

CHAPTER

Financing Universities Through Nontraditional Revenue Sources

Opportunities and Threats

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In 1966, Walter Lippmann wrote, “. . . there has fallen on the universities a unique, indispensable and capital function in the intellectual and spiritual life of modern society” (Hollinger 1996). Nonetheless, in the 1990s, governmental funding of universities, especially public research universities, declined significantly. To describe today’s problems of higher education in many Western industrialized countries, dramatic words are often used: crisis, turmoil, disarray, collapse. These nouns are probably exaggerations, but many observers would agree that higher education throughout the industrialized Western world today faces great fiscal challenges. This is puzzling, particularly when, like Walter Lippmann, so many political leaders point to the great value of a well-educated population and the pivotal role of higher education in society’s future.

The effects of the present fiscal difficulties, particularly of public research universities, should, in the words of Dr. Johnson, “concentrate the mind” of leaders in academia and energize them to rise to introduce innovations into the governance, planning, and operation of the university as well as its financing.

Many factors can be held responsible for the present financial troubles of most universities, both in Western Europe and North America. The decline in government support is one important factor, but not the only one. Research, and with it graduate education, has become increasingly costly, particularly in the sciences, where ever more expensive equipment has become a necessity. Also, government regulations and reporting requirements have become more onerous.

In spite of financial pressure, universities have done relatively little to become more efficient, at a time when many businesses have aggressively “reinvented” themselves and have thereby increased their productivity. They did so by outsourcing many services, effectively using information technology, downsizing their staff and labor force, and arranging for part-time employment. Except for part-time faculty, universities have done relatively little to reinvent themselves. Many have even gone in the opposite direction from outsourcing. Instead, they own today a host of business enterprises—hospitals, bus and van transportation systems, faculty housing, guest houses and hotels, commercial rentals, health centers, power plants, etc. Clearly most universities have little experience and competence in such undertakings, all of which are far removed from their missions of teaching and research. Cutting back on nonacademic undertakings or outsourcing them could serve universities well.

Financing higher education is the topic that both Harold Williams (Chapter 6) and I address, with my focus on the development by universities of nontraditional funding sources. The search for income from such sources has gained momentum, particularly in public research universities, to compensate for declining government support and rising operating costs.

It is useful to divide these new university funding sources into first and second generation, depending on when they were introduced. The major source of the first type is private giving, increasingly involving mega-dollar campaigns. Such solicitation is certainly not new, but it has skyrocketed in recent years in the United States; some universities are engaged in raising more than a billion dollars each in 5- to 7-year campaigns.

Second generation nontraditional income sources include corporate sponsorship of university research; commercialization of university-owned intellectual property resulting in royalties and licensing fees, as well as the establishment of joint start-up venture companies; university-owned business enterprises; and joint university-private sector commercial enterprises.

This chapter will start with a review and discussion of first and then second generation nontraditional income sources. The focus will be on income-raising activities, their productivity, costs, and potential for being at odds with the university’s academic mission. Having identified the nature of the threat these nontraditional funding sources pose to the university, safeguards will be suggested and their respective merits examined. This evaluation will be guided by the university’s need to balance the productivity of the different funding sources with their likelihood of compromising its academic mission.

At this time, a disclaimer is in order. It would be a mistake to assume that efforts that raise income from second generation nonconventional sources have money as their sole purpose. Another objective is for the research university to assist in technology transfer and commercialization of university-developed and owned intellectual property, and in building alliances with

high-tech industries to contribute to regional and national economic growth and prosperity. Thus, the chapter will examine the munificent effects second generation university–industry alliances can have on high-income regional employment growth and national economic growth and prosperity; and that therefore, governments are well advised to fund research universities generously.

FIRST GENERATION FUNDING SOURCES

Mega-Dollar Gift Campaigns

Universities and colleges have long been the recipients of private giving, but in recent years the pace of fundraising efforts by university officials has sped up significantly. For example, two University of California campuses have been engaged in fundraising campaigns with more than \$1 billion as targets. Harvard University has a \$2.1 billion goal. Between 1990 and 1995, private funds raised by American universities and colleges increased by 30 percent to \$12.7 billion in 1995. Alumni contributions increased 42 percent, accounting for more than those of any other group (Breneman and Finney 1997).

Large-scale fundraising activities by universities involve what economists call high transaction costs. Some are monetary in terms of large fundraising staffs. But perhaps the more significant costs involve the time spent by presidents and chancellors in fundraising rather than in guiding and inspiring academic endeavors. For example, the chancellor of one of the premier public research universities indicated to me that he spent 40 percent of his time raising private funds. And William Bennett, President Ronald Reagan's secretary of education, in pondering the Clinton sex scandal, is reported to have said, ". . . prosperous America enjoys life too much to care. . . Where are the clerics and where are the university presidents? Hah! Raising money!" (Lexington 1998).

Moreover, private giving as an income source can unbalance the academic program. Universities find it much easier to raise funds for medicine or molecular biology, for example, than for classics and the fine arts. Understandably, they are reluctant to reject large gifts, even those that are likely to have unsettling academic effects.

Furthermore, for the sake of pleasing alumni and ensuring their beneficence, universities often engage in activities unrelated to their primary mission, and possibly even in conflict with it. The emphasis on intercollegiate athletics, especially football and basketball, falls into this category. Such teams are often barely distinguishable from for-profit professional teams, designed more to assure donors' loyalty than to build character. Sports programs can interfere with students attending classes and acquiring an education, and can

result in salary distortions. For example, the 1997-98 pay package of the UCLA basketball coach was \$445,000, whereas the chancellor's was \$223,000 and the California governor's \$131,000 (Shelton 1998).

SECOND GENERATION FUNDING SOURCES

Corporate Research Support, Patents, Licensing, Commercialization

Though gifts have grown, they have not kept up with rising budget needs of universities and colleges. In response, institutions are pursuing funding sources that require great entrepreneurship and move them into an altogether foreign area that has its own dynamics. Corporate university research support nearly quadrupled between 1980 and 1989, from \$238 million to \$920 million (Grassmuck 1990). When grants produce valuable research findings, decisions must be made about patent rights, about whether to license the results, and, if so, how license fees are to be divided, and whether to found a jointly owned (and possibly jointly operated) start-up venture. In 1997, American and Canadian universities awarded 2,741 licenses to private firms (University of California 1997).

A survey of 173 universities and colleges revealed that with a 1996 research budget of \$21.4 billion, they collected \$592 million from patents and licenses, up 167 percent in five years. The leader was the University of California, which earned \$63.8 million from patents and licenses, followed by Stanford with \$43.8 million and Columbia with \$40.6 (Markus 1998).

Rather than licensing their patents to industry, universities often make participatory arrangements, e.g., start-up investments, in cooperation with private firms. This development may have been helped along by a report by SRI International for the National Science Foundation. Based on this report, Gregory and Sheahan (1991) concluded that start-up investments are more successful and lucrative than the licensing of university patents.

While a number of interesting efforts have been mounted, perhaps the leader in industry-university partnership is the CONNECT program of the University of California at San Diego. This program is credited with having nurtured, with university research and assistance, about 120 high-tech companies in the San Diego area. The result has been the employment of about 15,000 people and an annual revenue of nearly \$2 billion (Atkinson 1998).

University-Owned Commercial Enterprises

In recent years, universities have increasingly undertaken many commercial activities on their own. They have acquired more and more auxiliary enterprises and housekeeping functions, and have built the infrastructure to sup-

port them. Such steps are taken at a time when business and some governments have been going in the opposite direction, i.e., sourcing out or contracting out such activities. The magnitude of universities' expenditures for these nonacademic activities is large. Research universities seem to spend only about half their overall budgets on instruction and research and the other half on a host of auxiliary enterprises and housekeeping functions. For example, four campuses of the University of California without teaching hospitals spent 45 to 49 percent of their 1996-97 budgets on activities other than instruction and research. At UCLA, which has a teaching hospital, that percentage was 60.

In relation to some commercial enterprises, universities are their own customers; in others, they have outside clients. For example, when land or office and residential properties are donated, the university can become a landlord and, though inadvertently, a player in the real estate market. After the promise of scale economies persuades it to invest in additional real estate, the university often learns belatedly the difficulties faced by landlords.

The scope of university-owned commercial enterprises has been expanding rapidly and sometimes into unusual areas. Harvard University, with an endowment of about \$13 billion, has invested in the stock market, real estate, and oil and gas exploration. Most recently, it purchased the White River Corporation, an insurance services and investment firm, for \$400 million (Putka 1997). These investments are clearly associated with significant risk.

Joint University—Private Sector Commercial Enterprises

Universities increasingly enter contracts with private firms designed to produce income. A venerable practice is the sale of the right to use a university's logo on T-shirts, caps, etc. More recently, the University of British Columbia has chosen, for a fee, to use a single airline and bank (Economist 1998). Such arrangements tend to be inefficient and also costly to customers because of lack of choice and possibly higher monopoly prices.

Advances in information technology are opening up further opportunities for joint ventures between universities and high-tech industries. One such venture was an ambitious proposal for a California Educational Technology Initiative (CETI) which had a \$4 to \$5 billion potential to the companies. However, after years of negotiations, the CETI was abandoned (Chapman 1998). Many questions have been raised regarding such arrangements, particularly since faculty members fear that their copyrights to course material may not be properly safeguarded. These fears are fanned by controversies surrounding many of the partnerships between universities and private corporations in distance learning networks.

CHALLENGES AND DANGERS

The pursuit of nontraditional funding sources and the chain of events that can ensue pose serious challenges to universities in an often entirely unaccustomed arena. Historically, faculty members have engaged in researching subjects of intellectual interest to them. Today, some faculty members worry that this search for new knowledge will be compromised by corporate sponsorship. Will research universities induce or even pressure their faculty to focus on areas likely to prove profitable? If so, will the metaphor of a corporation's and faculty's interest being approximated by circles that overlap in places, be replaced by one of a linear relationship? In the latter case, the corporation would tell faculty what specific research must be selected to be funded. Will these close ties between the research university and the corporate world then transform universities into private sector laboratories, heavily focused on potentially profitable research? Some believe they can already observe ominous signs. They point to universities agreeing to contract clauses that are increasingly congenial to corporate sponsors, including pre-invention license agreements, publication delays, pre-publication access to research results, and censorship. Others point to research laboratories built by private firms on university campuses to which faculty have no access.

Patents and licensing also can cause frictions within universities about patents and licensing fee distribution among inventor, department, and university. Dissatisfied inventors can leave universities to set up their own corporations, taking with them the best graduate students. But even satisfied faculty members tend to set up their own corporations, or consult for corporations while reducing their commitment and time given to the university. Universities must develop carefully crafted policies regarding conflict of interest and commitment, tenure, and consulting practices. The Harvard Medical School has done so. Moreover, ownership of intellectual property rights is often a bone of contention. Do they belong to the university or to the corporation? Court fights are not uncommon (Science 1998).

The challenges are even greater with regard to jointly owned (and operated) start-up ventures. Opportunities for conflicts of interest seem endless. For example, according to Matkin (1994),

Several major research universities, including Harvard, Johns Hopkins, the University of Chicago, and Boston University, have found that investments in start-up companies are often costly to the university in terms of both economy and public relations. For example, the president and several members of the board of trustees of Boston University (BU) have been under investigation for conflict of interest involving the university's investments in start-up companies such as Seragen Incorporated, which was founded in 1987 to develop some intellectual

property owned by BU, and that received most of its funding from BU until it went public in 1992. John Silber, BU's president, is a director of the company and owns 105,000 shares. He also may have made \$386,700 when a Seragen spin-off company, Seradyn, was sold. Several members of the board of trustees were involved in Seragen.

The cold fusion controversy at the University of Utah, clearly caused by the university's desire to realize a large financial return, resulted in a great deal of . . . damage to its academic reputation, and may have led to the resignation of the university's president when it was discovered that he had improperly transferred funds to support cold fusion development. Michigan Technological University's Venture Group, Incorporated, a profit-seeking investment company, has been controversial since it lost \$1.6 million in 1989 because of mismanagement and embezzlement by its officers. The University of South Carolina's research and development foundation has been under intense public scrutiny since 1987, and this scrutiny led to indictments and convictions against the university's former president, James B. Holderman.

INITIATIVES TO ABATE DANGERS

The preceding discussion has pointed to the hazards academic institutions face when they become part of and enmeshed in the world of commerce. Entering such a world can cause culture shock and serious tension among the administration, faculty, governing board, and such other interests as alumni and students.

To keep these risks in bounds, universities, particularly public research universities, face three serious challenges. They must

- avoid arrangements that can compromise fulfillment of the university's mission and thereby debase the academic enterprise
- avoid conflicts of commitment and interest
- avoid the appearance of unfair advantage

Undertakings at odds with the university's mission and those that can lead to conflicts of interest and commitment have already been discussed. A few comments about unfair advantage, whether real or imaginary, are in order. They mainly relate to public institutions because much of their research funding comes from government sources. Unfairness is often alleged to exist when such institutions engage in fundraising on a large scale in competition with private universities and colleges. The charge of unfairness is also levelled in connection with patents, license fees, and other income-earning arrangements gained from research by faculty. Public research universities, in the eyes of many citizens and legislators, are not entitled to gain income from knowledge produced by faculty whose salary is paid to a large extent from taxes

collected by government. Yet, government support of public research universities in the United States has steadily declined. For example, state funding has declined from 27 percent of their budget in 1990-1991 to 23 percent in 1993-1994 (Breneman and Finney 1997). Likewise, state and federal funds to support discoveries and inventions has fallen. This decline is the main factor driving universities to exploit nontraditional revenue sources. And yet large elements of the general public and state legislatures continue to subscribe to the old principle and thus find unfairness.

As universities, and particularly public research universities, consider protective mechanisms to meet the challenges posed by the quest for nontraditional income sources, they would do well to reflect on the unique governance of the university. In this connection, one might view the university as a consortium of four stakeholders—three guilds composed of governing board, faculty, and a conglomerate of students, government, and public, and a bureaucracy that administers the university. Each group differs in knowledge, experience, commitment, stakes, values, and length of association. Interactions among them mainly take place by implicit, rather than explicit, legally enforceable contracts. The university administration, composed by and large of technically competent, full-time, academically oriented managers (bureaucrats?), tends to dominate the quest for nontraditional funds. Their tenure and stake in the institution and its integrity can differ from those of the faculty whose concern is particularly compelling and positions them as guardians of the academic integrity of the institution.

It is in this setting, for example, that the distribution formula of fees from patented innovations must be considered. They are the fruit of the labor of the institution's best faculty, whose scholarship is enriched by their colleagues and students. Inventions and discoveries are patented and commercialized by technology officers of the university, which funds this office and houses the research. At the same time, not only the university, but the state, and even the nation, benefit from the inventions and discoveries. Income derived from them can be spent to further research and training of tomorrow's scientists.

In the light of these considerations, initiatives to tap unconventional funding sources must balance the concerns of all four stakeholders. Enlightened initiatives are likely to emerge from an effective consultative and at times collaborative process by which administration and faculty jointly develop a university policy with regard to nontraditional funding sources, guidelines for each major income source, and institutionalized collaborative review and oversight.

Fruitful cooperation between the university administration and the faculty, in this as in other matters, is facilitated by the existence of an organized body of the faculty, i.e., the academic senate, and a tradition of shared governance. The partners' modus operandi, time commitment, and likely presence at early

contacts with donors and business partners differ greatly because faculty, including the inventor, tend to come late into the picture. Much care must be given, therefore, to early establishing detailed guidelines as to which arrangements are unacceptable; what minimum conditions must be met by donors, business partners, and faculty; and how and when faculty inform the administrators of their outside work. Policies and guidelines, once formulated, should be widely disseminated to the university community, legislators, and the general public.

In addition, there is great merit in creating buffer organizations. They could be given responsibility for business aspects of the commercialization of university-owned intellectual property and for the investment of funds produced by these ventures as well as those obtained from private giving. The first could be in the form of a separate full-service technology corporation and the second of an investment company.

CONCLUSIONS

Mounting large private giving campaigns and developing ways to benefit from the research achievements of faculty have become increasingly important elements in the funding of, in particular, research universities. But it is not merely the search for nonconventional funding sources, particularly corporate funding of research and commercialization of university-owned intellectual property, that has brought universities into the world of commerce. Perhaps equally instrumental has been universities' commitment to disseminate their research results, engage in systematic technology transfer, and, in general, to work with industry for the benefit of society and, especially, for their region. In fulfilling their public service function, universities can help establish and nurture industries, particularly high-tech ones; a likely result are healthy high income employment growth and tax base increases in their region. This beneficial outcome should persuade legislatures to increase government funding of their research universities, so that their pressure to find nontraditional funding sources might be somewhat mitigated.

Reliance by universities on what today are nonconventional funding sources is a *fait accompli*. This development is likely to spread and grow. Universities are, therefore, well advised to prepare themselves to live with such practices, while preserving their academic integrity.

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