



A Collapsing Academy, Part 1

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There are ominous clouds on the academic horizon. I set forth some reasons below.

By the academy, I mean the collection of accredited undergraduate universities and research-oriented graduate programs. We need not put a fine point on this definition, for what I say below applies to virtually the entire academic frontier.

UNHINGING THE ACADEMY FROM CORE PRINCIPLES

Most of the top-tier state universities are state supported in name only. That wasn't the case 50 years ago. But over the past half century, there has been a steady erosion of state financial support for public postsecondary education. This has been replaced by increases in student tuition and fees, federal support for specific initiatives (for example, the G.I. Bill and Title IX), charitable contributions, business support of special programs, cost-sharing revenue from external (grant) funding, and the like. At this point, most of the larger public universities, and all of the more prestigious public universities, receive less than half of their revenue from state coffers, and that revenue percentage decreases every year. A half century ago the term *public*

university meant that the primary support was tax dollars. But for many years, politicians have rejected the

premise that support of public universities is a public responsibility. Many of you will remember that enrollment in the University of California system was tuition free until Ronald Reagan became governor. Any resident of the state who qualified for admission to the University of California system received a tuition waiver. Even if the tuition wasn't free in most other states, it was heavily subsidized. This isn't ancient history; it was just a few decades ago.

We will set aside the question of whether and to what extent taxpayer support of higher education is a public good. Instead, I'll deal with a less controversial issue: the negative consequences that follow from the erosion of public support. The most obvious downside is that the lack of tax support has increased the financial burden on the students through increases in tuition and fees. I remember a university president proclaiming that his tripling of tuition would not create a heavy burden for the students because he had identified a plentiful supply of private, high-interest loans. This overlooked two second-order downsides: 1) the George W. Bush administration changed the bankruptcy laws so that students could never get out from under their student debt (they were singled out as a special class of undeserving debtors in this regard), and 2) this is the same sort of de facto economic slavery that was

used against the sharecroppers after the Civil War. The idea that heaping permanent debt on students might offset the advantage of the plentiful supply of high-interest loans apparently never bothered him.

Contemporaneous with the shift of funding away from the taxpayer support were two other phenomena.

1. We entered the era of the professional administrator.
2. State and institutional leadership warmed to the concept of performance-based funding, although the phrase is actually a misnomer. Performance-based funding as it is applied in higher education circumscribes a family of metrics that purport to assess outcomes (nothing wrong with that), while in reality they just measure the academic beans that are the easiest to count.

Since the close connection between these two phenomena may not be obvious to nonacademics, I'll elaborate. In the gilded era of higher education, the 40 years after the end of the World War II, administrators tended to be drawn from the pool of faculty who were well respected for their academic prowess. In those years, administrators would not normally be confirmed by regents or trustees unless they were vetted by the faculty. These administrators 1) understood how a university worked; 2) subscribed to the core value of providing students with a diversified, well-rounded education; 3) recognized that the uniqueness of the every institution was one of its strengths; 4) were not disposed to mission creep; 5) had a strong commitment to the quality of the entire educational experience (which has degenerated into the goal of maximizing external funding); and 6) were relatively immune to both labor trends and academic fads. These values were then subsumed under a shared governance model that split the oversight between an administration and faculty.

This began to change about 50 years ago as we entered the era of the professional administrator (which coincided with the decline of the aforementioned gilded era). The professional administrators became increasingly distant from the core functions of the university (teaching, research, and service), less likely to be distinguished teacher-scholars themselves, and, as a result, less likely to enjoy the respect of the academic community they allegedly served. As the demand for faculty vetting diminished, other stakeholders like trustees, legislators, business leaders, and their lobbies, together with major benefactors, began to exert more control over the administrative selection process. And as their influence increased and the appreciation of institutional core goals decreased, a race to the bottom ensued, where efficiency and economy displaced the core academic principles discussed above. This is not to imply that efficiency and economy are necessarily at odds with lofty academic principles, but, as we shall see, the devil lay in the details.

This shift of emphasis from core academic principles to efficiency and cost cutting changed institutional priorities permanently.^{1,2} It moved the modern taxpayer-supported university away from education, enlightenment, and literacy to indoctrination, skill development, and job training, while at the same time the shared governance model degenerated into a market-based free-for-all. Along the way, the quality of the senior academic leadership became less education- and student-centric and more expense minded, which produced a class of leadership that was the worst of two worlds: unqualified to run a profitable business and incapable of adding any real value to the educational experience. One major consequence of this duality was the race by professional administrators to performance-based funding—another one of those catchphrases that sounds good in principle but is in practice vacuous.

Under a performance-based funding model, units that underperform

will experience budget decline. This is the soft version of the “rank-and-yank” system that Enron used to become the prestigious corporate icon it is today. Under performance-based funding, everything rests on metrics. Since there is no way to measure the intangibles known as *quality*, *value*, or *public good*, the professional administrator-manager substitutes other measures that pretend to be their correlates. (Appearance is reality, after all.) We illustrate by means of the following commonly employed metrics:

- › the cost of a degree as measured on a per-student basis
- › the graduation rate measured as a percentage of students who follow their program of study through to graduation
- › enrollment per unit as measured by full-time equivalent or student credit hour
- › the academic progress rate as a percentage of total student body with a grade point average (GPA) > 2.0
- › the retention rate as a percentage of the current students who are retained in the program and proceed to the next term
- › the cost of class/program expressed as cost per student per class
- › the degrees in strategic areas expressed as a number or percentage of total degrees given [for example, science, technology, engineering, and mathematics (STEM)].

The first thing to notice is how easy these parameters are to measure (read: count). While there is no automated heuristic that can be used to assess educational quality, these metrics can all be measured perfectly well on a Commodore 80 spreadsheet. In this way, the performance-based funding model shifts the burden of thoughtful oversight and common sense to spreadsheet accounting.

We concede that all of these metrics seem reasonable on the surface.

It's only in the light of the practical consequences that the absurdity becomes transparent. It is through this pragmatic lens that any claim of social good disappears and the moral hazard rears its ugly head. (The moral hazard in this case incentivizes university employees to do those things that actually undercut their primary mission of delivering a quality education.)

This is certainly the case with metric 1, the cost of a degree, which, on the surface, seems to be a plausible measure of efficiency. After all, when it comes to public expense, less is better, right? However, this metric does not measure efficiency at all. For one thing, "cost" applies to infrastructural cost—not the cost of curriculum delivery. In addition to direct instructional expenses, institutional cost includes the amortized construction and maintenance expenses of buildings and grounds; the support of an entourage of assistant-, deputy associate-, and vice-presidents and chancellors in charge of virtually nothing important; institutional investments; facilities and administrative expenses; athletic program costs; and so forth, none of which are directly tied to the education of any student. Of course, classes must be held in buildings and clean bathrooms are required, but a very large percentage of an administrative budget for a university is dictated by legislative policies and administrative decisions independent of the expressed needs of faculty, students, and staff to deliver the curriculum—and may even be unknown to them.

Professional administrators, like their corporate counterparts, measure their importance in terms of the size of their budgets and not proof of whether anything important resulted from the expense. We note that in the calculation of metric 1 (TOTALBUDGET/#_DEGREES), the professional administrators, legislators, and trustees control the numerator. If they want to claim increased efficiency, they either have to shrink the numerator (which would entail cutting their own budgets) or

grow the denominator. Talk about a no-brainer. Thus, academic units will be directed to increase the number of degrees if they want to protect their budgets. We note that no discussion of academic standards is involved. The professional administrator has steered the academy toward a diploma-mill model of productivity. Thus, metric 1 is not a useful measure of educational efficiency at all but simply a measure of administrative budget priorities. From a perspective of the faculty and academic units and academic standards, it is paradigmatically a moral hazard.

Metric 2, graduation rate, shares the same problem as metric 1. There are several factors that prevent graduation rate from being a reliable measure. First, based on my more than 40 years of experience in academia, the single most important factor in the failure of students to graduate is financial, so one consequence will be that institutions serving the more disadvantaged communities will find metric 2 the most onerous. As with cost of a degree, an academic unit that wants to avoid a budget penalty will be incentivized to increase the number of graduates in absolute terms and adjust matriculation standards accordingly. Other things being equal, academic standards are inversely related to graduation rates and enrollments. You can see where this is going. At any given time, there is a finite pool of qualified college applicants to go around, so if all schools draw more students from this finite pool, they will have to lower the admission standards to accommodate them all. This is what is informally known as the *butts in seats* dilemma. We note that this is exacerbated when students succumb to insurmountable financial pressure, which has the effect of further shrinking the pool of qualified students for reasons that have nothing to do with academic ability. Riddling such students with student debt may ameliorate the *butts in seats* problem for the institution, but it creates dire financial problems for students.

We note that metric 3, enrollment per unit, is a variation of the same theme shared with metrics 1 and 2. They all have counterproductivity and predictable adverse consequences in common. However, metric 4, academic progress rate, puts a different twist on the issue. While metrics 1-3 directly affect student enrollment, metric 4 affects student performance. The inevitable consequence of rewarding academic units that satisfy a proscribed overall GPA is grade inflation, pure and simple. When academic leadership dictates that failure to achieve a minimal overall student GPA will negatively impact the unit budget, the effect will be that the overall GPA will chase after the required minimum. (Crack addicts call this "chasing the bell.") Chairs and deans aren't stupid and know how to chase their proverbial budgetary bell.

The same holds true for metric 5, retention rate: if the academic unit is penalized for losing too many students to dropout and withdrawal, it will find creative ways to prevent the students from dropping out and withdrawing. To use coarse measures like unit GPA and student retention without addressing the underlying causes is absurd on its face. What is more, dropout and failure are as normal a part of education as they are in sports and business. Thus, it takes very little imagination to see that metrics 2-5 are direct contributors to a scholastic moral hazard—that is, the actual consequences are directly at odds with the very quality of educational delivery that the performance-based budgeting model promised to improve. The very fact that performance-based funding is taken seriously by legislators, trustees, and professional administrators shows that they are focused on the diploma and not the underlying quality of education. Why? Because diplomas are easy to count. Once again, all of these efforts are counterproductive in the sense that their effect is the opposite of their alleged intention. The same effect would result from any similar system

used in manufacturing if the budget of a quality control division was determined by ad hoc metrics that dealt only with the quantity of goods produced and cost per unit. Over time, the number of rejects and cost per unit will go down, and the output will increase. No news there. But any claim that these results are a useful measure of the quality of the goods produced is silly. In any competitive environment worthy of the name, a company that uses these metrics will fail.

We note that metric 6, cost of class/program, is a doubly bad metric as it fails to measure anything useful while also creating internal strife between academic units as they fight to avoid being at the bottom of the list of efficient programs. The inevitable consequence of this metric is huge classes where the class size works against the quality of instruction. Nowhere is this more problematic than in computer science and computer engineering, where the enrollments of critical courses that require extensive programming and interactivity have been driven to dangerous levels.

We conclude by addressing the politically hot-button issue of what constitutes a strategically important program of studies when this will likely be determined by the same academic leaders who control the overall cost of education as well as lobbying from corporate interests. One such strategic folly is motivated by the so-called "STEM crisis." We'll refer the reader to resources that the STEM crisis is now, always has been, and likely always will be, a myth that is propagated for the economic benefit of corporations to lower labor costs and leave it at that.³⁻⁶

BAYH-DOLEFUL

While we're on the subject of moral hazards, I'll take the opportunity to discuss one of the most ill-advised pieces of federal legislation in the past 50 years, the Bayh-Dole Act (B-D).⁷ This act was rushed through the 1980 lame duck session of Congress and is so hydra-headed that its ultimate effects

were virtually impossible to foresee. For present purposes, we narrow our attention to the single issue: whether any positive consequences of B-D could have been achieved by alternative legislation that avoided the negative, punitive tax consequences to the citizen. When approached from this perspective, it is not obvious that B-D was an overall public good. But, for better or worse, in terms of federally supported research, 1980 was a watershed year.

The alleged motivation of the bill was to facilitate technology transfer to the private sector. Proponents claimed that the federal government was spending billions of dollars on research that was not translating into commercialized products (that is, products that private industry could turn into a profit). We'll pass over the fact that this claim was largely false.^{8,9} But even if it were true, it didn't logically follow that B-D was the most desirable path of legislative action. This observation was made at the time the bill was introduced and partially explains why support in Congress was slow to develop. In the end, the majority accepted without proof the claim that the recommended changes in U.S. patent policy could be leveraged to stir innovation and make the U.S. economy more competitive without significant expense to the taxpayer (which is also false). The accelerated congressional decision making is best understood in terms of a prevailing political attitude that any effort that would make private industry more profitable was desirable. The received view in Congress was that the focus should remain on innovation to the exclusion of any negative externalities like wealth transfer from taxpayer to corporations. The question of whether the legislation would be economically fair to the taxpayer was not taken seriously.

One of the subordinate claims by private-sector supporters was that future innovation and economic security demanded that the current federal patent policy be overturned. For one thing, existing policy specifically

prevented the exclusive licensing of federal patents. Corporatists argued that such restrictions were hostile to private enterprise. Specifically, the source of the hostility was thought to be two patent policies established in 1941: the policy known as *license model*, whereby the government retained a royalty-free license to use any federal patent, even if the license was sold to a private party, and the policy known as *title model*, where all federal licenses had to be non-exclusive.⁹⁻¹¹ Both models, the business lobby claimed, inhibited the stimulation of innovation by forcing competition on the licensees. Apparently, it was believed that anything less than unfair competitive advantage would stifle technology transfer.

While this aspect of the status quo had to be eliminated, a second aspect of the status quo was deemed absolutely essential: the federal subsidy of the costs of research. Bayh-Dole legislated that the federal taxpayer should continue to pay for research but give up any existing entitlement to recoupment and royalty-free license sharing. A blind eye to monopolistic practices that might result from exclusive licensing was also called for.

It is in this more complete context that B-D can be understood. In this context, it becomes clear that the common view that B-D has been an unqualified success as the driving force behind innovation in the United States for the past 40 years¹² is excessively simplistic. There is no denying that B-D made it easier for commercial interests to take advantage of patents resulting from federal research support. Nor can it be denied that universities and research centers that participated in the research have been able to derive considerable revenue from the patents that resulted. But in all other important areas, the public value of B-D is mixed at best. For example, one special provision in the original legislation restricted the exclusive licensing arrangements to small businesses, which has some appeal to the fair-minded set. However, this provision was disingenuous and

only lasted a few years. Ronald Reagan repealed this provision by executive order seven years later, so that even the largest corporations could exploit the monopolistic value of the exclusive licenses.¹³ Similarly, recoupment and royalty-free use provisions in the original draft were equally disingenuous and quickly eliminated from consideration. But the provision that made it all of the way from first draft to final passage was the massive wealth transfer from the taxpayer to the private sector. Not surprisingly, the three groups who remained the strongest champions of B-D throughout were university research administrators, the business community, and legislators who supported such wealth transfers to the private sector on principle. The former two groups were motivated by economics, while the latter was driven by ideology.

We cannot accept the premise that B-D contributed to the velocity of innovation without also discussing the considerable cost to the taxpayer. The most important question at that time, and that remains today, is not whether B-D increased the commercialization of federally supported research but, rather, whether the benefits outweighed the costs. Specifically, intelligent analysis demands that we inquire whether alternative modifications of federal patent policy might have achieved much the same results without heaping such abuse on the federal taxpayer. This question is almost entirely overlooked by commentators, even those who claim objectivity in their reports to Congress.¹²

B-D perverts a pure capitalist model of risk management whereby the investor uses the best, but admittedly imperfect, knowledge available to determine whether a prediction of future sales of a product or service will both cover the costs of production and deliver a reasonable profit. In the simplest case, costs to commercialize patents arise from research and development. But under B-D, research costs of affected projects are subsidized and thus artificially low. However—and this is a

critical point—under B-D, the party that underwrites the research is not allowed to participate directly in any of the profit. What is more, if the license leads to a useful consumable, B-D guarantees that the taxpayer will pay even more, as he will have to also pay the licensee a profit. In plain terms, B-D guarantees that a taxpayer's price for any commercialized product of tax-supported research will always be inflated when compared to the pre-B-D federal patent policy. That is a logical consequence of the bill.

Thus, B-D corrupts the expected correlation of risk and reward. Of course, there are other models that are corrupting. Cost-plus contracts, for example, virtually eliminate risk. But at least they have the saving grace of having a cap put on profits. B-D minimizes an important part of the risk but without any corresponding limit on profit. Thus, unlike cost-plus contracts, B-D not only decouples risk and reward, it also introduces an asymmetry between risk and profit. In fact, from the taxpayer's point of view, B-D licensing actually creates an inverse relationship between the risk and profit. This is crony capitalism at its finest. To paraphrase country artist Jerry Reed, the corporations and universities got the mine, and the taxpayer got the shaft.

Of course, other observations may be made with regard to such issues as whether the absence of competition baked into B-D will lead to optimal allocation of resources. Economist Kenneth Arrow observed that there is a natural inclination for businesses to underinvest in research because of risk. In addition to this natural downward bias, there will also be a natural inclination to oppose any undertaking that does not lead to monopoly through exclusive licensing. But, Arrow argues, these conditions will ultimately “reduce the efficiency of inventive activity in general and will therefore reduce its quantity also.” Further, optimal technology transfer decisions will result from the least-restrictive flow

of research information even when the profit potential for any particular licensee may be suboptimal. Arrow offers a proof that the incentives to invent are greater in competitive markets in his 1962 paper.¹⁴

So, B-D actually creates its moral hazard by encouraging business behavior that 1) is unfair to a primary sponsor (taxpayer), 2) disincentivizes corporations to make optimal technology transfer decisions, 3) reduces the efficiency of inventive activity, and 4) makes the resulting markets less competitive. The B-D Act is a poster child for ill-advised legislation.

We repeat that these points were made as the legislation was introduced by public figures from Ralph Nader to Admiral Hyman Rickover.^{8,11,9} But the appeal of reducing corporate risk while maximizing profit potential proved too powerful to overcome in Congress. Even research from a Nobel Laureate in economics didn't affect the deliberation. However, from the point of view of the country and the liberal politicians who were tricked into supporting it, the B-D Act has proven to be a Faustian bargain.

We have given two examples of radical changes that have negatively impacted higher education: the move to professional administrators and the crony capitalistic way that B-D handled federally supported research. These changes weren't inevitable. In both cases, major negative consequences were anticipated by thoughtful scholars at the time these decisions were made. I have elsewhere used the term *spinfluenza* to describe the speed with which really bad ideas take hold over politicians, business, and administrative leaders.¹⁵ At this point, *spinfluenza* in higher education has achieved pandemic proportions.

Those who are sympathetic to my arguments might ask how these mistakes might be undone. Obvious solutions are unrealistic. Professional administrators will not easily welcome

additional accountability for defending their budgets to legislators and trustees when the problem can be so easily offloaded to subordinate units. In this case, the correction would have to be top-down and inspired by state leadership. B–D is an entirely different can of worms. Perhaps the most direct approach would involve repeal. However, that would carry with it political liabilities from the donor class. However, much improvement could be achieved through the simple restoration of recoupment and nonexclusive licensing provisions. The strong suit of this approach is that the original arguments to repeal these provisions were so lame that they might be politically embarrassing to defend anew.

It must be admitted that what we've called the collapse of the academy is the gradual result of complex political and social forces that have surfaced in many factors and forms. A complete discussion would include the following (to name but a few)

- › the effect of changing the public's perception of faculty tenure
- › the dilution of shared governance and the subtle progression in the direction of authoritarianism
- › the thorny issue of what constitutes acceptable academic free speech
- › academic standards that have become moving targets
- › the question of how one might meaningfully measure quality scholarship
- › changing public expectations of postsecondary education
- › the rise in importance of narrow-focus stakeholders and their effect on institutional decision making
- › the widespread acceptance of donations and gifts that are restricted to uses that support particular ideologies and belief systems
- › the political antagonism to the principle of a diversified,

well-rounded education by groups who seek to maximize uniformity of beliefs and consent

- › the impact of social media on the educational experience
- › the pressure for online delivery to reduce the cost of service.

We will cover some of these topics in future columns. Throughout this series, we advance the notion that the race to academic postmodernity is inconsistent with those academic principles that led us to the economic success and quality of life that we currently enjoy. ■

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