working paper no. 12007, National Bureau of Economic Research, 2006), available at http://www.nber.org/papers/w12007.pdf, accessed January 11, 2008.

10. Data from the *Digest of Education Statistics* shows that in 1980 professors at public universities earned 6.9 percent less per year than those at private universities ($32,945 compared with $35,227). This gap has greatly widened whereas in 2005 public professors earned 25.2 percent less ($102,580 compared with $128,400).

11. A Gini coefficient of 0 would indicate all 105 schools in the sample that Ruchti and I evaluated had equal endowments. A Gini of 1 would indicate one school had all the endowment funds, while the 104 other schools had zero. Gini coefficients for incomes among persons of over .40 are usually considered to indicate relatively high inequality, while such coefficients with respect to household wealth are usually somewhat higher, although figures of over .50 would be considered evidence of relatively high levels of wealth inequality. A larger sample of schools would almost certainly give us an endowment Gini even higher than the .56 reported, since the sample we used was confined to only the wealthiest schools.

12. Josh Lerner, Antoinette Schoar, and Jialan Wang, "Secrets of the Academy: The Drivers of University Endowment Success," (Finance Working Paper 07-0666, Harvard Business School, Boston, October 2007), available at http://ssrn.com/abstract=1027450, p. 3, accessed December 20, 2007.

13. For example, when the Eiffel Tower was constructed in late 19th century Paris, some considered it striking, a magnificent addition to that city, while others considered it ugly, a detraction from the otherwise stunning beauty of that city. For some, the new edifice was a positive externality, for others, a negative one.

14. See Sandy Baum and Jennifer Ma, *Education Pays*.

15. See Richard Vedder, *Going Broke By Degree: Why College Costs Too Much* (Washington, D.C.: AEI Press, 2004).

16. Of course, running cash surpluses is not the same thing as earning net income, as many universities use a cash approach in their accounting rather than the GAAP approach of private businesses. In particular, universities seldom fully account for depreciation on their capital resources. However, some universities have immense amounts of operating funds not part of the endowment.

17. The most authoritative data is collected by the National Association of College and University Business Officers, or NACUBO. Data for 2006 indicate around $350 billion in endowments for a large sampling of institutions. Additional endowment growth since, plus some endowment monies not included in the NACUBO survey, make the total at the beginning of the 2008 fiscal year (July 1, 2007) almost certainly in excess of $400 billion.

18. Lynne Munson, "College Tuitions Rise while Endowments Simply Swell," *USA Today*, November 18, 2007, available at http://blogs.usatoday.com/oped/2007/10/college-tuition.html.

19. Todd G. Bucholz, "Better Begging," *Wall Street Journal*, December 7, 2007.

20. The long term evidence on this point is somewhat contradictory, probably in part because of changing ways of measuring the value of endowment. A perusal of some endowment data for the 1950s and 1960s, for example, suggests that typically endowment spending was around 4 percent of principal, close to current spending levels. To be sure, however, returns on endowment spending in that era averaged markedly less than today, and universities followed far more conservative investment strategies.

21. The ratio of operating funds to endowment at Harvard appears to be about 15 percent. Thus, if nationally, endowments are $400 billion, operating funds would be $60 billion.

22. See www.berea.edu/prospectivestudents/tuitioncosts/default.asp.

23. Berea's endowment rose in real terms less than the other schools listed in table 1 from 1991 to 2006. While there are several possible explanations (a less aggressive investment philosophy, a modest number of new gifts), I suspect at least one reason is that Berea deliberately did not try to use existing endowment funds to expand the inflation-adjusted size of the endowment, but rather used it to meet the institutional objective of offering a low cost option to students wishing to attend. The extraordinary size of the endowment is a testament to the sense of appreciation that alumni and others feel towards this college for adhering to a philosophy of offering a high quality liberal arts education at very low cost.

24. For a more detailed study discussing causes and remedies for soaring college tuition see Richard Vedder, *Over Invested and Over Priced: American Higher Education Today* (policy paper, Center for College Affordability and Productivity, Washington, D.C., November 2007), available at: http://www.collegeaffordability.net/CCAP_Report.pdf.