Regulation, E-learning, and Finance

A White Paper to Guide Discussion for the International Seminar
Regulation of E-Learning: New National and International Policy Perspectives

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In this paper, I will endeavor, in a very few pages, to describe the interconnection between e-learning, regulation, and finance. By the latter, I mean the means necessary to create and operate a postsecondary institution in this context, contrast conventional and e-learning, and consider how the prevailing regulatory environment has affected the growth of e-learning. While the models I use are primarily domestic, the financing concepts—earned revenue, public funding, capitalization, debt—are essentially similar across national lines.

Education, in general, and postsecondary education in particular, have historically been both capital- and labor-intensive ventures. The modern American comprehensive university may well represent the evolutionary apex of the capital-intensive institution. To serve both the instructional needs of tens of thousands of students and the research demands of hundreds of faculty, their campuses contain scores of buildings dispersed over hundreds of acres, and are serviced by a support staff that may equal or exceed the number of those engaged in actual instruction. Even more modest liberal arts institutions must maintain substantial physical plants to provide the environment needed for the form of education that has been dominant for the past three centuries: the classroom (in its ultimate development, the monster lecture hall) with students arrayed before the purveyor of knowledge—the professor (or her stand-in, the much maligned graduate assistant). Over the span of many years, but most particularly during the second half of the 20th century, a regulatory environment evolved to provide for the financing of conventional higher education.

That environment either provided public funds to build campuses or allowed institutions to access "public debt"—either guaranteed by the state or, at worst, bearing a submarket cost or encouraged private support through generous tax benefits (the latter being a surprisingly unique American phenomenon). Campuses were built to meet perceived needs; witness the dramatic growth of community colleges and the explosion in size of universities. The same rules apply to for-profit institutions: campuses are created where there appears to be demand, and they are financed by investment and (non-public) debt.

The same regulatory environment defined higher education along the lines of the conventional model and provided subventions to pay all or part of tuition (the common model outside of the U.S.) or give students access to low costs debt (the U.S. model relies on both, although over the years the trend has been away from direct subvention towards loans).

Nothing much changed until the widespread availability of television in the 1960s. Heralded as the medium that would transform learning, instructional (as differentiated from "educational") television started slowly and, with limited exception, stayed that way. Although commentators said that telecourses were the alternative to building campuses, it did not work out that way. To be sure, the grey talking heads of Sunrise Semester gave way to some instructional television programs ("telecourses") with stunning production values—and comparable cost. Television, well done, is a very, very expensive medium, and it was only through infusions of federal and foundation support that ventures such as the PBS Adult Learning Service (ALS) were able to assemble a sufficient body of courseware to provide a limited number of complete academic programs. While ultimately hundreds of institutions (mostly community

colleges) enrolled several hundred thousand students in ALS courses, and while instructional television laid the pedagogical foundation for Internet-based learning, television as an instructional medium had a minimal impact on higher education. In the context of this brief examination of the interplay between regulation and finance, it is informative to consider why this was the case.

First is the absolute cost of producing quality instructional programming. Relative to the cost of paying a faculty member to teach in a conventional classroom, this cost is enormous, adding to the compensation paid faculty, the cost of a considerable production staff making use of costly specialized equipment and facilities. But it is the timing of those costs that created the most daunting challenge.

Recall that in the conventional institution, while the cost of building the campus may have been huge, for the most part that is a prior expense; generally, cases were financed to varying degrees by public funds, long-term debt, and contributions. The regulatory environment encouraged this capital investment by making public debt available to both public and nonprofit institutions as well as appropriating funds and giving donors the benefit of generous tax deductions. Once the campus is in place, students enroll, pay tuition, and *then* receive instruction. The cost of instruction is paid (to varying degrees) *in advance of incurring the operating costs.*

Contrast this with telecourses (and Internet-based instruction as well) which must be produced *before* any students enroll, and therefore before there is a revenue stream from those courses. Those costs must be fronted by the institution, either out of its own operating resources or from external sources (as was the case with PBS' Adult Learning Service), and the return on that investment could never amortize the capital (i.e., production) costs. Public debt, available to finance buildings and equipment, is generally not available to finance courseware, and the conflicting claims on current government appropriations similarly limit this source. The need for this sort of large up-front investment is one reason telecourses have receded to a very peripheral role in postsecondary education. Simply put, the regulatory environment that historically has supported higher education could not be adapted to the very different financial structure of e-learning.[1]

Another regulatory barrier to telecourses has been limited channel availability. Other than competition, availability of funds, and, in some jurisdictions, protectionist regulatory regimes, there is no limit to the number of conventional institutions that can be created. This is truly a market-driven environment: the fact that there are about 6,000 postsecondary institutions in the U.S. is clear testimony to this fact. Television channels—even with 200 channel cable and satellite systems—are an inherently limited commodity. Where competition in broadcasting is allowed, open broadcast channels are incredibly valuable franchises let by the government and then sold and resold at enormous profit. In a regulatory environment of scarcity, the "best-and-highest" use typically is the one that can generate the most revenue. To be sure, the U.S. and other governments typically have set aside channels for "non-commercial" purposes, but consider that most American communities are served by but one such "public" channel.[2] Even if the value of telecourses could be better developed, there is inadequate channel capacity—meaning inadequate consumer demand—to use up valuable spectrum space.

[1] It is an interesting footnote that for-profit postsecondary education, which has enjoyed considerable growth, particularly over the past several decades, and which has access to capital from investors, either privately or in the public markets, never engaged in telecourses. Even institutions with extensive correspondence programs never got beyond dropping a video cassette into the box containing the texts and guides that went to the learners.

[2] When the Congress was considering the first legislation allocating channel space, there was a proposal that one-half of all channels be set aside for public/non-commercial use. Of course, this idea never saw daylight, replaced by the most minimal possible set-aside for non-commercial television.

The Internet has changed the calculus in several ways. The fundamental characteristic of telecourses—pay first, earn later—remains the same for Internet-based e-learning. The cost of producing an acceptable (i.e., competitive) e-learning course offered over the Internet, however, can be a minute portion of the cost of creating a telecourse.[3] The up-front capital cost, which so seriously limited the production of telecourses, no longer serves as a barrier to entry. Further, and perhaps of even greater importance, where television channels are inherently limited (a fact that is hard to believe when looking through the channel listings), the Internet has no such limitations: in theory there can be tens of millions of providers of e-learning. Where television spectrum space—most particularly outside of the U.S. where there is less cable/satellite penetration—is very carefully controlled by the government (sometimes to the exclusion of private users), the Internet is, for the most part, both ungoverned and ungovernable (although, as I will discuss below, some governments continue to make a Canute-like attempt at its control).

The fact that e-learning courseware (whether video or web-based) constitutes, under international intellectual property law, copyrightable goods means that its production can be capitalized. Contrast this with a traditional lecture: the texts are of course copyrighted, and the professor has ownership of her notes, but the instruction itself is ephemeral: an institution cannot capitalize it because once it is given it has disappeared, to be recreated again in the next class.[4] This allows an institution—or an entity, not itself an institution, that simply creates e-learning courseware for use by institutions—to capitalize its creation and therefore defer the cost (as is the case in debt-financing a building) across many years.[5]

Most significant, e-learning has altered the concept of "market." A physical campus demands that students come to it. How far students will go is a function of perceptions of quality as well as the regulatory environment; residents of a state may pay a fraction of the tuition charged students from other states, a strong attractor for the domestic institution. Marketing may be widespread—but it all comes down to attracting students to a *place*. Even the multi-campus for-profit institutions, which (quite properly) use every available form of marketing, must ultimately convince a prospective student to go to a campus.

And the number of students who can be accommodated at that campus is physically constrained: only a certain number of students can fit into a classroom and only a certain number can be effectively taught by a single instructor (the numbers of course varying widely by discipline and institutional characteristics). In the case of e-learning, there is literally no physical constraint to the number of students who can enroll in a particular course. Depending on the pedagogy, there may need to be a mentor or other form of (quasi?) faculty for each certain number of students, but once again the nature of the Internet means that those who support the instruction need not be in any particular place. A program with tens of thousands of students may have hundreds or thousands of academic personnel scattered throughout the world. The lack of the need for a physical campus dramatically changes the economic underpinnings of the instructional activity: expanding a campus to accommodate more students requires a relatively enormous capital cost

[3] In the early days of Internet-based e-learning, it was assumed that the courseware with the highest production values—interactivity, full-motion video, etc.—would be the most competitive, and numbers of companies and institutions set out to build the best of the best, at costs that could approach those of a telecourse. The market decided differently: simplicity and ease of use trump bells-and-whistles, and some of the most successful e-learning efforts (such as that of the University of Phoenix) are almost primitive in their use of technology.

[4] For-profit institutions have, in fact, found a way to capitalize traditional instruction by creating standardized curricula that can be protected as copyrighted goods, with the faculty teaching from that prescribed curriculum. In such a case, course curriculum can be considered to have a "useful life" and therefore both capitalized and amortized.

[5] Of course, while buildings may have a useful life of 20 or more years, e-learning courseware typically is depreciated over 5 years or less.

(or accepting the burden of more rental space[6]) whereas increasing the number of students who can be served by an e-learning course results in a significantly reduced incremental cost on the operating side, payable contemporaneous with enrollment.

The financial marketplace has thus become fascinated by e-learning, both for its scalability and its relatively straightforward economic structure. Working capital typically goes into courseware development and, even more important on the Internet, marketing. With many, many often undistinguishable providers, "grabbing eyeballs" (the Internet term for capturing audience) becomes a sophisticated process involving a material investment of both time and money.

The matrix of national (and in the U.S., state) regulation particularly comes into play in potentially controlling the market forces that are driving the financial development of e-learning in several key ways. The most critical is the ability of a state (in the international or domestic sense) to exercise regulatory authority and, therefore, depending on the regulatory regime, control the activities of the enterprise, its structure, and often its financing. The concept of "presence" abides a multitude of definitions[7] and, unlike the physical campus where the learners and institution are in the same place, a unique situation where a jurisdiction may claim regulatory authority by virtue of the presence of learners, with the "institution" itself being on the other side of the world. Depending on the regulatory regime, this authority may range from requiring a showing of academic reliability to controlling Internet access to an outright prohibition to enroll students.

Investment in e-learning is affected by the regulatory hurdles that accompany certain forms of instruction, most particularly those through which students may trigger "presence."[8] While few American states have gone so far as to declare jurisdiction over the mere delivery of courses over the Internet to students within their borders, there is far more activity along these lines in countries that see overseas delivery of e-learning as either a challenge to domestic institutions, a violation of sovereignty, or a threat to domestic security. And, even in the U.S., there are states that have taken the position (thankfully at present only on paper) that the enrollment of a student within its borders constitutes sufficient presence to trigger jurisdiction. The fact that this ostensible power has not been exercised does not mean that it is not potentially present, nor does it mean that institutions (and, among for-profit providers, their investors) can ignore the potentially significant limitations and substantial costs that might be imposed.

The current efforts to impose an international framework for e-learning (particularly the GATS negotiations) are already contentious. One need only look at the regulatory patchwork in the U.S. to understand how hard it will be to create an international model that will, on the one hand, facilitate e-learning across national borders and, at the same time, protect the legitimate interests of the state. Investment in e-learning will be constrained by such potential limitations and, conversely, will increase as markets are freed of excessive regulatory oversight.

[6] It is an interesting characteristic of the for-profit postsecondary sector in the U.S. that the institutions (and their parent companies) rarely own *any* real estate. Instead, virtually all facilities are in leased premises.
[7] For an overview of the interpretation of "presence" among U.S. states, see *Initial Responses to the Dow Lohnes 2005 Physical Presence Survey*, Dow, Lohnes & Albertson, Washington, D.C. Available at: http://cshe.berkeley.edu/research/regulation/reading.htm
[8] Even within the U.S. the threshold for jurisdiction may be very low and the costs of compliance very high.