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Foreword

Critical Issues in Higher Education Finance and Policy: Historical, Social, and Institutional Perspectives

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This special issue of *Educational Considerations* is focused on higher education, with particular emphasis on finance and policy issues. In 1996 the 17th Annual Yearbook of the American Education Finance Association entitled, *A Struggle to Survive: Funding Education in the Next Century* focused on the critical issues in funding for higher education and offered strategies for change in the next century (Honeyman, Wattenbarger, & Westbrook, 1996). We are now several years into the next century and survival is still a serious issue for many higher education institutions, both public and private. Public higher education institutions are now state assisted, rather than state supported. At many institutions student fees often account for a nearly equal or higher percentage of revenue than state sources. For example, at Purdue University the Fiscal Year 2003 general fund budget summary shows that for the first time in the history of the university, the percentage of revenue from student fees (47.6%) outpaced the percentage of revenue from state appropriations (44.5%) (Purdue University, 2002). Given the current economic climate, this type of scenario tends to be the rule rather than the exception at state institutions. Private institutions are also suffering as their endowment values have plummeted, and their reliance on those funds for institutional support has lessened. It is within this context of financial uncertainty that the theme for this special issue was selected. This special issue presents a collection of five articles that give the reader a broad view of the historical, social, and institutional perspectives that influence higher education finance and policy decisions. The next section provides a brief summary of the articles and their relevance to higher education practitioners and scholars.

Overview of Articles

In the first article, *Challenges Confronting Small, Private Liberal Arts Colleges: The Historical Context*, Stephen P. Wanger provides a brief history of higher education, beginning with the founding of Harvard in 1636 through post World War II. He then discusses the impact of issues, such as the expanding federal role in higher education, diminishing state support, shifting student demands, and unfunded student aid. The article concludes with a synopsis of administrative responses to those challenges. Wanger analyzes the recommendations of presidents, administrators, and higher education experts to counter or adapt to the challenges and concludes that they may be summarized by implementation of two key proposals: adoption of common business practices; and engagement of strong leaders. This article provides the background and historical context for the articles that follow. Higher education practitioners and scholars can gain great insight into the critical issues that confront higher education in the 21st century by understanding its historical roots of American higher education and being cognizant of potential responses to the present day challenges they confront.

David W. Leslie's article, *Renewing Higher Education's Social Contracts: Transparency out of Chaos,* (supported by the National Center for Postsecondary Improvement under the Educational Research and Development Center program) makes two key points: (a) The social contract under which higher education operates is sufficiently complex that understanding how it performs will require a broadly inferential strategy; and (b) this strategy can probably begin by making far better use of existing data than is now made. He puts the social contract between higher education and society into perspective and then discusses the competing missions between "reputation-seeking" and "prestige-seeking" activities. He then points out that the problem is not so much in identifying elements of higher education's mission, or in identifying the public's expectation, but is rather in how these mutual expectations are managed and how public accountability occurs. Since states and institutions vary in how they manage these expectations, Leslie contends that "inferring anything about a 'social contract' clearly must be just that — an inference." In order to accomplish this, he suggests assessing data and information that are available, and then determining how it might help in understanding and interpreting the social contract. This article assists the reader in understanding the social contract between higher education and society and provides concrete suggestions on how to inferentially evaluate the social contract. As Leslie states, "if we can find a way to disaggregate first and simplify second, perhaps the complexity of the picture will be easier to absorb and understand — by both researchers and the attentive publics to whom we speak."

In contrast to the first two articles that are historical and conceptual in nature, the next three articles are quantitative research studies. First, *The Influence of Aid and Income on Persistence at a Small Private College*, authored by Charles N. Landreth and Robert O. Riggs, examines student financial aid practices of one institution. Specifically, they examine the influence of income and gift aid on persistence to graduation at a selective, private, coeducational liberal arts college. When the government excluded home equity from aid calculations, institutions were forced to modify their financial aid policies to maintain enrollment goals while reducing the cost of aid. As a result, many institutions sought to recruit a higher percentage of full-paying students so that they could keep their keep their financial aid budgets from escalating out of control. The purpose of Landreth and Rigg's study was to gain insight into the retention implications that emerge from aid practices. They found that recruitment of high income, high ability students, although fiscally desirable, can have a negative impact on an institution's retention and recruitment goals. Colleges and universities, regardless of size and type, need to recognize the consequences of their financial aid practices and acknowledge their impact on student retention and recruitment. This article is an important contribution to the field in that it shows how an

institution's financial aid policy impacts student success as well as its ability to attract new students. Although a private liberal arts college was the subject of the study, the findings are significant and should be communicated to all types of institutions. In difficult financial times, higher education administrators need to be aware of the consequences of their financial aid policies on their "customers."

Another quantitative perspective on higher education finance is found in the article by Michael Stump, *Long-Term Debt at Public Four-Year Colleges and Universities*, where he explores the relationships among long-term debt, current fund revenues, and endowment value. He uses the Integrated Postsecondary Education Data System [IPEDS] data files, developed and maintained by the United States Department of Education's National Center for Education Statistics [NCES] for his analysis of fiscal years 1992-1997. As Stump points out, "debt involves an ethical dimension, which includes decisions about policy and institutional values." His study provides a model for debt analysis by determining what relationships exist among current fund revenues and expenditures, long-term debt, and endowment value. His model has great value to higher education administrators and policy makers as they evaluate their long-term debt strategies and policies, especially in times of economic uncertainty.

The last article in this collection, *College and University Long-Term Financing in Context: Implications for Institutional Strategy*, by James A. Schultz, discusses findings from an analysis of institutional data from the 1990s on relationships between long-term debt and other key variables. Like Stump, his data source was the IPEDS data files, but for fiscal years 1988-1989 through 1995-1996. He then considers the implications of these findings for institutional management of long-term debt during the first decade of the 21st century. Long-term financing is an important tool for institutional strategic planning and financial support; therefore, those with responsibility for these functions at all levels and types of institutions can benefit from an understanding of the issues and consequences associated with incurring long-term debt.

Conclusion

Institutions of higher education approached the 21st century with great anticipation of better financial times; in 2002 however, many are still struggling to survive. State revenue shortfalls as a result of the recession have translated into decreased state support for higher education. The consequence at many public institutions is financial crisis. Most have been forced to raise tuition and look for other sources of revenue, usually from private sources. Some institutions are incurring greater long-term debt to pay for needed expenditures. Many private institutions are also in financial straits with their endowment incomes reflecting the stock market's reaction to the recession. Hence, both public and private institutions need to be cognizant of both the conceptual underpinning of the issues and alternative finance and policy strategies. During these difficult times an awareness and understanding of critical issues can provide guidance to researchers, as well as provide useful background information and suggestions to those that are in the trenches. Higher education is confronted with a multitude of finance and policy issues, making it impossible to address all of them in one venue. However, the collection of in this issue of *Educational Considerations* should provide the practitioner and scholar with a new perspective of the historical, social and institutional context of some of the critical issues in higher education finance and policy.

I offer my personal thank you to the authors that contributed to this special issue. Your research and perspectives are a valuable contribution to the field. As the critical issues unfold and new ones emerge, the dialogue and analysis must follow. Let it now begin...

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Challenges Confronting Small, Private Liberal Arts Colleges: The Historic Context

Stephen P. Wanger

The history of American higher education is a story of adaptation and change. Since the founding of Harvard College in 1636, higher education in the American colonies and the republic has responded to a multitude of challenges and pressures. Waves of immigration, emerging industries and technologies, cultural trends, shifting demographic patterns, denominational expansions and retractions, federal policies, and state and local dynamics, among others, have exerted pressure on higher education. Sometimes harmonious, often cacophonous, these internal and external forces have both coalesced and acted alone to produce change, at tempos ranging from allegretto to presto. The result, at the start of the twenty-first century, is a complex, multi-faceted score.

The pages that follow will attempt to provide a broad overview of that composition. The concise format of a journal article, however, does not permit comprehensive explication. Indeed, numerous volumes are devoted to single movements of the opus. The goal of this paper, therefore, will be to furnish a brief survey of American higher education from 1636 to the present, focusing particularly on small, private liberal arts colleges and the challenges they faced in the decades since World War II. The first three centuries of American higher education will receive sweeping attention in an effort to establish the background. The essay will commence with a short description of higher education during the colonial and early republic periods, highlight late nineteenth and early 20th century challenges, discuss issues confronting small, private liberal arts colleges during the second half of the 20th century, and conclude with a succinct summary of administrative responses to those challenges.

The Colonial and Early Republic Eras

With the founding of Harvard College, Massachusetts, Puritans launched on the new American continent a concept that by then had endured for nearly half a millennium in Europe, the idea of liberal education (Pfnister, 1984, pp. 147-148). Their lofty purpose, as recorded by a participant, "...was to advance Learning and perpetuate it to Posterity..." (Rudolph, 1990, p.4). They argued that no civilized gentleman could conduct the affairs of state, church or business without a thorough understanding of the liberal arts, the goal of which was the production of religious, intellectual, behavioral and civic virtue in the lives of young men (Amsler, 1985, pp. 9-11; Rudolph, 1990, pp. 5-13). Similar rationales — as well as competition between the colonies — contributed to the founding of the eight colonial colleges which followed: William and Mary (1693); Yale (1701); the College of New Jersey, later renamed Princeton (1746); King's College, which was to become Columbia University (1754); the College of Phila-delphia, renamed the University of Pennsylvania (1749); Rhode Island College, which became Brown University (1764); Queen's College, now known as Rutgers University (1765), and Dartmouth (1769); (Ibid; also, retrieved on May 27, 2002 from the following Web sites: Harvard University, College of William and Mary, Yale University, Princeton University, Columbia University, University of Pennsylvania, Brown University, Rutgers University, and Dartmouth College). Curricula were therefore structured to provide students with the tools deemed necessary for lifelong learning and productive citizenship.

Beginning with the College of Philadelphia, however, impetus for the creation of a higher education institution was not limited to promotion of the liberal arts; the idea of postsecondary preparation for practical skills emerged in America with the establishment of the college then considered radical (Amsler, 1985, p. 13; retrieved from the University of Pennsylvania Web site, May 27, 2002). The debate over the primary purpose of higher education — whether vocational or "learning for the sake of learning" — a debate that lingers today, was introduced, and the initial external stress was placed on the concept of liberal education.

As the new American republic was born and took its initial wobbly steps, the debate sparked by the College of Philadelphia grew. Fueled by Jacksonian Democracy and the need for technical skills, it escalated throughout the first and second decades of the 19th century. The Yale Report of 1828, however, with its resounding argument for the liberal arts, muted the debate until after the Civil War, as colleges founded during the era typically adhered to the advice of the Yale fathers (Pfnister, 1984, pp. 151-153; Rudolph, 1990, pp. 130-135). Though practical or vocational programs clearly were commenced during these years in the young republic, many of them opening the possi-bility of a college education for the emerging middle class, the curricular norm retained an emphasis on the liberal arts.

As it did with the debate between traditional liberal arts and practical education, the College of Philadelphia initiated the tug-of-war between the public and private sectors. As the first public college in the colonies, it opened the gates to public higher education in America [although public support for the colonial colleges, and public/private agreements, certainly existed beforehand] (retrieved from the University of Pennsylvania Web site, May 27, 2002). The colleges of Georgia (1785), North Carolina (1789), Vermont (1791), Ohio (1802), South Carolina (1805), Maryland (1812), and Virginia (1819) followed suit (Amsler, 1985, p. 13). By the mid-nineteenth century, public state colleges were both plentiful and popular.

Throughout the early 1800's, as pioneers traveled westward and the revival fires of the Second Great Awakening spread with them, denominational colleges sprang up across the American frontier. Typically liberal arts in orientation, these institutions tended to promote the religious and philosophical values of higher education, as opposed to the practical or vocational. They often were the civic focal point used by fledgling communities to provide evidence of civilization and culture (Amsler, 1985, pp. 14-18; Rudolph, 1990, pp. 68-85).

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Thus, by the time the first shots were fired at Fort Sumner in April 1861, American higher education was an increasingly complex entity. Public and private, sectarian and non-sectarian, vocational and liberal arts, the landscape of higher education could not be characterized by a single descriptor. With few exceptions, however, the doors to higher education remained all but closed to others than the wealthy white sons of the republic. Access was a concept waiting in the wings of the future.

Late 19th and Early 20th Centuries Challenges

The dominance of the liberal arts concept, which typified American higher education from the founding of Harvard College, began to loosen its hold by the mid-nineteenth century. The convergence of three external challenges to the liberal arts, and the colleges devoted to them, primarily accounts for the transition: the development of the land grant college, the university, and the high school (Pfnister, 1984, pp. 147-149; Rudolph, 1990, pp. 247-286; Veysey, 1965, pp.9-81). The paragraphs that follow will address these forces. It must be stated here, however, that the three challenges to be discussed do not comprise an inclusive list of internal and external forces exerting pressure on liberal arts colleges. Among issues not discussed are: increasing competition between an overly abundant number of institutions for students, faculty and financial resources; the rapid growth of opportunities provided to college age men by westward expansion, industrialization, and advancing technical and agrarian might; the rise of science; and the movement away from a proscribed curriculum and toward elective courses.

Although not initially, perhaps the greatest challenge to liberal arts education arising during the latter half of the 19th century was the Morrill Federal Land Grant Acts of 1862 and 1890. With the first act, the federal government entered the higher education debate by authorizing the gift to the states and the subsequent sale of public lands for the support of institutions that would provide instruction in mechanical and agricultural areas (Veysey, 1965, p. 15). The equivalent of 30,000 acres for each member of Congress was to be set-aside for this purpose (Pfnister, 1984, p. 153). With the second act, the federal government authorized direct annual payments from Washington to the land grant colleges (Rudolph, 1990, 252-254). The consequences of these acts were fourfold. First, the federal government became involved in American higher education. Second, the impact of federal policy on postsecondary education — here, with emphasis granted to practical areas of study — was introduced. Third, federal coffers for the first time became a legitimate financial source for higher education; and fourth, greater numbers of the middle class entered college as a result of the legislation (Rudolph, 1990, p. 257).

The development of the university during the second half of the nineteenth century, and its codification within American higher education in the early decades of the twentieth century, likewise yielded extensive pressure on liberal arts colleges. Adapted from the concepts of contemporary German universities and research, the evolution of American universities reflected the late 19th century explosion in science and technology and facilitated the increasing specialization of knowledge and concomitant curricula (Veysey, 1965, pp. 125-135). According to Rudolph, the establishment of three bellwether institutions indicates the dawning of a new era in American higher education: Cornell University (1865), Johns Hopkins University (1867) and the University of Chicago (1888), (1990, pp. 265-275, 349-354).

As evidenced by the curricula they offered, however, liberal arts colleges and the emerging universities were by no means dissonant entities. Indeed, a major trend among liberal arts colleges during the late 19th century was the limited incorporation of professional or vocational programs. Most universities, in addition, maintained a liberal arts core within the academic programs they developed. The result was that by the early 20th century, the merger of liberal education and professional education became the dominant version of the American university (Pfnister, 1984, pp. 155-156).

Finally, the prevalence of the academies, which emerged in the early 19th century and eventually evolved into the public high schools of today, impacted the stability of liberal arts colleges during the mid- and late 19th century. Often directly competing with the local liberal arts college for students and financial resources, the academies typically offered a practical course of study, a commodity growing in acceptance and popularity (Amsler, 1985, pp. 19-20; Pfnister, 1984, pp. 150-151; Rudolph, 1990, pp. 216, 285-286). They reflected no single method of incorporation; many were private, some public, others sectarian. Quite a few were public-private, and some even served as the preparatory departments of colleges and universities (Ibid). The blurred line between secondary and postsecondary education would not be clearly drawn until the twentieth century.

America thus entered the world wars of the early 20th century with an increasingly diverse and complex system of higher education. Unlike both her allies and her foes, she did not maintain a centralized, and most frequently, nationalized, postsecondary system. The enormous scientific and technical needs springing from the Second World War and the resulting Cold War, however, would soon coalesce with other forces to modify the equation and challenge the very existence of liberal arts colleges.

Post World War Two Challenges

Small, private liberal arts colleges faced a myriad of pressures during the second half of the 20th century. The issues behind these challenges were numerous and intricate, and frequently intertwined. Among others, they included issues, such as the increasing competition for students from all institutional types, attracting and keeping faculty, enhancing student diversity, the growth of administrative bureaucracies, an explosion of technology, inflation (and at times, either recession or economic stagnation), rapidly escalating expenditures, the emergence of the community college system, and, during the late 1980's and 1990's, a contracting population of traditional college age students [It is important to note, however, that this population base actually increased from the 1950's through the mid 1980's, and was buttressed throughout the entire period by growing numbers of non-traditional students entering college on either a full-time or part-time basis] (Jonsen, 1984, p. 176; Merante & Ireland, 1993, pp. 8-13; Pfnister & Finkelstein, 1984, p. 119; Posner, 1984, pp. 32-34; St. John, 1992, pp. 165-187). Four forces, however, were paramount and exerted tremendous pressure on small, private liberal arts colleges: the expanding role of the federal government; diminishing state support; shifting student demands; and escalating unfunded student aid. The following pages will address these issues and their impact.

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Expanding Federal Role in Higher Education

Jonsen (1984, p. 177) argues that, although for three hundred years private liberal arts colleges adapted to and survived complex challenges and changes, the greatest challenge of all was the skyrocketing pace of change during the late twentieth century. Nowhere is this quickening pace seen better than in the expanding role the federal government has played in higher education, particularly with regard to financial support for students (This essay will not address federal support for research, which has facilitated exponential growth of higher education, particularly for research and comprehensive institutions). Gladieux and Hauptman (1995, p. 5) credit the post-World War II growth of federal support for higher education to "... cold war competition in science and defense technology on the one hand, and the movement for civil rights and equal opportunity on the other." This may be seen in a brief overview of federal policy since the Second World War.

The expansion began with the Servicemen's Readjustment Act of 1944 (the G. I. Bill), the goal of which was broadened access to higher education through federal student financial aid (Gladieux & Hauptman, 1995, p. 14; Pfnister, 1984, p. 162). This legislation contributed to the significant growth of higher education enrollments during the remainder of the 1940's and throughout the 1950's. Hansen and Stampen observe, for example, that despite a contracting population of traditional college age students, the percentage of 18 to 24 year old students enrolled in higher education increased from 16% to 20% between 1947 and 1957, while the percentage of the total population enrolled in higher education actually declined from 2.6% to 2.5% (1994, pp. 104, 111). It is important to note, furthermore, that total higher education enrollments grew from 1,500,000 in 1940 to 2,616,000 in 1947 and 3,068,000 in 1957 (Gladieux & Hauptman, 1995, pp. 27-28; Hansen & Stampen, 1994, p. 111).

Although not enacted federal policy, the 1947 Truman Commission on Higher Education reiterated the value of the G. I. Bill and called for expanding access to higher education among the civilian population after veterans exited the system (Hansen & Stampen, 1994, p. 104). The National Defense Education Act of 1958 implemented the expansion, authorizing low interest federal loans and graduate fellowships, particularly in defense-related technical fields (Gladieux & Hauptman, 1995, p. 15). The process continued with the Higher Education Act of 1965, which authorized student grants, work study, and guaranteed student loans, all of which were designed to further broaden access to higher education, especially among low income and minority students (Ibid). The act was reauthorized in 1968 and 1972. The later reauthorization expanded the federal role in higher education to include Basic Educational Opportunity Grants (later renamed Pell Grants), federal support for state grant programs through the State Student Incentive Grants, and the creation of the Student Loan Marketing Association to enhance grant liquidity (Gladieux & Hauptman, 1995, p. 17). These policies continued through the 1970's with reauthorizations of the Higher Education Act in 1976, 1978 and 1980.

After the passage of the Middle Income Student Assistance Act of 1978, however, the financial role played by the federal government in support of higher education began to change. The federal emphasis increasingly moved from gift aid (i.e., grants, scholarship, and benefits such as VA or Social Security) to student loans. The Reagan and subsequent administrations continued the shift throughout the 1980's and 1990's. The 1992 reauthorization of the Higher Education Act, for example, established unsubsidized loans and the removal of caps on parent loans (Gladieux & Hauptman, 1995, p. 17).

The profound impact of this policy shift is evidenced from multiple perspectives. For example, from 1975 to 1988 the percentage of federal gift aid decreased from 76% to 30%, while the percentage of federal loan aid increased from 21% to 66% (Mortenson, 1990, p. 90). Whereas student loans represented approximately 20% of student financial aid in the mid-1970s, it accounted for over 50% by 1995 (Gladieux & Hauptman, 1995, p. 24). From 1980 to 1990, furthermore, public college tuition rose 109% and private college tuition rose 146%. (Interestingly, these increases were 59% greater than the increase in the Consumer Price Index and 73% greater than the rise of the median family income.) At the same time, however, federal policy increasingly emphasized loans over grants. During the 1977-1978 school year, for instance, Social Security and veterans' benefits combined represented 45% of federal student aid, but accounted for only 4% by the 1992-1993 school year. In 1981, the largest Pell Grant available to students represented the equivalent of 31% of the average cost of a private four-year institution, but only 16% in 1993. Finally, from 1985 to 1994, total loan aid each year was approximately double that of grant aid (Statistical support for the preceding six sentences is derived from: Blanchette, 1994, p. 168).

This shift negatively affected colleges of all classifications. Not only did it impact the "bottom line," it hindered their ability to attract and keep minority students, a growing potential pool of applicants. For these students, the perceived value of a college education decreased significantly when loans became the major component of a financial aid package because their initial and sustained access to higher education was hampered. Blanchette (1994, p.170) states, for example, that the receipt of an additional $1,000 grant in any given semester by an African American student increased the probability of his or her graduation by 7%, but a $1,000 increase in loan aid during any given semester increased the probability that he or she would drop out of college. Similar statistics pertain to other minority groups as well.

The Clinton Administration sought to address this inequity, and, at the same time, strengthen access to higher education for students employed full-time and those from low and middle-income families. Through the Hope Scholarship and Lifetime Learning programs authorized by the Taxpayer Relief Act of 1997, Congress and the Clinton Administration further expanded the federal role in student financing of higher education by establishing federal tax credits for postsecondary expenses (Kane, 1999, pp. 8, 47-49, 151). Initial assessments of the programs appear to indicate they are achieving their goals.

The growing federal role in student financial aid after World War II also impacted small, private liberal arts colleges and other institutions through the authorization for and the expansion of federal dollars for students attending trade or vocational schools. The result of their inclusion under the higher education umbrella has been the growth of trade schools and ever-increasing competition for students. By 1995, approximately 53% of all institutions eligible for Title IV funds were vocational; students enrolled at these institutions received 10% of all guaranteed loans and 17% of all Pell Grants (Gladieux & Hauptman, 1995, p. 26). Today, vocational schools represent a significant part of the higher education landscape.

In conclusion, the overall impact on higher education of the expanding federal role, as seen solely through the growth of support for student financial aid – not including federal support for research –has been substantial. The dual goals first voiced through the authorization of the G. I. Bill – broadening access to higher education and meeting the national need for scientific and technical skills – were addressed and increasingly met. The result was an astounding 1,000% increase in higher education enrollments, from 1,500,000 in 1940 to 15,000,000 in 1995 (Gladieux & Hauptman, 1995, pp. 27-28).

Unfortunately, the consequences for small, private liberal arts colleges were not entirely positive. Federal policies promoting the technical and scientific fields closely aligned with emerging national needs indirectly de-emphasized liberal education. Students were encouraged to pursue more specialized academic majors. In addition, extending student access to higher education yielded escalating competition among colleges and universities of all classifications for students and their dollars. The repercussion of these facets of federal policy, and the emergence of the forces discussed in subsequent sections of this essay, produced long-term uncertainty for many small, private liberal arts colleges.

Diminishing State Support

According to Jonsen, escalating demand on limited state resources, from a variety of state-supported endeavors, traditionally restricts revenue appropriated for higher education (1984, p. 175). For many states, this has been the story since the late 1980s (Kane, 1999, p. 40), and although many liberal arts colleges are private institutions and therefore ineligible for direct state financial assistance, declining state support for higher education has affected even private liberal arts colleges. It impacted both how they sought to attract students and how administrators managed their institutions. Posner notes, for example, that during the 1980s, economic considerations became a significant factor in student selection of a college (1984, pp. 32-34). As a recession, escalating tuition, and decreasing state financial aid affected students and their families, the "bottom line" became increasingly important. A 1975 study, for instance, conducted by the Great Lakes College Association (GLCA), an organization composed of 12 private liberal arts colleges in the Great Lakes region, found that students selected a college in the following order of importance: perceived academic quality of the institution; overall institutional reputation; and individuals at the institution (friends, acquaintances, or friendly people). A 1983 single case study of one of the GLCA colleges, however, revealed that the order of importance had changed to: perceived academic quality of the institution; cost to attend the institution; and proximity to home (students desired to stay within 200 miles of home to keep costs down). Although direct comparisons between the studies cannot be made and are tenuous at best, the emergence of cost considerations is noteworthy (For the preceding studies, see: Posner, 1984, pp. 32-34).

In a more balanced multiple case study of ten geographically and categorically diverse institutions – five public, including four-year, community college, land-grant, flagship and comprehensive, and five private liberal arts colleges, and institutions known as "elite," "prestigious," four-year and two-year – St. John (1992) found that declining state financial support for higher education impacted the way in which administrators determined the strategies for tuition pricing (pp. 177-181). At public institutions, declining state support resulted in shifting greater responsibility to students for the payment of tuition, which concomitantly allowed institutions to gain larger amounts of federal Pell Grant funds, so long as they kept tuition charges under the maximum program amounts allowed by the federal government. For most public colleges and universities, therefore, the final result was a net financial gain. At private liberal arts colleges, however, the opposite was true. Loss of state financial aid to students typically meant that administrators could not keep their institutions competitive with public institutions in terms of tuition charges. It also diminished their ability to target students from middle-income families, whom declining state funds unduly hurt. The final result for most private liberal arts colleges accordingly was a net financial loss (Ibid).

Declining state support for higher education thus impacted even private liberal arts colleges. It put pressure on how they sought to attract students and altered how administrators were able to manage their institutions. A more glaring challenge, however, shifting student demands, wrought an even greater impact.

Shifting Student Demands

Breneman (1994) states that as increasing numbers of savvy students demanded degrees that would readily translate into high paying jobs, the percentage of students earning their bachelor's degree in the arts and sciences deteriorated from 47% in 1968 to 26% in 1986 (p. 9). This shift in the motivation for attending college – from "education for the sake of education" to professional education – wielded pressure on all higher education institutions to offer programs closely linked to the marketplace. The stress was particularly strong though on institutions classified as private liberal arts. This student trend, which actually began at the end of the nineteenth century, escalated during the second half of the twentieth century. In 1900, approximately 67% of America's undergraduate students attended liberal arts colleges. By 1955, however, the percentage dropped to 26%. By 1970, only 7.6% of America's undergraduate students attended liberal arts colleges. And by 1987, the number was a mere 4.4% (Breneman, 1994, pp. 20-21). These percentages led him to conclude that of the 540 institutions listed as private liberal arts colleges by the Carnegie Foundation for the Advancement of Teaching in 1987, more than 300 evolved into a different type of higher education entity by the mid-1990's. Arguing that if liberal arts colleges are defined as institutions awarding a minimum of 40% of their degrees in the arts and sciences, only 200 remained in 1994. But if the definition is tightened to warding a minimum of 75% in the arts and sciences, less than 90 American liberal arts colleges survived in 1994 (For the preceding statistical findings, see: Breneman, 1994, pp. 2, 4, 138-152).

Using the 1987 Carnegie classifications, Gilbert adds that the percentage of liberal arts degrees awarded by Liberal Arts-I institutions rose from 77% in 1956 to 87% in 1970, and then dropped to 76% in 1985. Among Liberal Arts-II institutions, the percentage increased from 46% in 1956 to 56% in 1970, then plummeted to 31% in 1985. The result was that numerous Liberal Arts-II colleges shifted their emphasis from the liberal arts to professional education. Comprehensive Universities and Colleges-I evidenced a similar trend: 28% in 1956, 43% in 1970, and 23% in 1985. By 1992, however, the percentage of liberal arts degrees awarded by institutions in this category rose to 29%. Research I institutions demonstrated a similar curve: 34% in 1956, 54% in 1970, 36% in 1985, but 45% in 1992. Thus, the trend among Liberal Arts-II colleges is particularly note-worthy and accounts for much of the decline (For the preceding statistical analysis, see: Gilbert, 1995, pp. 40-43).

Overall, the numbers from the preceding two paragraphs indicate that liberal arts colleges educated a declining percentage of America's students as the 20th century progressed. In addition, they reveal that although the percentage of degrees awarded in the liberal arts remained relatively stable at premier liberal arts colleges and at comprehensive and research universities, less prestigious liberal arts colleges experienced declining enrollments. These trends are primarily attributable to shifting student demands; as growing numbers of students pursued degrees more closely tied to the marketplace, they sought degrees from larger institutions and from those offering strong "name recognition." And, as the following section will demonstrate, institutions of all types increasingly competed for them.

Escalating Unfunded Student Aid

Noted higher education economists McPherson and Schapiro argue that whereas the primary economic problem for public colleges and universities in recent decades has been declining revenues and increasing uncertainty associated with state and local appropriations, the greatest challenge facing private institutions, including liberal arts colleges, has been the explosion in the amount of financial aid they offer (1998, pp. 76-77). They state that between 1987 and 1994, net spending at private liberal arts colleges grew at an annual rate of 1.76%; the growth in financial aid awarded by these institutions, however, far outpaced overall spending, growing at a 9.68% annual rate (McPherson & Schapiro, 1998, pp. 68-70).

When the revenues of private liberal arts colleges are compared with those of their public counterparts, the findings are equally startling. In 1994, for example, private liberal arts colleges received 76% of their revenues from tuition. At public research universities, public comprehensive universities, public liberal arts colleges, and community colleges, however, tuition represented only 26%, 34%, 33%, and 23% of revenues, respectively (McPherson & Schapiro, 1998, pp. 75-76). Although dependence on tuition grew among these public institutions between 1987 and 1994 — respectively from 22% to 26%, 24% to 34%, 24% to 33%, and 17% to 23% — while tuition dependence at private liberal arts colleges actually declined from 79% to 76% as a result of the growth in endowment income (13.6% to 16.1%), it is apparent that private liberal arts colleges, in comparison to their public competitors, remained disproportionately dependent on tuition as a source of revenue (McPherson & Schapiro, 1998, pp. 75-76). Meisinger draws the same conclusion by broadly comparing public and private institutions. He notes that, for the fiscal year 1990, public four-year institutions received 15.1% of their funding from tuition and fees whereas private four-year colleges and universities received 38.9% of their revenue from tuition and fees, more than double the percentage of their public counterparts (Meisinger, 1994, p. 35). The implication is clear; private colleges in general, and private liberal arts colleges in particular, were especially dependent on student revenue streams.

This situation led numerous colleges in recent years, both private and public, to engage in the practice commonly known as tuition discounting, whereby they list net student expense (tuition, room and board, etc.) but offset the total with substantial financial aid packages. Similar to selling a car, the practice allowed colleges to market their product at one price — the "sticker price" — but "sell" for much less. When the automotive equivalent of "let-me-speak-with-my- manager" was utilized as an enrollment tool by institutions of all classifications, the practice was particularly costly for tuition-dependent private liberal arts colleges. Requisite reliance on tuition discounting ultimately meant that private liberal arts colleges were forced to limit or reduce tuition, yet increase financial aid. Ever-increasing competition between institutions, furthermore, translated into growing discounts in the forms of scholarships, grants or other financial awards, the impact of which meant decreasing per student revenue.

For colleges and universities with large endowments or substantial revenue streams beyond student tuition and fees, tuition discounting was an effective enrollment management tool when it was properly utilized. For the majority of private liberal arts colleges, which enjoyed neither large endowments nor steady external revenue sources, the practice served to exacerbate the uncertainty over their economic status and their potential long-term viability. Adapted from the automotive industry, the widely played tuition discounting game paved the road for some tuition-dependent small, private liberal arts colleges to go the way of the Tucker, Studebaker or Nash.

During the latter decades of the 20th century, as private liberal arts colleges faced mounting pressures both from within and beyond their own walls, it is not surprising that numerous research-related studies and theoretical "remedies" appeared in the literature. The growth of these documents exploded in the 1960s and peaked during the 1970s and 1980s, the most dramatic and often most perilous decades for private liberal arts colleges. The final section of this essay, to which we now turn, briefly examines that literature.

Administrative Responses

The preceding discussion of the four major challenges private liberal arts colleges faced during the second half of the 20th century highlights the burgeoning role administrators played in the management and marketing of their institutions as a result of these challenges. Although presidents, administrators, and higher education experts offered a plethora of recommendations to counter or adapt to these pressures, the recommendations may be summarized in two key proposals: adopt common business practices; and engage strong leaders. These proposals are succinctly examined in the following paragraphs.

Adopt Common Business Practices

Comparing the findings of the 1975 and 1983 studies previously described, Posner concluded that for private liberal arts colleges to survive they must increasingly utilize the business practices of for-profit entities. Her clarion article was typical of the period. Among the most important practices, she declared, are marketing, construction of business plans, and strategic planning (1984, pp. 32-34). A decade later, St. John (1992) affirmed that adoption and noted, for example, that during the 1980's financial decision-makers in liberal arts colleges moved from simple incremental pricing strategies to comprehensive strategies that consider multiple and sometimes divergent factors (p. 180). That same year, Cerny conducted an extensive study of the marketing techniques employed by private liberal arts colleges. Interviewing and surveying representatives from 64 of the 540 institutions in the classification (12%), he concluded that private liberal arts colleges that implement a written marketing plan attain a greater percentage of their recruitment goals than colleges that either do not have a written marketing plan or do not implement it (1992, pp. 215-221). Veydt surveyed the presidents, board chairs, and chief academic officers of 200 small private liberal arts colleges and concluded that strategic planning is an increasingly essential tool in the management of these institutions (Veydt, 1995, pp. 89-102). The cumulative

message was clear: successful navigation of the era's troubled waters meant growing adoption of for-profit business practices and related administrative techniques.

Engage Strong Leaders

Coinciding with the call for the adoption of business practices was the recognition of the need for strong leaders. Brazziel, for example, surveyed the presidents of 41 private liberal arts colleges during the 1983-1984 academic year. Undergirding his analysis of the findings was the distinct, and requisite, value of visionary leadership in the maintenance of student enrollments (1985, pp. 151-154). Tuckman and Arcady concurred. They argued that more than in larger colleges and universities, presidents of small liberal arts colleges play a pivotal role in the financial management and success or failure of their institutions. They concluded, in fact, that to monitor and improve long-term financial stability, these presidents should utilize external audits, plan strategically, and thoroughly understand the financial strengths and weaknesses of the institution (1985, pp. 16-20).

Finally, seeking to identify the most significant characteristics and the best practices of private liberal arts colleges that will promote institutional success in the twenty-first century, Merante and Ireland (1993) conducted an extensive study of ten small colleges generally regarded as successful. The institutions included: Bates College (Maine), Beloit College (Wisconsin), Berry College (Georgia), Centre College (Kentucky), Hillsdale College (Michigan), Kalamazoo College (Michigan), Marlboro College (Vermont), Spelman College (Georgia), St. John's College (Maryland), and Whittier College (California). The researchers examined institutional and external reports, interviewed the presidents, senior administrators and admissions directors at each college, surveyed higher education experts and leading admissions administrators, and examined institutional publications, position papers, and Integrated Post-secondary Education Data on college and university characteristics. They concluded that proactive leadership, effective awareness of internal and external environments, on-going strategic planning, and cooperation among all institutional stakeholders, would characterize successful private liberal arts colleges in the twenty-first century. Specifically, these institutions must demonstrate: effective, proactive presidents and senior administrators; clear institutional missions, visions, and goals; strong collaboration among administrators, faculty, staff, trustees and students; an emphasis on innovation and experimentation within both curricula and programs; a positive customer orientation; established, programmatic philanthropy; active, supportive trustees; Total Quality Management benchmarking; and the ability to coalesce all these characteristics into a nimble institution that emphasizes results. Accordingly, strong leadership will be the key ingredient emerging from and orchestrating these characteristics in the successful twenty-first century small, private liberal arts college (Merante & Ireland, 1993, pp. 13, 28-29).

Conclusion

This paper began with a brief description of higher education during the colonial and early republic eras, highlighted late 19th and early 20th century challenges to private liberal arts colleges, discussed internal and external pressures confronting these institutions during the second half of the twentieth century, and concluded with a compendious summary of the administrative responses to those obstacles. As such, although it offers neither ecommendations nor remedies to counter the challenges, most of which continue into the present, it reveals the constant flux of American higher education and, within that context, the perpetual crescendo and diminuendo of the liberal arts. It ever subtly suggests, therefore, that those devoted to the role of the liberal arts within American higher education — students, faculty, administrators and patrons — will likely continue to find ways to insure the long-term vitality and survival of small, private liberal arts colleges. For like the soft notes played by the flute or clarinet, the melody offered by these institutions beautifully enhances the wondrous music produced by the orchestra as a whole.

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Renewing Higher Education's Social Contracts: Transparency Out of Chaos

David W. Leslie

"The University of Winnemac...is not a snobbish rich-man's college, devoted to leisurely nonsense. It is the property of the people of the state, and what they want – or what they are told they want – is a mill to turn out men and women who will lead moral lives, play bridge, drive good cars, be enterprising in business, and occasionally mention books, although they are not expected to have time to read them. It is a Ford Motor Factory, and if its products rattle a little, they are beautifully standardized, with perfectly interchangeable parts... by 1950, one may expect it to have created an entirely new world-civilization, a civilization larger and brisker and purer." (Lewis, 1925, p. 11)

A contract is an agreement between two or more parties. It takes a meeting of the minds and mutual concurrence on terms before a "contract" exists in legal terms. Higher education and the society – in this case American – that supports colleges and universities have successively modified the agreements under which they have exchanged value - service for money, money for service, but both have expectations of each other. As in any contractual relationship, things work best when the negotiations and the relationship benefit from transparency. The more secrets the two sides keep from each other, the more surprises – and conflict – will jar and poison the relationship in the future. My two key points are: (a) The social contract under which higher education operates is sufficiently complex that understanding how it performs will require a broadly inferential strategy; and (b) this strategy can probably begin by making far better use of existing data than is now made.

The Social Contract in Perspective

Layer by layer, and product by product, higher education has gradually insinuated itself into the most fundamental matrix of the modern social order. It was once – and not so long ago – an exclusive agent of the elite. It kept far more people out than it let in, and it exalted and preserved the exclusive culture of America's religious, ethnic, and moneyed classes. It may well have done as much damage as good (Freedman, 2000) although there is little question that many enlightened leaders emerged from their college experiences.

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Most colleges were historically private – in finance, in ownership, and in purpose. Although a few states had created public colleges as early as the late 1700s, and although the Northwest Ordinance and Morrill Acts represented federal commitments to the diffusion of knowledge and education, higher education in any meaningful sense awaited the emergence of public demand, and that demand could only emerge after public schooling through elementary and secondary levels became widespread.

So it is only in very recent times, perhaps since the landmark "Truman" report of 1947, that anything like the predominantly public system of higher education we know in 2001 began to take shape. Notwithstanding the moral and political commitments of religious and social idealists who led the emerging institutions of the 19th century, it is difficult to imagine anything like the contemporary "social contract" in the minds of college and university educators of the centuries prior to 1947.

But just what is this "contract?" And are the parties to it keeping their respective ends of the bargain?

Higher education has taken on a wide array of sometimes conflicting missions in service to the nation. "Higher education" means everything from small, open-door, almost missionary, community colleges serving isolated rural areas to the great "multi-versities" (Kerr, 1963) like Michigan, Columbia, Johns Hopkins, and Berkeley that mix public and private funding; mix research, teaching, and service in extraordinarily complex organizational forms; and that resonate to norms of competitive excellence. Enormous, sprawling, multi-campus community colleges serve the nation's major urban conglomerations (Miami-Dade, Houston) with massive immigrant and multilingual populations, while tiny liberal arts colleges preserve much of the 19th century ideal of classical education in self-contained quasi-monastic rural isolation (Earlham, St. Olaf, Williams). Progressive experiments that test assumptions and boundaries appear among both public and private colleges (Evergreen, Deep Springs). Walls between academe, business, and government have weakened in the face of imperatives to collaborate on research and development at the frontiers of knowledge. (MIT, Harvard).

Some now think of higher education as a profit-making enterprise, a consumer good available at cost on the open market. While much of what is assumed and known about higher education is presently based on the universe of "Title IV-eligible" institutions, education beyond the secondary level is increasingly available in other types of institutions from the nationally distributed University of Phoenix aimed at a non-traditional adult population to corporate training units that provide sophisticated graduate level courses to their own employees. The parameters and nature of these post-secondary opportunities are not well known. The role of the for-profit marketplace in modifying whatever social contract may justify tax support for higher education is only just emerging, but it is consistent with the declining role of governments in a rapidly evolving global economy. (Yergin and Stanislaw, 1998)

Is the social contract something each of these profoundly dissimilar institutions negotiated separately and individually with its own constituent communities and that may only be implicit in the characteristics of their students and alumni? Is it something that we can derive from government commitments to higher education – in the language of constitutions and laws that provide frameworks for purpose, governance, and funding? Is it traceable in the agreements colleges and universities reach with donors, foundations, business

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corporations, "friends," football fans and others who finance their activities? Does it emerge from public opinion and the will of the voters who delegate the power to govern to their representatives in state and national legislative bodies? Is it observable in the enrollment patterns and behaviors of students? In the work of faculty and staff? In the flow of money from varied sources to the many and varied activities of colleges and universities? In measurable outcomes of those patterns and activities?

Perhaps it is only in the cumulative traces of all of these that a full picture of higher education's bargain with society can be limned in all its dimensions.

There is another side, though. Historically, higher education has stood apart from society, and even today its "institutional academic freedom" to teach, to research, to decide whom to admit, and how to conduct its internal affairs enjoys a measure of legal protection (*Urofsky v. Gilmore*, 2000). In ancient times, scholars banded together to search for truth in extra-territorial communities — free from civic authority, and sometimes in contravention of the most sacred customs of the day. It has been considered *sui generis*, but increasingly occupied by a corporate society anxious to impose control over its threatening independence (Goodman, 1964). Higher education once claimed a measure of autonomy because it historically stood *in loco parentis*, a trusted substitute for parental authority, in providing an environment where young people could grow and develop, spiritually, morally, and academically. Exercising this trust, it has relied on its mandate from the church, the state, and — more often today — its expertise in psychosocial development (still parental in many ways, but no longer legally "*in loco...*").

Of course, higher education has been called on to serve the nation. It served as an instrument of social and technological advancement as a result of the Morrill Act. It served as an instrument of the nation's World War II effort and Cold War competition with the Soviet Union, generating basic scientific knowledge and technologically sophisticated weaponry, as well as training military personnel. It became an instrument in the quest for civil and human rights in the latter decades of the 20th century, providing opportunities for minorities and women, and expanding knowledge and awareness of the nation's checkered human rights history. Public funding expanded geometrically as these missions were layered atop (but never fully eclipsed) the time-worn commitment of higher education to preserve the status of elites and the corpus of classical knowledge.

So the public has multiple and competing expectations of colleges and universities. Higher education holds a franchise that requires a certain measure of freedom and autonomy, but it also has accepted responsibilities that come with funding and the concomitant agreement to serve a broader set of interests than its own internal sense of freedom and self-government.

Competing Missions

Two recent studies (Leslie & Fretwell, 1996; Goldman, Gates, & Brewer, 2001) have suggested reducing the multiple missions to relatively simple, but competing, alternatives. Leslie and Fretwell suggest that teaching and serving undergraduate students is a fundamental core activity common to virtually all institutions, while other activities such as grant-supported research and entertainment-oriented auxiliaries are simply contractual agreements with private parties in which costs are recovered for the services rendered. The RAND study divides mission into "reputation-seeking" and "prestige-seeking" activities — essentially parallel to the Leslie/Fretwell categorization. "Reputation" involves effective servicing of the educational goals of a particular population. "Prestige" involves activities intended to put the institution at some perceived competitive advantage with others.

Neither of these grapples with an entirely new question, nor in an entirely novel way. Howard Bowen's notable "Investment in Learning" (1996) considered the conundrum posed by higher education's dual service as a "private" and "public" good. Some of what it produces is of purely personal benefit to those who are willing to pay — and sometimes pay heavily — for it, but some of what it produces also deserves broad public investment on grounds that social capital results. Obviously, these are joint products to some unspecifiable extent (cf. Hearn and Bunton, 2001), but the mix of public and private investment is both real and measurable.

A slightly different and perhaps more generic formulation contrasts the imperatives and outcomes involved in both human and social capital formation (Cote, 2001). While "human capital" refers to the sum total of skills that individuals acquire and put to use in economic activities, "social capital" refers to the sum total of collective relations that enable trusting and cooperative activity. The two forms of capital underlie the productivity and stability (respectively) of modern, economically advanced societies. In effect, "you can't have one without the other" and expect a social order that both produces and cares at the same time.

American society, built on successive waves of immigration, and reliant on some conscious means of bonding groups to the national consciousness as well as to each other, has relied on public education to produce both human capital and social capital — perhaps to a far greater extent than in more traditional societies. We have also — to a far greater extent than other societies — required individuals to invest their own personal funds in education. This mix of private and public funding confuses, rather than clarifies, the social contract issue. Are individuals contributing because they have a stake in the generation of social capital, in the advantage they gain by helping to create a good society? Or are they investing in their own personal human capital for the purpose of gaining competitive advantage over others? Is society investing in education as a way to avoid or reduce wasteful expenditures on policing, corrections, unnecessary health care, etc., and thus reducing the tax burdens on everyone? Or is society promoting individual social mobility as a way of reducing subjective and objective deprivation and indirectly promoting collective civic order?

Obviously, there is no easy way to disentangle these ideas. The functions are inseparable and the products are clearly "joint." Most importantly, the social contract assumes that higher education is a player in the promotion of both human and social capital.

Inference and Transparency in Assessing the Contract

The principal problems lie not so much in identifying elements of higher education's mission, nor even in identifying the public's expectations. How these mutual expectations are managed and how public accountability occurs are more central. What happens? What value is delivered and through what institutions? Who benefits? Who pays? Who decides? Who assesses?

In our federal system, there is no one simple answer. Fifty states decide for themselves, and they have decided in their own ways, none clearly following templates of others. Michigan and California enshrine their public universities in their states' constitutions, immunizing them to a considerable degree from legislative micro-management. Florida,

on the other hand, has recently seen its public university system completely reorganized at what appeared to be legislative whim. Private higher education predominates in Massachusetts, while there is essentially no competitive private higher education in New Mexico. Some states place heavy tuition burdens on their students (Vermont, for example), while others (North Carolina, for example) pride themselves on a long-standing policy of low tuition and broad access.

Inferring anything about a "social contract" clearly must be just that– an inference. Inference is a logical process of accumulating evidence, observing patterns, testing these patterns for consistency or inconsistency, continuity or discontinuity, independence or contingency, and simplicity or complexity. More and better information leads to progressively greater transparency, understanding, and mutuality in sustaining any contractual relationship. So I suggest that we begin with an assessment of what data and information are available, and how they might help understand and interpret the status of higher education's relationship with its supporters.

Both federal and state agencies now collect a considerable amount of raw data on higher education, principally Title IV eligible higher education, but the data are not necessarily standardized from one agency to another, nor is collection coordinated in any meaningful way. On the whole, I think an inferential strategy will best stand the test of time – leading us to progressively clearer pictures of what goes on in higher education, how it is organized, and what value emerges. How best to draw these successively clearer pictures is an art and a science that has yet to be designed purposefully. I suggest the following ideas as starting points for discussion.

1. Build on (but coordinate) existing streams of data. NCES and SHEEO agencies, along with NPEC, comprise a base, but a wide variety of others, such as the College Board, the institutional associations like NASULGC, AAU, AASCU, NAICU, AACC, etc., all engage in the generation and analysis of information. RAND, Brookings, the Institute for Higher Education Policy, the new National Center for Public Policy and Higher Education, and others have produced useful analytical work in recent years. Similarly, NSF, the Census Bureau, the U.S. Labor Department, and other agencies of the federal government collect data that could be useful. NPEC is arguably the closest thing to a "coordinating" body in this confusing and overlapping array of data sources. It is still relatively new, though, and is still seeking to establish its own identity, organizational form, and role. On the whole, a strategic assessment of the current sources, characteristics, quality, and currency of data is needed.

2. Standardize periodicity. The U.S. Census is conducted every ten years. Other surveys of economic activity, social indicators, and health are conducted regularly and on established schedules. Turnaround in publishing these data is usually relatively fast, especially with the emergence of electronic data processing and Internet-based releases. Postsecondary surveys (e.g., IPEDS) go through lengthy "cleaning" processes and may be years in preparation before release. Likewise, data collected by states vary in the frequency and refinement with which they are collected, and data that are maintained by proprietary sources may not be released at all. At the very least, some efficient means of providing the public a continuous and timely picture, if only a snapshot, of higher education's current status ought to be designed. Annual "best buy" issues of commercial surveys or "five-year plans" of state coordinating bodies are: (a) too little; and (b) too late. The NCPPHE "Report Card" is both a good example of good intentions and a warning about the complexities and difficulties such a project might ultimately encounter.

3. Monitor trends. Higher education and the public policy commitments that have shaped the system as it exists today are the product of both incremental and revolutionary developments. The federal initiatives that have brought us mass student financial aid introduced new ideas and sources of funding (and enrollment) representing revolutionary change. States have recently implemented another revolution in financial aid, HOPE scholarships. Yet, each of these revolutionary developments has been continuously, and profoundly, reshaped by incremental changes that take place from year to year. What started out, for example, as a source of grant funding to poor students under federal law has been reshaped and reshaped into what is now essentially a system of mass loans and tax incentives that benefit middle class students. Likewise, states have progressively increased tuition at public universities and colleges at rates (in some cases dramatically) that exceed the rate of increase in state appropriations for the support of those same institutions. These fundamental changes in public policy are really only visible in retrospective analyses of trends, and those trends are only visible to the extent that continuous data collection and publication provide the dots that researchers can connect. The Grapevine project, begun over 40 years ago by M. M. Chambers and supported subsequently by Illinois State University and other funding sources, is an example of such a continuous annual data collection effort.

4. Engage in policy monitoring and evaluation. When the NCPPHE finally issued its laboriously constructed "report card," it acknowledged that data on outcomes were almost wholly lacking. One side of this argument has it that the strength of American higher education lies in the independence of all institutions. They survive in a highly competitive marketplace for their products; so "they must be doing what the public wants." The other side of the argument has it that colleges and universities are self-indulgent and hypocritical havens of unaccountable, unproductive radicals who not only do no real work, but poison the minds of impressionable youth. Who wins? Obviously it all depends... It all depends on who can show that colleges and universities are or are not producing something of value.

Many states, most famously Tennessee and South Carolina, have experimented with one version or another of "performance funding." On whatever the specific terms, institutions are asked to generate and submit data on their activities and outcomes that would show (a) the extent to which particular goals have (or have not) been achieved; and (b) the degree of efficiency with which institutions have operated. While no two performance funding schemes are alike, they have at least provided incentives for institutions to begin operating "accountably." Accrediting bodies such as SACS are now beginning to focus on a similar process. Institutions may be asked to rationalize the way they plan and evaluate their activities, instead of showing only that they operate in conventional and responsible ways.

Whether good or bad (and opinion certainly varies), these fairly recent developments suggest a widespread interest in evaluating the effectiveness and efficiency of higher education. Any prospective research effort that speaks to the "social contract" would have to account for the assumptions, methodologies, results, and impact of these efforts. It might well begin with an assessment of assessment – that is, what can be learned from the experiences of states,accrediting bodies, and institutions with this recent wave of attention to performance and accountability.

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5. Complexify. In a massive and complex industry like higher education, with many "producers," a wide array of consumers, huge variations in price and quality, plural sources of funding and control, it is probably irresponsible to strive for any kind of simple – not to say simplistic – portrait. A fundamentally inferential approach may well lead to the conclusion that multiple social contracts with multiple constituencies and clienteles require complex analyses rather than simple ones. Pat Callan's various works show the power of case studies in understanding the extraordinarily multivariate state of things in higher education. Increasingly, the use of multiple regression and related statistical methods suggest that the answer to most questions should begin with "it all depends." Policies and practices can both undershoot and overshoot their intended targets. Unintended consequences emerge, often only in remote hindsight. My own studies of full- and part-time faculty using NSOPF data clearly confirm the importance of disaggregating nearly everything by (a) type of institution; and (b) teaching field or discipline.

Inputs differ. Some institutions are rich; some are poor. Processes differ. Some institutions are complex (Illinois); some are simple (Tusculum). Outcomes differ. Some institutions avow a commitment to moral outcomes (Wheaton, IL), others to intellectual outcomes (Chicago). Some exalt contemporary ideas (Santa Cruz); others venerate the past (St. John's).

Making transparent what colleges and universities do, with what resources and technologies, with what effects or outcomes will probably lead to a progressively more complicated picture of the social contracts we try to fulfill. If we can find a way to disaggregate first and simplify second, perhaps the complexity of the picture will be easier to absorb and understand – by both researchers and the attentive publics to whom we speak.

Conclusion

It seems to me that the challenge is to organize the research community in a way that builds a strategic, continuous, cumulative, and multivariable process from which the public might be able to infer whether the terms of these social contracts are being met. A social contract is built on trust, and trust is perhaps best established through an open and honest exchange of good information. Because higher education and society are partly bound tightly to one another and because their mutual interests are also well-served when a measure of autonomy and independence allow higher education appropriate freedoms, the extent to which they can and should inform each other is necessarily fluid and negotiable.

However, "fluid and negotiable" does not mean chaotic and unaccountable. Too often, a close look at how we now collect, organize, interpret, and report data appears both chaotic and lacking in concrete meaning. I would challenge us to think strategically about how we might best organize to use our already considerable capabilities to gather data and infer. Building on the vast array of existing data, but bringing it together in more timely and sharper focus, seems to me to be the most important starting point. We'll know more about whether the social contract is in good shape once we know more about what we do, how we do it, and whether we are producing value for the support we receive.

In the end, the freest (and, paradoxically, the most orderly) markets are essentially based on transparency. Everyone has full information about what they get for what they pay. Mutual understanding probably ought to be the goal in sustaining any contract, private, public, or social. Until we know better what is expected of us, and until the public knows better what they are getting, and until it is clear who pays how much and what that money buys, we had best struggle seriously with transparency – conceptually, technically, and with a sense of its centrality to the public's interest in higher education.

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The Influence of Aid and Income on Persistence at a Small Private College

Charles N. Landreth and Robert O. Riggs

In the 1990s, many private institutions gave up the practice of making need-blind admission decisions and stopped aiding students to the full extent of their need. A federal change in determination of need — exclusion of home equity in income calculations — reduced the assets used to calculate a family's ability to pay for college. Because home equity is not a liquid asset, this change helped families by not inflating their ability to pay by including an asset that could not be used practically to pay for college. The exclusion of home equity lowered families' contributions, and private colleges, most of which were meeting all of a family's need, saw need amounts go up and aid budgets over-expended (Gose, 2000). In the face of over-budget aid expenditures, institutions modified their financial aid policies to maintain enrollment goals while reducing the cost of aid required to enroll the class. Specific methodology differed from one institution to the next, but generally, instead of making all admission decisions regardless of need, institutions made a majority of admission decisions without consideration of need and admitted the remaining percentage of the class based on the ability to pay most, if not all, of the cost of attending. By recruiting a higher percentage of full-paying students, institutions could rein in financial aid budgets (Gose, 1997).

This article examines the aid practices of one institution during this period of increased effort by private institutions to recruit high income students. The purpose of this study is to examine the influence of income and gift aid on persistence to graduation at a selective, private, coeducational liberal arts college. The importance of this study is to gain insight into the retention implications that may emerge from aid practices.

While Perna (1998) and St. John (2000) provide thorough reviews of the aid and persistence literature, a sample of the representative literature follows. Research on the impact of financial aid on persistence has shown mixed effects. Perna (1998) concluded that previous research "does not conclusively reveal the extent to which the effects of financial aid vary based on the types and combinations of aid received" (p. 25). Studies that found a positive relationship between receipt of student aid and persistence include St. John (1990); St. John, Kirshstein, and Noell (1991); St. John, Andrieu, Oescher, & Starkey (1994); and St. John (1998). Perna (1998) found little influence from aid on persistence. In her study, the top three influences on graduation were grade point average, on-campus residency, and degree aspirations. St. John and Starkey (1995) found that high tuition and high aid had a significant, negative impact on persistence. St. John, Paulsen, and Starkey (1996) explained 42% of the variance in persistence with the financial variables in a persistence model using national data for public and private schools. In a study at a university, St. John (1998) found that persistence improved in the cohort that received higher loan amounts. It is difficult to conclude, and contrary to the literature, that more loans caused better persistence. The author suggested that factors outside of the model may account for the results. Aid has had a negative association with persistence at public colleges and has had a positive influence on retention at private schools where aid budgets are more robust (St. John, 2000). According to St. John, a negative relationship between aid and persistence does not mean that the presence of aid negatively influences persistence, but rather that the aid is insufficient to promote persistence.

Persistence is explained in different ways in the literature. It has been defined as within-year enrollment in the fall semester and the subsequent spring semester (St. John, 1998; St. John, Andrieu, Oescher, & Starkey, 1994; St. John & Starkey, 1995; Hu & St. John, 2001), year-to-year (Pascarella & Terenzini, 1980; St. John, 1990; St. John, Kirshstein, & Noell, 1991), and undergraduate completion (Perna, 1998).

Income, measured in categories or as a continuous value, is a common independent variable in research on the influence of aid on persistence. In a national study of within-year persistence, high income aid applicants were less likely to persist, raising a question about the effectiveness of providing aid to students who do not need it (St. John, Andrieu, Oescher, & Starkey, 1994). St. John and Starkey (1995) tested three price variables and the extent to which they predicted within-year persistence of undergraduate students and three subgroups based on income. The three price variables were net-price (tuition minus grant), net cost (total cost minus total aid), and price and subsidy (tuition and grant, loan and work). Price and price subsidy best predicted persistence. Of the three income groups (lower, middle and upper), upper income students were least responsive to high tuition charges, although high tuition did have a significant and negative relationship with persistence for all three income groups. In all income groups the combination of high tuition and high aid had a significant and negative impact on persistence.

Financial aid has been defined in a variety of ways. Several studies include multiple measures of student aid to compare the predictive value of different aid measures. St. John (1990) used amount of grant, loan and work study to measure price response in retention decisions. St. John, Kirshstein, and Noell (1991), St. John (1998), and Hu and St. John (2001) measured aid by indicating whether grants, loans, or work, or these in combination were awarded. St. John and Starkey (1995) compared the predictive value of three measures of aid: net-price (tuition minus grant), net cost (total cost minus total aid), and price and subsidy (tuition and grant, loan and work). DeAngelis (1998) used variables to indicate the awarding of any aid and the total amount of each subsidy. Perna (1998) included variables to show whether any aid was received, whether aid of each type was received, the composition of the package (e.g., grant or grant and loan), and whether the weight of grant or loan in the package was greater than 50% of the total package.

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Various statistical methods have been used in studies of student aid and persistence. Logistic regression (e.g., Hu & St. John, 2001; St. John, 1998; DeAngelis, 1998), ordinary least squares regression and path analysis (Bean, 1980; Perna, 1998), and structural equation modeling (Cabrera, Castenada, Nora, & Hengstler, 1992) have also been employed. Dey and Astin (1993) compared the results of three different methods applied to one data set in a study of college student retention. As long as the variables were moderately distributed (at least a 75%/25% split), there was little practical difference among logit, probit, and linear regression in explaining variance and fit.

Method

Data for this study came from three cohorts (1995, 1996, and 1997) of first-time, first-year students at a private, coeducational, liberal arts college. The sample was 55% female, 71% graduated, and 57% demonstrated no need. Because 90% were white, race was not included as a variable in this study. A student was counted as graduated based on the enrollment status as of the summer of 2002. Although this may seem to give a more favorable graduation rate to the earliest cohort, in fact, very few students graduate from the institution after the fifth year. Students who did not finish the first semester of the first year were not included in this study inasmuch as college performance is an independent variable, and these students would have had a grade point average (GPA) of zero, falsely representing poor performance instead of the fact that they left the institution prior to earning any credit. The variables are defined in Table 1.

The number of financial variables in this study is small compared to other aid studies. The initial design included aid variables to represent the existence of different types of aid and continuous variables for actual income and aid amounts. However, this design resulted in extensive multicollinearity — high correlation between independent variables. Given the patterns of aid packaging at the institution, this is not surprising. To solve the multicollinearity problem, two financial variables were chosen as independent variables. The two variables are dichotomous, indicating: (a) whether or not a student had a need amount; and (b) whether a student received gift aid. This design also solved the problem of missing income amounts for students who did not apply for aid.

The measure of pre-college ability was an institutional-based measure utilizing the ratings made in the review of admissions files. These ratings are based upon high school GPA, standardized test scores on the SAT and ACT, and other factors in a student's application such as the strength of the high school academic program, the depth of extra-curricular involvement, and the quality of an admissions essay. While this approach to the pre-college ability measure makes it difficult to compare these results to other studies, this study is institutional in scope, and use of a pre-college ability measure based on admissions review practices provides a test of the admissions ratings in light of other variables in the study.

Results

Ordinary least squares multiple regression was used to determine the influence of the independent variables on the dependent variable — persistence to graduation (see Table 2). The alpha level for significance was set at .05. A block entry approach was used in the estimation of the regression equation. First, graduation was regressed on the background variables: gender, pre-college ability, and full pay. Together the background variables explained 3.7% of the variance in the dependent variable graduation ($F(4,1154) = 10.998$, $p < .001$) with only pre-college ability having a statistically significant effect. Both high ability and middle ability students, as rated by the admissions office, were more likely to persist than the students rated in the low category. Further, the standardized regression coefficients show that students rated in the highest category ($\beta = .206$, $p < .001$) of ability were nearly three times more likely to persist than students in the middle category of ability ($\beta = .072$, $p < .05$).

Adding gift aid to the model produced an increase in R^2 of .038 ($F_{change}(1,1153) = 47.067$, $p < .001$) indicating that the gift aid variable explained an additional 3.8% of variance in persistence to graduation beyond the background variables. With gift aid in the model, pre-college ability became non-significant. The full pay variable, non-significant in the first regression, had a statistically significant, positive influence on graduation in the presence of gift aid.

The third step in the model was the addition of dummy-coded variables for college performance in the first year. Adding GPA variables to the model produced an increase in R^2 of .074 ($F_{change}(4,1149) = 25.04$, $p < .001$) indicating college performance explained an additional 7.4% of the variance in persistence to graduation beyond the variance explained in the first two steps. Full pay and gift aid each had a statistically significant, positive influence on graduation. Compared to the lowest GPA category (below 2.0), all other GPA categories had a statistically significant, positive influence on persistence to graduation, with the

Table 1
Variable Names and Variable Definitions

Name	Definitions
Gender	A dichotomous variable where female = 1 and male = 0
Full pay	Students who applied for aid or who applied but demonstrated no need (Full pay =1) and students who demonstrated need (Full pay = 0)
Pre-college ability	A three-level dichotomous variable with the two highest levels compared to the lowest level. The ability score was based on the admissions office rating scheme of high school GPA, standardized test scores, and review of other student credentials. Ability1 = 1, the highest rated new students; Ability2 = 1, the second highest rated students
Gift aid	A dichotomous variable indicating the award of a grant (Gift aid = 1) or no grant awarded (Gift aid = 0)
College Performance	A five-level dichotomous variable indicating range of college GPA computed at the end of the first year. GPA1 = 1, 3.5 to 4.0, otherwise 0 GPA2 = 1, 3.0 to 3.5, otherwise 0 GPA3 = 1, 2.5 to 3.0, otherwise 0 GPA4 = 1, 2.0 to 2.5, otherwise 0
Graduation	A dichotomous variable where graduated = 1 and not graduated = 0

3.0 to 3.5 range showing the strongest influence, followed by the 3.5 to 4.0 range, the 2.5 to 3.0 range, and the 2.0 to 2.5 range. The full model explained 14.9% of the variance in persistence to graduation.

Because of the interest in the effects of income and gift aid in this study, interaction terms were computed for the full pay and gift aid variables. Gift aid interacted with the other independent variables to explain an additional 2.8% of variance (F_{change}(8,1141) = 4.898, p < .001). Although GPA ranges were statistically significant for both recipients and non-recipients of gift aid, t-tests indicated there was not a statistically significant difference in the effect of GPA for the two groups. The interaction effect of full pay explained an additional 2.4% of the variance in persistence to graduation (F_{change}(8,1141) = 4.156, p < .001). Although the GPA variables were statistically significant for full-paying and needy students, t-tests indicated that there was not a statistically significant difference in the effect of GPA for the two groups.

For those students receiving gift aid (n = 780), the GPA variables and the full pay variable had statistically significant effects on persistence to graduation. Grades of 3.0 to 3.5 had the greatest effect on persistence to graduation (ß = .436, p < .001), followed by the 3.5 to 4.0 range (ß = .414, p < .001), the 2.5 to 3.0 range (ß = .290, p < .001), the 2.0 to 2.5 range (ß = .143, p < .05) and full pay (ß = .071, p< .05). For those students who did not receive gift aid (n = 379), the GPA variables showed statistically significant effects. Grades of 2.5 to 3.0 had the strongest effect (ß = .437, p < .001), followed by the 3.0 to 3.5 range (ß = .337, p < .001), the 2.0 to 2.5 range (ß = .296, p < .001) and the 3.5 to 4.0 range (ß = .181, p < .001). The small effect of the 3.5 to 4.0 GPA range is difficult to interpret because of small cell size; only 17 students without gift aid had a college GPA greater than 3.5. For those students without gift aid, the highest pre-college ability rating was also statistically significant, with a negative effect on persistence to graduation (ß = -.208, p < .001), indicating that the lowest rated unaided students in the admissions process were more likely to persist than the highest rated unaided students.

For the group that demonstrated no need (n = 663), gift aid and the GPA variables had a statistically significant positive effect on retention. The 3.0 to 3.5 grade range had the strongest effect (ß = .392, p < .001), followed by the 2.5 to 3.0 range (ß = .386, p < .001), the 3.5 to 4.0 range (ß = .381, p < .001), gift aid (ß = .377, p < .001), and the 2.0 to 2.5 grade range (ß = .253, p < .001). The variable indicating highest pre-college ability had a statistically significant negative effect for those students with no demonstrated need (ß = -.211, p < .001), indicating that the full-paying students rated lowest by the admissions office were more likely to persist to graduation than those rated highest by the admissions office. For those students with demonstrated need (n = 496), the only statistically significant effects were from the positive influence of the GPA variables on persistence to graduation. Grades of 3.0 to 3.5 had the strongest effect (ß = .437, p < .001), followed by the 3.5 to 4.0 range (ß = .415, p < .001), the 2.5 to 3.0 range (ß = .347, p < .001), and the 2.0 to 2.5 range (ß = .176, p < .001).

Table 2
Summary of Hierarchical Regression Analysis for Variables Predicting Persistence to Graduation (N=1159)

Variable	*B*	*SE B*	_
Step 1			
Gender	.005	.027	.006
Full pay	-.044	.027	-.048
Ability1	.118	.032	.206***
Ability2	.074	.035	.072*
Step 2			
Gender	-.003	.026	-.003
Full pay	.093	.033	.102**
Ability1	.057	.036	.062
Ability2	.019	.036	.018
Gift aid	.273	.040	.284***
Step 3			
Gender	-.038	.025	-.042
Full pay	.073	.032	.080*
Ability1	-.037	.038	-.041
Ability2	-.035	.035	-.034
Gift aid	.220	.039	.228***
GPA1	.454	.053	.419***
GPA2	.445	.048	.440***
GPA3	.405	.047	.381***
GPA4	.281	.050	.228***

*p < .05
**p < .01
***p < .001

Discussion

The ability to pay the full price for this college and receiving gift aid had statistically significant positive effects on graduation. This finding is similar to results from previous studies (St. John 1990b; St. John, Kirshstein, & Noell, 1991; St. John, Andrieu, Oescher, & Starkey, 1994; and St. John, 1998). Being able to pay the full price, by itself, did not have a statistically significant influence on graduation. However, in the presence of gift aid, being able to pay the full price became a positive influence on graduation. This effect suggests that the concern about the ineffectiveness of providing aid to high income students (St. John, Andrieu, Oescher, & Starkey, 1994) is not pertinent in this case. Although aid and ability to pay had a positive effect on graduation, it is important to point out the influence of aid and income relative to the impact of GPA on graduation. In the full model, having a GPA of 3.0 or higher had five times greater influence than income and twice the influence of gift aid.

Separating the aided from the unaided students provided further insight into the research question. Although ability to pay had a statistically significant influence on aided students' graduation, the influence was not as great as strong academic performance in college. Having a 3.0 GPA or higher had six times greater influence on persistence to graduation than the ability to pay. For those students who were not aided (of whom 98% were full-paying), two issues emerged. First, while all of the GPA ranges had a greater influence on persistence than the lowest range (below 2.0), the beta-weights show an interesting pattern of influence. Having a GPA in the range of 2.5 to 3.0 had two-and-a-half times greater influence on persistence than having a GPA in the 3.5 to 4.0 range. This GPA pattern, alone, is not especially reliable because of the small cell size mentioned previously. However, the second point adds some weight to the concern about

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high ability students without aid: the students without gift aid rated lowest in the admissions process were more likely to persist than those rated highest.

Taking a separate look at the full-paying students (some receiving gift aid and some not), the findings reveal that for students with no need, the presence of gift aid has a positive effect on persistence to graduation, an effect about the same in weight as the three highest GPA categories. Contrary to concerns in the literature, this suggests that gift aid is effective when given to those without need. Further, the concern about ability evident in the group of students who were not aided arises again with the full-paying group. Of this group of no-need students, those rated lowest in the admissions process were more likely to persist than students rated highest in the admissions process, whether or not they received aid.

These results point to several larger issues. First, the issue of student mobility is pertinent. Students who have the ability to pay, who are rated high in the admissions process, and have strong college performance are in a favorable position to transfer. Institutional response to this group of students leads to a counter-intuitive action: providing support for students who are doing well academically and who have relatively little financial pressures. While it is unlikely the institution has the potion to address attrition in one dose, it is reasonable that a set of responses that would support these students would be good for all students. For example, finding ways for all students to find attachment in the college and civic community could prevent attrition for the group of students who would leave because it is easy to leave, and for the students who leave out of desperation to solve a particular problem with their college experience.

The pattern of attrition for full-paying, high ability students also raises questions about the impact of enrolling these students. Although recruiting full-paying students is a necessity for institutions where tuition is the primary source of revenue, attrition of these students may generate more pressure on admissions than attrition of other students. For example, consider the importance of a low acceptance rate as an institutional quality measure. If the institution admits four students to yield one, each student who has to be replaced, because of attrition or graduation, represents four more admitted students. While balancing the need for revenue, the institution should more closely study the effect of full-paying students' attrition patterns on recruitment.

The idea that persistence could be improved by aiding more full-paying students deserves comment. The positive effect of gift aid for full-paying students suggests that even high income families are sensitive to cost, a finding consistent with St. John and Starkey (1995). Although aiding full-paying students may be the logical response to the results of this study, these results should be considered within the context of the institution's mission. Because of the patterns of wealth in the recruitment pool of the institution, gift aid for full-paying students may produce results contrary to the goals of building a diverse educational environment with a variety of socioeconomic classes and ethnicities. The more significant conclusion to draw from the positive effect of aid on the persistence of full-pay students is the undesirable effect of tuition increases. Full-paying students receiving gift aid are receiving discounts on tuition. Full-paying students not receiving the discount are paying higher tuition. The results suggest that increases in tuition may create retention problems for the students who contribute most to the net tuition revenue of the college.

This study shows the importance of understanding income and aid patterns in persistence to graduation and the influence from student ability and performance. Recruitment of high income, high ability students, although fiscally desirable, can have a negative impact on an institution's retention and recruitment goals. The practice of aiding students without need is necessary for tuition-driven institutional budgets, but the success of this practice may point to the negative impact of tuition increases, especially when considering the attrition patterns of full-paying students who receive no aid.

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Long-Term Debt at Public Four-Year Colleges and Universities

Michael Stump

Introduction

Revenues, expenditures, debt, and endowments are the basic components of finance in public, four-year higher education institutions. Revenues and expenditures measure short-term institutional financial health while debt and endowments address the long-term. Most measures and analyses of financial performance involve these components. A brief comment about each follows.

- **Revenues** consist of tuition and fees, appropriations, grants and contracts, gifts, and endowment and investment income; however, tuition and fees and appropriations are the primary revenue sources. Tuition and fees have increased significantly in recent years while appropriations have generally lagged.

- **Expenditures**, which have experienced modest growth, include payroll, benefits, equipment, supplies, maintenance, and debt payments.

- **Debt**, which has grown considerably, consists almost entirely of long-term obligations, such as bonds, notes, and leases.

- **Endowments** are expressed in terms of their market value and are divided into two categories: those restricted to certain uses by donors and those not. Contributions to and investment returns on endowments have been impressive. For example, the fiscal year 2000 investment returns for the University of Michigan and the University of Virginia exceeded 40%.

Some suspect that institutions borrow money instead of spending endowment to take advantage of higher endowment returns and lower interest rates on debt. If so, are tuition, fees, other revenue categories, and expenditures impacted by this practice? Could there be other relationships that are not as intuitive? We should look at the overall finance picture to determine what relationships exist among its basic components. Do revenues, expenditures, debt and endowments impact one another and, if so, to what extent? Such a study could provide information useful to those interested in public higher education finance.

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Why is this study important?

Do some institutions prefer to borrow money at low interest rates while leaving endowment funds intact? Debt involves an ethical dimension, which includes decisions about policy and institutional values. Specific questions must be asked. Are there certain assets for which institutions will borrow money and others for which they will not? What are the consequences of 10, 20 or 30-year institutional debt obligations? Should the decision to borrow be based upon the assumption that endowment earnings will exceed the cost of borrowing? Incurring long-term debt requires assumptions about future endowment returns. This article provides a model for debt analysis by determining what relationships exist among current fund revenues and expenditures, long-term debt, and endowment value.

Literature Review

Long-term Debt

Long-term debt is debt due more than a year from the end of the fiscal year. Shultz (2000) documented large increases in long-term debt. From 1990 to 1998, $90 billion of new higher education debt was sold. Van Der Werf (1999) noted that colleges and universities were more than $100 billion in debt. In 1998, public and private higher education issued $15.5 billion in long-term debt. This was more than double the $7.2 billion issued during 1995, 1996, and 1997 combined. Well before these dramatic increases in debt, scholars such as Johnstone (1993) expressed concern about the rising levels of long-term debt in higher education. It is possible that debt may have been used to avoid difficult decisions concerning allocation of resources. Borrowing money may be easier than languishing over the prioritization of funding, which may result in leaving some desirable items unfunded. In certain cases, borrowing can be justified if problems with revenue flow are considered short-term, and if returns on invested money are greater than the cost of borrowing. Perhaps borrowing is utilized more than it once was with respect to revenues, expenditures, and endowment.

Tuition and Fees

Tuition and fees are the revenues generated by institutions through charges to students. Cooper (2000) noted that tuition increased 4.4% at public four-year colleges and universities and 5.2% for private schools for the academic year 2000-2001. This continued the 1990s trend of significant tuition and fee increases. Institutions are concerned about whether tuition and fees are increasing faster than inflation, parents' ability to pay, and public tolerance in general. With respect to the importance of tuition and fees to revenue flows, institutions fear that the rate of increase may lead to additional pressure to discount tuition and fees.

State Appropriations

For the academic year 2000-2001, state appropriations for higher education totaled $60,568,619,000. This represented a one-year change of 7%, a two-year change of 14.4%, and a five-year average annual change of 6.4% (*Chronicle of Higher Education*, December 15, 2000). In general, state appropriations showed significant increases such that they exceeded the Higher Education Price Index by a significant margin.

Endowment Value and Income

Endowment value is the market value of endowed assets at the end of the fiscal year. Duke University and the University of Notre Dame reported investment returns of almost 60% for the fiscal year ended June 30, 2000 (Lively & Street, 2000). Yale University, Dartmouth College, the University of Michigan, the University of Chicago, and the University of Virginia all exceeded 40% for the same period (Lively & Street, 2000). Yale's endowment exceeded $10 billion, and Harvard's was $19.2 billion for the year ended June 30, 2000. Harvard's endowment increased $5 billion from the previous year (Lively & Street, 2000).

Endowment income is the amount of endowment transferred each year to the institutions' current funds, which are those funds allocated for the current fiscal year. Current funds may be restricted by donors for specific purposes or unrestricted and available for current operations at the discretion of the institutions. Basch (1999) studied a sample of 669 private colleges and universities and found that the median payout rate fell from 6.59% for the 1988-89 fiscal year to 5.06% for 1995-96. Altschuler (2000) found that private schools tend to spend a greater percentage of their endowments than publics.

Arbitrage

Arbitrage is defined as the substitution of funds borrowed at lower interest rates for assets that are expected to earn higher returns if left intact. Winston (1992) observed that institutions generate income by arbitrage and believed this was immoral and eroded public trust in higher education. Bradburd and Mann (1993) noted that many institutions borrow money to arbitrage the difference between endowment return and interest on debt. This type of debt is typically not taxed; so the holder of the debt does not have to pay income taxes on interest earned (Bradburd & Mann, 1993).

Many institutions have difficulty deciding whether endowment resources, debt, or a combination of the two be used to meet the current operating budget. Should institutions incur the risks associated with long-term debt to meet short-term budget needs? Stated another way, should institutions obligate future budgets to meet the needs of the current one? Should debt be analyzed with respect to assets and distinct from income, or as a component of income?

Current Fund Expenditures

According to the U. S. Department of Education's National Center for Education Statistics [NCES] (USDE, 1999), trend data reveal increases in expenditures per student through the late 1980s and smaller increases thereafter through 1996. Expenditures increased 16% between 1983 and 1989 (USDE, 1999). Between 1990 and 1996, however, expenditures increased only 7% (USDE, 2000). These figures were adjusted for inflation using the Higher Education Price Index [HEPI]. Over the long-term, from 1960 through 1996, total expenditures for private higher education increased from $20 billion to $90 billion. These amounts are approximations adjusted to 1999 dollars using HEPI (USDE, 2000). For public institutions, expenditures were $25 billion in 1960 and $145 billion in 1996. These amounts are also approximations adjusted to 1999 dollars using HEPI (USDE, 2000).

Higher Education Price Index [HEPI]

McPherson, Shapiro, and Winston (1989) define HEPI as a base-weighted index of the costs of inputs colleges and universities purchase. HEPI was established in 1972 based on data collected by the NCES (Chatman, 1999). Overall there are two broad cost components to HEPI, personnel and services, which is 79% of the index, and supplies and equipment, the remaining 21% (Chatman, 1999). Navin and Magura (1977) described inflation as a harsh reality that affects all of higher education operations and a persistent economic reality. From 1978 through 1998, HEPI increased 180% (Chatman, 1999).

Research Methods

This study used cluster and ratio analyses to examine the relationships among current fund revenues and expenditures, long-term debt, and endowment value, for public four-year institutions, for fiscal years 1992 through 1997. The following questions help explain the relationships among the variables.

1. What trends exist for current fund expenditures and revenues, long-term debt, and endowment value, and what is the relationship of changes in these variables?

2. Is long-term debt displacing one or more components of current fund revenue, and does endowment value influence this relationship?

3. Why have institutions incurred more debt when their revenues and endowment values have been increasing?

4. Have revenue sources failed to keep pace with the Higher Education Price Index?

Data was gathered from the Integrated Postsecondary Education Data System [IPEDS], developed and maintained by the United States Department of Education's National Center for Education Data Statistics [NCES]. The data are self-reported, and, as such, may contain unintentional or deliberate errors. Data were collected by downloading the annual IPEDS data files from the NCES Website <http://nces.ed.gov/ipeds>.

The Statistical Package for the Social Sciences [SPSS] version 10.0 was used to explore relationships among revenues, expenditures, long-term debt and endowment value, and determined how these variables vary together or independently of each other. The first step involved computing the mean, standard deviation, and population size for each variable, for each year. Next, a hierarchical cluster analysis was performed to statistically group institutions based on the four variables studied for each school, for each year. SPSS allows users to select a mathematical method to perform the cluster analysis. Euclidean geometry, the default, was used. It computed the square root of the sum of the squared differences, or distances, among the variables, for each school, for each year. Dendograms, one produced for each year, revealed the number of clusters within the various levels of the selected standard error. A higher standard error produces fewer clusters with more schools resulting in greater dissimilarities among the members of each cluster and reduced confidence in the clustering process. Researcher judgment is very important at this point. A 5% standard error was chosen and is consistent with most research in which a 95% confidence level is the norm. This yielded five clusters for fiscal years 1992 through 1996 and six clusters for 1997. Each cluster of schools was considered as a unit and compared to the other clusters.

Results

Table 1 presents the means for current fund revenues, current fund expenditures, long-term debt, and endowment value for all institutions prior to clustering. Table 2 presents the standard deviations prior to clustering. These tables were not adjusted for inflation.

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The analysis produced five clusters of schools for each of the years 1992 through 1996 and six clusters for 1997. The number of schools ranged from a low of 294 in 1992 to a high of 348 in 1997. The number of schools in cluster 1 ranged from a low of 17 to a high of 28 for the six years studied. The number of schools in cluster 2 ranged from a low of 268 to a high of 321. The cluster analysis isolated the University of Michigan–Ann Arbor [cluster 3] for each year. Cluster 4 consisted of the University of Minnesota–Twin Cities, Ohio State University, University of Washington, and University of Wisconsin– Madison for fiscal years 1992 through 1996. For 1997, the cluster analysis removed the University of Wisconsin–Madison from cluster 4 and placed it in cluster 1 and isolated the University of Virginia [UVa] from cluster 1 and created cluster 6. The cluster analysis also isolated the University of Texas–Austin [UTA] for each of the six years [cluster 5]. The analysis focused on clusters 1 through 5 since these were present for each of the six years studied, cluster 6 was present in 1997 only.

Table 3 includes the cluster means for fiscal year 1992 data. Table 4 includes the 1997 data adjusted to 1992 dollars using HEPI, and Table 5 is the difference of the two years, also adjusted using HEPI. Table 4 includes cluster 6, the University of Virginia, which was within cluster 1 for fiscal year 1992; therefore, the trend analysis does not include cluster 6. Table 6 documents the percentage of change in each variable, adjusted for HEPI using 1992 dollars, for fiscal years 1992 through 1997.

The research questions and results follow.

1. What trends exist for current fund expenditures and revenues, long-term debt, and endowment value, and what is the relationship of changes in these variables? Adjusting for HEPI, current fund revenues and expenditures were approximately equal for fiscal years 1992 through 1997; revenues and expenses increased modestly. Long-term debt decreased for clusters 1, 4, and 5 between 11.14% and 13.49% and increased 14.64% for cluster 2 and 30.34% for cluster 3. Endowment values increases ranged from 32.37% to 177.95%. (See table 6.)

2. Is long-term debt displacing one or more components of current fund revenue, and does endowment value influence this relationship? Adjusting for HEPI, the data suggest not. Long-term debt decreased for three of the five clusters. The ratio of debt and expenditures changes revealed little, except for cluster 5, the University of Texas–Austin, in which debt decreased from 130% of expenditures to 109%. Debt decreased as a percentage of endowment value for all clusters; the change ranged from 10% to 77%. (See table 5.) It does not appear that long-term debt is displacing any portion of current fund revenues. Generally, long-term debt decreased in terms of 1992 dollars and as a percentage of endowment value.

3. Why have institutions incurred more debt when their revenues and endowment values have been increasing? Adjusting for HEPI, debt decreased relative to revenues, expenditures, and endowment value. Endowment value increased as a percentage of expenditures for all clusters: 6% for cluster 2; 12% for cluster 1; 21% for cluster 4; 47% for cluster 3; and 107% for cluster 5. This indicates that endowment value grew faster than expenditures for all clusters, after accounting for inflation, with significant increases for clusters, 1, 3, and 5. (See table 5.)

4. Have revenue sources failed to keep pace with HEPI? Adjusting for HEPI, the data suggest not. Revenues increased from 1.14% to 9.26% for the period, suggesting that revenue sources have kept pace with HEPI. (See table 6.)

Implications and Conclusions

Generally, the literature does not compare debt to revenues, expenditures, and endowment value, but to previous debt levels. It was not clear, with the exception of Shultz's study, whether the debt studies considered HEPI. Once revenues, expenditures, endowment values, and HEPI were considered, public, four-year school debt levels were less concerning for the period 1992 through 1997 than suggested by the literature. This study found that for four-year public institutions, for the period 1992 through 1997, after adjusting for HEPI:

1. Revenues increased approximately 5% or less for each cluster except number 3, the University of Michigan–Ann Arbor, which increased more than 9%. Expenditures increased approximately 6% or less for each cluster except cluster 3, which increased approximately 13.5%.

Table 1. **Means**

	FY 1992	FY 1993	FY 1994	FY 1995	FY 1996	FY 1997
Current Fund Revenues	$139,749,862	$146,765,713	$152,474,393	$160,729,170	$164,390,523	$172,422,224
Current Fund Expenditures	$138,723,102	$145,897,658	$151,657,839	$159,241,194	$163,042,679	$170,634,596
Long-term Debt	$36,204,601	$38,242,147	$39,706,932	$41,275,836	$41,988,904	$43,814,562
Endowment Value	$29,928,208	$34,818,305	$33,511,033	$39,084,096	$45,642,143	$55,082,174

Table 2. **Standard Deviations**

	FY 1992	*FY 1993*	*FY 1994*	*FY 1995*	*FY 1996*	*FY 1997*
Current Fund Revenues	$224,224,759	$234,616,193	$244,772,816	$257,261,033	$265,123,845	$277,872,249
Current Fund Expenditures	$222,248,089	$232,174,787	$242,165,573	$255,057,268	$263,576,595	$274,700,780
Long-term Debt	$82,705,289	$83,878,373	$85,830,759	$90,371,469	$88,007,854	$86,652,909
Endowment Value	$185,650,132	$202,765,540	$194,567,312	$216,566,715	$238,890,401	$287,690,451

Table 3. **Cluster Groups' Means Fiscal Year 1992**

Cluster	*CF Revenues*	*CF Expenditures*	*Long-term Debt*	*Endowment Value*	*CFR/CFE*	*LTD/CFE*	*EV/CFE*	*LTD/EV*	*n*
1	$732,924,516	$718,356,758	$226,165,791	$140,923,133	102.03%	31.48%	19.62%	160.49%	20
2	$114,343,978	$113,300,875	$21,792,534	$9,599,459	100.92%	19.23%	8.47%	227.02%	268
3	$1,956,609,792	$1,868,539,629	$411,777,213	$611,694,083	104.71%	22.04%	32.74%	67.32%	1
4	$1,288,270,084	$1,316,275,532	$241,283,187	$301,776,818	97.87%	18.33%	22.93%	79.95%	4
5	$780,332,286	$784,635,408	$1,019,613,900	$3,357,886,150	99.45%	129.95%	427.95%	30.36%	1
									294

Cluster 3: University of Michigan–Ann Arbor
Cluster 4: Minnesota–Twin Cities, Ohio State University, University of Washington, and University of Wisconsin–Madison
Cluster 5: University of Texas–Austin

Table 4. **Cluster Groups' Means Fiscal Year 1997 - Adjusted for HEPI**

Cluster	*CF Revenues*	*CF Expenditures*	*Long-term Debt*	*Endowment Value*	*CFR/CFE*	*LTD/CFE*	*EV/CFE*	*LTD/EV*	*n*
1	$742,568,357	$735,128,877	$195,645,257	$233,895,674	101.01%	26.61%	31.82%	83.65%	21
2	$115,647,959	$114,826,772	$24,982,602	$16,572,839	100.72%	21.76%	14.43%	150.74%	321
3	$2,137,863,287	$2,124,117,230	$536,705,259	$1,700,229,352	100.65%	25.27%	80.04%	31.57%	1
4	$1,324,522,590	$1,297,459,489	$209,418,267	$567,342,237	102.09%	16.14%	43.73%	36.91%	3
5	$820,014,340	$830,647,044	$906,038,220	$4,444,717,935	98.72%	109.08%	535.09%	20.38%	1
6	$872,718,682	$884,645,770	$208,232,892	$1,007,829,029	98.65%	23.54%	113.92%	20.66%	1
									348

Cluster 3: University of Michigan–Ann Arbor
Cluster 4: Ohio State University, the University of Minnesota–Twin Cities, and University of Washington
Cluster 5: University of Texas–Austin
Cluster 6: University of Virginia

Table 5. **Cluster Groups' Means Fiscal Year 1997 - 1992 Difference - Adjusted for HEPI**

Cluster	*CF Revenues*	*CF Expenditures*	*Long-term Debt*	*Endowment Value*	*CFR/CFE*	*LTD/CFE*	*EV/CFE*	*LTD/EV*
1	$9,643,841	$16,772,119	-$30,520,534	$92,972,541	-1.02%	-4.87%	12.20%	-76.84%
2	$1,303,981	$1,525,897	$3,190,068	$6,973,380	-0.21%	2.52%	5.96%	-76.27%
3	$181,253,495	$255,577,601	$124,928,046	$1,088,535,269	-4.07%	3.23%	47.31%	-35.75%
4	$36,252,506	-$18,816,043	-$31,864,920	$265,565,419	4.21%	-2.19%	20.80%	-43.04%
5	$39,682,054	$46,011,636	-$113,575,680	$1,086,831,785	-0.73%	-20.87%	107.14%	-9.98%

Table 6. **Cluster Groups' Means FY 1997 - 1992 Trends - HEPI Adjusted**

Cluster	*CF Revenues*	*CF Expenditures*	*Long-term Debt*	*Endowment Value*
1	1.32%	2.33%	-13.49%	65.97%
2	1.14%	1.35%	14.64%	72.64%
3	9.26%	13.68%	30.34%	177.95%
4	2.81%	-1.43%	-13.21%	88.00%
5	5.09%	5.86%	-11.14%	32.37%

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2. Debt decreased between 11% and 14% for three of the five clusters, but showed an increase of more than 14.5% for cluster 2 and more than 30% for cluster 5, the University of Texas–Austin.
3. Debt, as a function of expenditures, has remained static, except for cluster 5, the University of Texas–Austin, where it has decreased by more than 20%.
4. Debt, as a function of endowment value, has decreased between 43% and 77% for clusters 1 through 4, and nearly 10% for cluster 5, University of Texas–Austin.
5. Endowment value increased between 32% and 178%.
6. Endowment value, as a function of expenditures, increased anywhere from approximately 6% to more than 107%.

Considerations for Further Research

Returns on endowments were considered good for the years studied. However, a significant decline in earnings or giving would impact endowment values, which may indirectly impact revenues, expenditures, and debt. Therefore, the analyses performed in this study might yield different results if conducted for a period where the economy was less favorable.

The classification and accounting for public higher education debt should be studied to determine the extent to which "authorities" are used to issue and incur debt. Authorities are legal entities created by legislative bodies to perform certain functions, such as public transportation, garbage collection, or, in the case of higher education, providing housing to students. Authorities collect revenues, expend monies, and incur debt. They are distinct legal, public entities that issue separate financial statements. Financial reports of authorities created to administer functions at public colleges are reduced to footnotes within the financial statements of the colleges — detailed financial information is not presented. The use of authorities may be a method for public colleges and universities to avoid recording debt within their financial statements. This practice could impact the results of this and future debt studies.

A study utilizing cluster and ratio analyses should be conducted for private, four-year institutions to compare and contrast with this study and help determine the viability of such analyses. Private institutions may be more attracted to debt for a number of reasons, including the elimination of the $150 million debt ceiling in the Tax Reform Act of 1996 (Hennigan, 1998).

The cluster and ratio analyses performed in this study provide a different model by which to study higher education debt and finance. These analyses were used to determine mathematical relationships among current fund revenues and expenditures, long-term debt, and endowment value. These analyses are objective in nature and can reveal relationships that were not suspected or disprove those that were. More research should be conducted using this model to determine its worth to administrators and higher education finance scholarship.

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College and University Long-Term Financing in Context: Implications for Institutional Strategy

James A. Shultz

Introduction

The American college and university is a sophisticated, complex, challenging business operation. Typically it engages in varied lines of business serving multiple markets. Its sources of revenue are more numerous and diverse than most business corporations. It serves a large number of diverse client groups. Financial planning and management often take place under substantial economic and financial uncertainty. As with other areas of institutional management in higher education, those responsible for financial strategy must balance overall coordination with varying degrees of delegated decision-making and control.

Within this context, long-term financing has become an increasingly important tool for institutional strategic planning and financial support. Long-term debt, or borrowing based on a contractually-obligated repayment period of more than one fiscal year, enables a college or university to secure long-lived resources to support critical programmatic and student support needs. Through long-term borrowing, an institution commits future revenue, anticipated to be received over some fixed time period, to the acquisition or construction of resources needed now, rather than wait for the revenue to accumulate. Colleges and universities engage in long-term borrowing not only to construct and renovate academic and student support buildings but also to purchase equipment, provide recreational facilities, and create and sustain student loan funds.

The importance of college and university long-term borrowing in the big picture can no longer be overlooked. Long-term borrowing activity by the higher education sector in the United States averaged approximately $8 billion annually throughout the 1990s. At the institutional level, long-term debt has become a strategic issue not only at the large private and public flagship universities but at smaller colleges as well. Recently a community college made headlines when it achieved the highest long-term credit rating possible from Moody's Investors Service. Just as noteworthy, but at the other end of the institutional spectrum, the chief financial officer at an institution with one of the largest endowments among public institutions in the country testified recently before a finance subcommittee of the state legislature. He pointed out that maintaining a favorable long-term credit rating was the university's single most important strategic financial planning requirement.

In spite of long-term borrowing's importance in college and university finance, comparatively little empirical analysis has been conducted regarding the actual role it plays relative to other elements of the institutional financial structure. The private financial services industry publishes information on the amount of new debt issued each year by institutions of higher education. However, this does not tell us whether there are trends toward an increase or decrease in the relative amount of long-term, unliquidated institutional debt, and whether there may be important differences in actual practice among broad institutional categories, such as public versus independent institutions, or among institutional groups based on Carnegie institutional categories. The purpose of this article is to discuss findings from an analysis of institutional data from the 1990s on relationships between long-term debt and other key variables and to consider the implications of these findings for long-term financing's role in institutional finance during the first decade of the 21st century.

Previous Research

Much of the past research on college and university debt practice is limited to small samples of institutions and is focused primarily on the process and mechanics of securing and administering debt financing. When college and university administrators decide to borrow funds for a specific identified need and receive governing board and other necessary approvals for project planning and implementation, administrators typically follow a fairly standard set of procedures in issuing long-term debt. Basic steps include: (a) determine the approximate amount of external funds needed; (b) decide on timing for when funds will be needed; (c) review applicable laws and regulations; (d) review current interest rates and trends in debt markets; and (e) secure expert assistance not available within the institution, such as financial and bond advisors, bond legal counsel, and a financial markets specialist.

Libby (1984) studied 77 long-term debt agreements at three public research universities and two private research universities entered into between 1972 and 1983. She concluded that, over time, increasingly detailed financial conditions and covenants were being written into debt agreements and that amount borrowed was the variable of interest that had the highest correlation with differences in agreement development process and structure. In a study of the amount of outstanding long-term debt and the amount of new debt issued by 15 public research universities from 1975 to 1987, Sturtz found that institutional debt managers and staff specialists were becoming increasingly isolated, specialized, and separated from their general finance and administration counterparts within the institution; that administrators relied increasingly on external financial industry professionals for information and guidance in the area of debt issuance and management; and that institutional governing boards typically had neither formal, written, long-term policies on debt management nor guidelines for administrators on issuing institutional long-term debt.

The National Association of College and University Business Officers (NACUBO) has published three guidebooks on planning and managing institutional long-term debt. In the first, Forrester (1988) summarized legal, accounting, regulatory, and financial management considerations for debt management and discussed the connection between financial management strategies and debt management.

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In the second, Klein (1992)covered federal tax law restrictions on tax exempt debt and discussed alternative debt instruments, such as revenue bonds, general obligation bonds, lease structures, variable rate bonds, and commercial paper. In the third NACUBO publication, King, Anderson, Cyganowski and Hennigan (1994) added detail on the roles and functions of external capital markets; discussed capital market segmentation based on types of borrowers and amounts borrowed; summarized historical patterns and cycles in long-term and short-term interest rates; included a section on debt planning and implementation for funding an internal pool of funds for student loans; and provided case examples of actual college and university debt issue decision processes.

Study Procedures

In order to extend prior research by exploring trends in the amount of long-term debt held by four-year institutions and differences in actual practice among broad institutional categories, I examined institutional finance data for all four-year private and public colleges and universities in the United States. The data source was the annual data files for the eight years 1988-89 through 1995-96 in the Integrated Postsecondary Education Data System (IPEDS) maintained by the National Center for Education Statistics. These are the eight years of data files in Final Release form available for downloading from the National Center for Education Statistics World Wide Web site <http://nces.ed.gov/ipeds>. The input data for the files were the annual IPEDS Finance Survey responses from all responding private and public four-year colleges and universities. Institutional characteristics variables included in the IPEDS data files also enabled analysis by independent institutions versus public institutions and by Carnegie institutional classification category.

I analyzed the amount of annual institution-level long-term debt in colleges and universities within a framework of nonprofit enterprise economic activity presented by Hansmann (1987) and Wedig (1994, 1996). Drawing from their conceptual model, the working principles and assumptions for the study were as follows.

1. In considering financial, investment, and resource allocation choices, college and university decision-makers, as managers of nonprofit enterprises, balance risk, cost, and contribution to achievement of organization mission and goals.

2. Financial capital in the college and university is derived either from surplus from operations or support from private or governmental sources. Debt is not a direct form of capital but a financial mechanism for accelerating receipt of economic benefits from future anticipated capital. Financial leverage due to long-term debt is the percentage of organizational assets measured in dollars financed by long-term borrowing. This percentage is measured by comparing the amount of outstanding long-term debt to the sum of long-term debt plus accumulated fund balance supported by surplus from operations and support from outside sources.

3. The financial value of a nonprofit organization's assets and the financial value of debt, surplus from operations, and outside sources of capital are reported in the nonprofit organization's financial statements and reports. Relationships among assets and liabilities are represented by the basic accounting model of the nonprofit enterprise:

Assets = Liabilities (including outstanding unpaid debt) + Fund Balance

4. Business risk is present in the nonprofit organization, including colleges and universities, in the form of operating risk and financial risk. Both forms of risk are present because of the uncertainty of the timing and amount of incoming capital. Operating risk relates to the ability of managers to cover current operating expenditures from current revenues, whereas financial risk is the additional risk from incurring debt and the fixed obligation to support interest expense and principal payments.

By explaining and predicting the amount of outstanding unpaid long-term debt in nonprofit organizations, these theoretical principles suggest that, all things equal, decision-makers are reluctant to increase financial risk to achieve organizational purposes because of the uncertain nature of future incoming capital flow. Institutional officers, however, may add to risk intentionally by incurring debt if the expected economic benefits and enhanced ability to achieve organizational purposes from increased financial leverage outweigh the anticipated costs.

College and university outstanding long-term debt for financial reporting is the net unpaid balance of a financial liability expected to be due and payable more than one year from the liability reporting date. Typically, funds borrowed on a long-term basis must be returned to the lender with interest, which is a charge for the use of the funds, in specified annual amounts over the term of the loan. Without debt, assets defined in financial or monetary terms, such as physical facilities, a pool of student loan funds, or just cash, would be offset in the equation by fund balance created from gifts, grants, endowment income, or from the net surplus of current year revenue over current expenditures. The financial phenomenon of acquiring assets by use of debt (adding to assets through incurring liabilities) is sometimes called financial leverage and is of major interest in understanding the role of debt in institutional financial strategy and its role in the college and university financial structure.

Institutional data for this study were extracted from the 1988-89 through 1995-96 annual automated data base files of the National Center for Education Statistics IPEDS system. One segment of each annual IPEDS data base includes data from the annual Finance Survey of all higher education institutions in the United States. I created institutional records on all variables of interest for each year by matching responses on the IPEDS unique institutional identification number. In order to apply correlation and regression analysis to all years' data combined, I merged the eight sets of annual files into one combined set of files in Statistical Package for the Social Sciences (SPSS) file format for analysis using SPSS version MS for Windows 6.1.3.

For all variables measured in dollars, an estimated average effect of general price inflation over the period under consideration was factored out by using an inflation index to transform the data for each year after 1988-89 into the dollar equivalent of 1988-89. A general price index applicable to goods and services purchased by U.S. colleges and universities is the Higher Education Price Index, which compares prices paid for a variety of typical higher education purchases from one year to the next. Table 1 shows the Higher Education Price Index adjustment factors used in this study to convert IPEDS reported amounts to the equivalent of constant 1988-89 dollars.

Study variables and their relationships are presented in Figure 1.

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Figure 1. **Predictor and outcome variables.**

Predictor Variables	→	*Outcome Variables*
• Value of buildings and equipment • Annual revenue • Value of endowment assets • Years 1988-89 through 1995-96		• Outstanding long-term debt • Debt / (debt + fund balance)

Each study variable's operationalized data source from the annual IPEDS Finance Survey files is identified in Table 2.

Table 1. **The Higher Education Price Index**

Year	*Higher Education Price Index Annual Inflation Assumption*	*Higher Education Price Index with 1988-89 = 100.0*
1988-89	n/a	1.000
1989-90	6.02%	1.060
1990-91	5.26%	1.116
1991-92	3.58%	1.156
1992-93	2.93%	1.190
1993-94	3.35%	1.230
1994-95	3.06%	1.267
1995-96	2.97%	1.305

Results

The total amount of long-term debt reported by all U.S. four-year colleges and universities during the period under study, unadjusted for price inflation, grew from $23,648.5 million in 1989 to $35,449.5 million in 1996, an increase of $11,801.0 million or 49.9% (see Table 3). Each year's level increased compared to the previous year except for 1995-96 versus 1994-95. For all private four-year institutions, the total increased from $12,556.5 million in 1988-89 to $19,560.5 million in 1995-96, an increase of $7,004.0 million or 55.8%, whereas long-term debt in public four-year institutions went up by 43.2% or $4,797.0 million, from $11,092.0 million to $15,889.0 million.

Although reported debt increased in all Carnegie institutional classification groups over the period, the percentage increase was highest for public baccalaureate colleges, with the total increasing by 127.0%, from $151.3 million among 47 institutions in 1988-89 to $343.5 million among 56 institutions in 1995-96 (see Table 3). At 26.0%, the percentage increase was lowest for public research universities, which reported $7,398.3 million for 67 institutions in the first year and $9,320.1 million for 65 institutions in the last year. Private and public research universities held the largest share of debt both at the beginning and at end of the period, but their percentage shares of the total declined. In 1988-89, private research universities held 51.7% of the long-term debt held by private institutions, but by 1995-96 they held only 47.7%.

Table 2. **Study Variables and Integrated Postsecondary Education Data System Finance Survey Data Source**

	Study Variable	*IPEDS Finance Survey Response Item*
Predictor Variables	**Value of buildings and equipment**	Current replacement value - buildings plus Current replacement value - equipment
	Annual revenue	Total current funds revenue
	Value of endowment assets	Market value of endowment assets
	Year	Fiscal reporting year
Criterion Variables	**Outstanding long-term debt**	Indebtedness on physical plant - balance owed on principal at end of year
	Financial leverage ratio	
	Long-term debt divided by Sum of long-term debt and fund balance	Balance owed on principal at end of year
	Long-term debt plus Fund balance	Balance owed on principal at end of year
	Current fund balance plus	Current fund balance
	Endowment fund balance plus	Funds functioning as endowment balance
	Book value of buildings plus	Book value - buildings
	Book value of equipment	Book value - equipment

The public research university share of debt reported by all public institutions declined from 66.7% in 1988-89 to 58.7% in 1995-96.

Using adjustment factors based on the Higher Education Price Index, data in Table 3 on total amount of reported annual debt were adjusted for inflation and are presented in Table 4. Price-adjusted debt levels increased for private institutions as a whole and for all public institutions during the period under study. For each Carnegie classification institutional group, total adjusted long-term debt was higher in the last year than in the first, except for public research institutions. After adjusting for price level change over the period, total long-term debt for all private institutions increased from $12,556.5 million to $14,988.9 million, or 19.4%. Adjusted amounts for all public institutions increased by 9.8%, from $11,092.0 million to $12,175.5 million. These increases in adjusted totals occurred in spite of the fact that the total number of private institutions reporting debt declined by 0.8%, from 731 to 725. The number of public institutions holding long-term debt only increased by 4.5%, from 359 to 375. The contrast between the increase in total reported debt, even in inflation-adjusted terms, and the relatively constant number of institutions reporting debt supports the notion that debt in college and university finance during this period took on increasing importance.

Long-term debt's relationship to all long-term financing, or financial leverage, was measured by computing the ratio of reported long-term debt to the sum of long-term debt plus fund balance (with fund balance in this study including current fund balance, endowment fund balance, and book value of buildings and equipment). Lower ratios mean that long-term debt played a smaller role in total financing, whereas higher ratios mean that long-term debt's role was greater.

Means of ratios for the private institutions as a whole and for each Carnegie private institutional sub-category are presented in Table 5. For all private colleges and universities as a group, the mean ratio of long-term debt to debt and fund balance increased throughout the period, beginning at .143 in the first year and ending at .184 in 1995-96. For all public institutions as a group, the mean ratio was lower in each year than the total private mean ratio. (See Table 6.) However, like the private institutions as a whole, the overall trend for public colleges and universities was toward an increasing mean financial leverage ratio throughout this period. By the end of the period, the overall public mean ratio was .136, growing from .120 in 1988-89.

In order to address questions concerning measurable, statistically significant relationships which might have existed during this period between the predictor variables of annual revenue, endowment value, replacement value of buildings and equipment, and time period, on the one hand, and the outcome variables of level of long-term debt and financial leverage, on the other hand, data for all years were combined for simultaneous analysis. If an institution reported all data in all eight years, it was treated as eight different cases on all variables, including year, one of the predictor variables. For simultaneous analysis, all of the

Table 3. **Total Long-Term Debt by Carnegie Institutional Classification**

	1988-89	*1989-90*	*1990-91*	*1991-92*	*1992-93*	*1993-94*	*1994-95*	*1995-96*
TOTAL	$23,648.5	$25,399.1	$28,446.6	$30,973.5	$33,534.7	$35,758.5	$36,642.4	$35,449.5
N	1,090	1,107	1,118	1,136	1,139	1,162	1,158	1,100
PRIVATE								
Total	$12,556.5	$13,999.4	$15,290.8	$17,206.5	$18,701.1	$20,235.7	$20,802.7	$19,560.5
n	731	733	747	758	762	784	782	725
Baccalaureate	$2,315.2	$2,533.4	$2,809.0	$2,982.9	$3,342.6	$3,776.5	$4,000.8	$4,215.5
n	442	438	449	455	456	472	470	443
Comprehensive	$2,047.0	$2,357.1	$2,618.8	$2,901.0	$3,214.4	$3,533.4	$3,681.1	$3,644.2
n	212	216	220	223	226	229	230	213
Doctoral	$1,698.3	$2,000.5	$1,959.4	$2,290.1	$2,392.7	$2,692.5	$2,529.7	$2,373.0
n	42	44	43	43	41	45	43	37
Research	$6,496.0	$7,108.4	$7,903.6	$9,032.5	$9,751.4	$10,233.3	$10,591.1	$9,327.8
n	35	35	35	37	39	38	39	32
PUBLIC								
Total	$11,092.0	$11,399.7	$13,155.8	$13,767.0	$14,833.6	$15,522.8	$15,839.7	$15,889.0
n	359	374	371	378	377	378	376	375
Baccalaureate	$151.3	$192.2	$210.2	$237.0	$295.4	$312.0	$341.9	$343.5
n	47	54	55	55	53	54	56	56
Comprehensive	$2,026.5	$2,409.9	$2,591.7	$2,892.6	$3,179.7	$3,536.8	$3,626.2	$3,939.7
n	190	197	192	199	201	202	198	199
Doctoral	$1,515.9	$1,645.5	$1,771.5	$1,776.7	$1,981.4	$2,169.6	$2,135.9	$2,285.7
n	55	55	56	56	55	55	55	55
Research	$7,398.3	$7,152.1	$8,582.4	$8,860.7	$9,377.1	$9,504.4	$9,735.7	$9,320.1
n	67	68	68	68	68	67	67	65

Note. Dollar amounts are in millions.

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Table 4. **Total Long-Term Debt Adjusted Using the Higher Education Price Index**

	1988-89	*1989-90*	*1990-91*	*1991-92*	*1992-93*	*1993-94*	*1994-95*	*1995-96*
TOTAL INSTITUTIONS								
Total	$23,648.5	$23,961.3	$25,489.8	$26,793.7	$28,180.4	$29,071.9	$28,920.6	$27,164.4
N	1,090	1,107	1,118	1,136	1,139	1,162	1,158	1,100
PRIVATE INSTITUTIONS								
Total	$12,556.5	$13,206.9	$13,701.5	$14,884.5	$15,715.2	$16,451.8	$16,418.9	$14,988.9
n	731	733	747	758	762	784	782	725
Baccalaureate	$2,315.2	$2,390.0	$2,517.1	$2,580.4	$2,808.9	$3,070.4	$3,157.7	$3,230.3
n	442	438	449	455	456	472	470	443
Comprehensive	$2,047.0	$2,223.7	$2,346.6	$2,509.5	$2,701.2	$2,872.7	$2,905.4	$2,792.5
n	212	216	220	223	226	229	230	213
Doctoral	$1,698.3	$1,887.2	$1,755.7	$1,981.1	$2,010.7	$2,189.0	$1,996.6	$1,818.4
n	42	44	43	43	41	45	43	37
Research	$6,496.0	$6,706.0	$7,082.1	$7,813.6	$8,194.4	$8,319.7	$8,359.2	$7,147.7
n	35	35	35	37	39	38	39	32
PUBLIC INSTITUTIONS								
Total	$11,092.0	$10,754.4	$11,788.3	$11,909.2	$12,465.2	$12,620.1	$12,501.7	$12,175.5
n	359	374	371	378	377	378	376	375
Baccalaureate	$151.3	$181.3	$188.3	$205.0	$248.2	$253.6	$269.9	$263.2
n	47	54	55	55	53	54	56	56
Comprehensive	$2,026.5	$2,273.5	$2,322.3	$2,502.3	$2,672.1	$2,875.4	$2,862.0	$3,018.9
n	190	197	192	199	201	202	198	199
Doctoral	$1,515.9	$1,552.3	$1,587.3	$1,537.0	$1,665.0	$1,763.9	$1,685.8	$1,751.5
n	55	55	56	56	55	55	55	55
Research	$7,398.3	$6,747.3	$7,690.4	$7,665.0	$7,879.9	$7,727.2	$7,684.0	$7,141.9
n	67	68	68	68	68	67	67	65

Note. Dollar amounts are in millions.

input data were adjusted for general change in college and university purchasing power over the years under study using the Higher Education Price Index, with all years adjusted to 1988-89 as the reference year.

Each multiple linear regression analysis was performed by entering all predictor variables simultaneously—criteria were not specified for minimum strength of variable contribution to prediction either for including or for excluding a predictor variable. A regression analysis predicting long-term debt level from the four predictor variables was carried out for each private and public Carnegie classification institutional group. A summary of the resulting adjusted coefficient of multiple determination (R^2) on all predictor variables combined and standardized multiple regression coefficient (ß value) for each predictor is presented in Table 7.

With a statistically significant adjusted R^2 value at a 95% confidence level, the four predictor variables together account for 77.17% of the variation in the reported amount of long-term debt for all institutions combined (Table 7). Although the adjusted R^2 is fairly large, only two of the criterion variables, annual revenue and endowment value, made a statistically significant contribution to explaining variation in long-term debt. The relative weight of these two variables in the regression equation was .5908 for annual revenue and .3989 for endowment value, as indicated by each variable's ß value standardized multiple regression coefficient.

At .8200, the adjusted R^2 coefficient of multiple determination for all private institutions was statistically significant and larger than it was for all private and public institutions combined, indicating that these four predictors during the period under study explained more of the variation in reported debt for private colleges and universities than they did for all private and public institutions as a whole. Comparing standardized coefficient ß values for all institutions as a whole and for all private institutions, the results show that annual revenue had a greater influence in explaining long-term debt level for private institutions alone than for all institutions as a whole, whereas endowment value had a smaller influence.

For the public institutions as a group, although adjusted R^2 is not as large as the adjusted R^2 from the analysis for private institutions alone, it is slightly larger than the adjusted R^2 for all private and public institutions combined (Table 7). This suggests that the four predictor variables explain more of the variation in long-term debt for private institutions and for public institutions as separate groups during the period under study than they do for both groups combined. As was the case for private institutions and for all institutions combined during this period, when all four predictor variables are analyzed together, only annual revenue and endowment value play a statistically significant role in predicting the level of long-term debt for all public institutions.

For each private Carnegie classification institutional group, the four predictor variables acting together explained over 60% of the variation in reported level of long-term debt (Table 7). For the public institution Carnegie classification groups, adjusted R^2 ranged from a high of .7021 for research universities to a low of .2079 for baccalaureate colleges. As demonstrated by the standardized ß value coefficients, annual revenue and endowment value had the most influence among the four predictor variables in explaining variation in long-term debt for each private and public institutional group, with the exception of public comprehensive colleges and universities. In this group, reported estimated replacement value of buildings and equipment had more weight in the regression equation than endowment value.

Using the same four predictor variables, a series of regression analyses was conducted for the second criterion variable, the financial leverage ratio (the ratio of long-term debt to the sum of long-term debt and fund balance). In contrast to the analysis explaining variation in the level of long-term debt, regression of the ratio of long-term debt to debt and fund balance on the four predictor variables for all colleges and universities produced an adjusted R^2 of .0119 (Table 8). Change in the four predictor variables during the period under study, acting together, only shared or explained slightly over 1% of the variation in financial leverage.

For all private institutions combined, the adjusted R^2 coefficient of multiple determination was .0221, and for all public institutions it was .0197 (Table 8). The two largest adjusted R^2 values by Carnegie institutional category group were .1256 for private research universities and .1269 for public research universities. Between 12% and 13% of the variation in the ratio of long-term debt to long-term debt plus fund balance during the period under study for these institutions was explained by the variation in the four predictor variables. Even though

Table 5. **Mean Ratio of Long-Term Debt to Long-Term Debt and Fund Balance for Private Colleges and Universities**

	1988-89	*1989-90*	*1990-91*	*1991-92*	*1992-93*	*1993-94*	*1994-95*	*1995-96*
All Private								
M	.143	.136	.148	.157	.186	.184	.188	.184
SD	.253	.144	.127	.149	.127	.152	.136	.131
n	731	733	747	758	762	784	782	725
Baccalaureate I								
M	.097	.100	.106	.110	.166	.163	.167	.164
SD	.072	.070	.074	.071	.106	.096	.090	.087
n	143	140	142	146	147	151	148	144
Baccalaureate II								
M	.147	.127	.144	.143	.164	.173	.177	.175
SD	.379	.193	.148	.130	.128	.150	.146	.148
n	299	298	307	309	309	321	322	299
Comprehensive I								
M	.159	.160	.182	.192	.219	.204	.213	.209
SD	.094	.102	.121	.121	.136	.209	.156	.138
n	154	156	157	161	164	165	167	154
Comprehensive II								
M	.148	.145	.144	.173	.201	.192	.193	.184
SD	.087	.089	.109	.128	.126	.127	.133	.126
n	58	60	63	62	62	64	63	59
Doctoral I								
M	.197	.216	.208	.311	.260	.234	.242	.226
SD	.113	.134	.134	.525	.094	.086	.090	.093
n	21	22	22	21	21	23	22	19
Doctoral II								
M	.192	.201	.174	.197	.231	.223	.222	.227
SD	.123	.122	.109	.108	.131	.119	.122	.126
n	21	22	21	22	20	22	21	18
Research I								
M	.149	.150	.165	.156	.218	.219	.210	.198
SD	.070	.072	.086	.089	.101	.109	.101	.071
n	26	26	26	28	29	28	29	23
Research II								
M	.150	.148	.156	.167	.206	.187	.180	.200
SD	.070	.076	.077	.083	.143	.127	.114	.135
n	9	9	9	9	10	10	10	9

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Table 6. **Mean Ratio of Long-Term Debt to Long-Term Debt and Fund Balance for Public Colleges and Universities**

	1988-89	*1989-90*	*1990-91*	*1991-92*	*1992-93*	*1993-94*	*1994-95*	*1995-96*
All Private								
M	.120	.119	.123	.125	.132	.139	.136	.136
SD	.094	.093	.096	.095	.101	.102	.103	.100
n	359	374	371	378	377	378	376	375
Baccalaureate I								
M	.123	.109	.103	.099	.126	.116	.104	.116
SD	.080	.076	.073	.072	.092	.086	.082	.080
n	6	6	6	6	6	6	6	6
Baccalaureate II								
M	.088	.088	.098	.108	.120	.124	.123	.120
SD	.050	.066	.092	.103	.120	.119	.109	.109
n	41	48	49	49	47	48	50	50
Comprehensive I								
M	.126	.126	.132	.131	.136	.147	.146	.146
SD	.113	.110	.106	.101	.106	.108	.111	.106
n	173	181	176	183	185	185	181	182
Comprehensive II								
M	.126	.124	.114	.143	.163	.143	.145	.143
SD	.085	.076	.076	.104	.127	.124	.123	.128
n	17	16	16	16	16	17	17	17
Doctoral I								
M	.134	.132	.126	.125	.132	.134	.122	.122
SD	.077	.070	.065	.063	.071	.067	.063	.060
n	23	23	23	23	22	22	22	22
Doctoral II								
M	.106	.110	.111	.121	.116	.140	.140	.146
SD	.075	.076	.073	.102	.072	.086	.092	.094
n	32	32	33	33	33	33	33	33
Research I								
M	.131	.130	.132	.131	.145	.145	.140	.137
SD	.081	.078	.083	.078	.089	.089	.088	.088
n	47	46	46	45	45	44	44	43
Research II								
M	.107	.101	.122	.096	.095	.097	.092	.093
SD	.050	.044	.125	.043	.044	.041	.037	.037
n	20	22	22	23	23	23	23	22

all of the adjusted R^2 values for the regression of the leverage ratio on the predictor variables are statistically significant at a 95% confidence level (Table 8), the resulting regression equations are of little practical value in explaining or predicting the leverage ratio because the adjusted R^2 values are not large.

Discussion

The use of long-term debt by a college or university has several implications for institutional finance. Debt indirectly generates revenue by enabling the institution to secure long-term assets to support institutional missions and revenue producing activities. Debt results in additional expenditures by creating obligations for loan repayment and payment of interest charges. Debt changes the financial structure of an institution by linking increases in physical or financial assets to repayment liabilities rather than to financial resources under the institution's control.

Decisions to enter into long-term debt strategies also have important implications for institutional governance, faculty involvement in decision-making, and accountability to external constituencies. Many college and university financial administrators do not have the technical and managerial expertise to deal with all aspects of issuing and managing long-term debt. Individual faculty members, faculty committees, and other governance groups involved in the regular budget planning process may not be included in off-cycle decision-making on resource allocation, such as deciding on commitments to debt service. Debt service requirements tend to be treated as fixed commitments and taken off the table rather than be subjected to the give and take of the regular institutional budgeting cycle. Treating debt principal repayment

and interest costs as fixed commitments that are not considered in the budget planning process also removes them from the budget review and communications activities that internal and external constituencies rely on for data on sources and uses of institutional resources.

The findings of this study demonstrate that the inflation-adjusted dollar value of long-term debt increased from the late 1980s through the mid-1990s in private and in public institutions as a whole and in each four-year Carnegie institutional category. On the whole, financial leverage, or the amount of outstanding, unliquidated long-term debt in relation to fund balance accumulated from operating surpluses and from private and governmental gifts and grants, also increased among four-year institutions. The mean level of long-term debt at the institutional level for all years combined varied more directly with institutional revenue and endowment value than it varied with the value of buildings and equipment or with change in fiscal year.

An institution faces substantial short-term administrative challenges and one-time expenditures when initiating a long-term debt program or when issuing additional long-term debt. These include developing or contracting for legal services, financial analysis, and debt market analysis services to address regulatory, taxation, and financial strategy considerations in preparing for and issuing long-term debt. From the late 1980s through the mid 1990s, private institutions as a whole reported increases in long-term debt of slightly over 19% in inflation-adjusted dollars, and public institutions as a group showed increases of almost 10%. During the same period, however, the number of institutions carrying debt in each group was fairly constant.

This upward trend in amount of long-term debt carried over time suggests that institutions on the whole made a succession of decisions to increase commitments to debt service and increase financial risk at a time when resources in higher education became increasingly constrained by competition, by demands to keep pace with the revolution in computer technology, and, among public institutions, by reduced governmental appropriations and increased expectations for accountability. At the same time, the variation in study findings between private and public institutions and among Carnegie institutional categories reinforces the propositions that American colleges and universities are as diverse financially as they are in other ways and that the large private and public research universities are not representative of all four-year institutions.

The potential attraction of long-term borrowing for colleges and universities is based on need for long-term (capital) investment, institutional financial sophistication, and readiness to take on debt-issuing and management responsibilities, and the financial strength of the institution (credit worthiness). These three perspectives provide a framework for highlighting this study's most important findings and for suggesting some implications of long-term institutional financing in the first decades of the 21st century.

Expectations of continued strong enrollment demand, based on projections of the number of high school graduates, distinguishes the first decade of the 21st century from the early 1990s. The number of high school graduates declined in the early 1990s, whereas steady growth in many areas of the U.S. is now projected for several years. This and other factors suggest an increased need for long-term borrowing by colleges and universities for academic and student support facilities.

Other trends indicate a continued need for investment in long-life assets for several years to come. Competition for students means that colleges and universities will continue to build and renovate facilities to maintain academic quality and offer students amenities to make campuses attractive. Enrollment growth in non-traditional student categories will add to pressures for additional facilities. Aging facilities built from the 1950s through the early 1970s will continue to require new long-term investment for replacement and renovation, as higher education institutions as a whole continue to contend with chronic, unacceptable levels of deferred maintenance and facilities deterioration.

Developments in areas other than facilities also suggest that higher education institutions will be compelled to look to the alternative of long-term financing. Investments to replace and maintain technology-related equipment and infrastructure will often be suitable for financing

Table 7. **Summary of Results of Simultaneous Regression Analysis for Variables Predicting Long-Term Debt**

		Regression Equation Standardized Predictor Variable Coefficient (ß)			
	Adjusted R^2	*Total Annual Revenue*	*Endowment Value at Year End*	*Estimated Replacement Value of Buildings and Equipment*	*Year*
ALL INSTITUTIONS	.7717*	.5908*	.3989*	-0.0009	-0.0041
PRIVATE INSTITUTIONS					
All	.8200*	.6361*	.3333*	-0.0009	0.0001
Baccalaureate	.6191*	.6163*	.4391*	-0.0015	0.0151
Comprehensive	.6445*	.7600*	.0749*	-0.0076	-0.0022
Doctoral	.6696*	.7293*	.1485*	-0.0015	-0.0099
Research	.6168*	.4969*	.4569*	-0.0534	-0.0168
PUBLIC INSTITUTIONS					
All	.7765*	.5078*	.5240*	0.0141	-0.0151
Baccalaureate	.2079*	.3868*	.1523*	-0.0784	0.0914
Comprehensive	.3215*	.3881*	.0660*	0.2532*	0.0653*
Doctoral	.6528*	.7492*	.1317*	0.0124	-0.0226
Research	.7021*	.3822*	.6199*	0.0144	-0.0508*

*p < .05.

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Table 8. **Summary of Results of Simultaneous Regression Analysis for Variables Predicting the Ratio of Long-Term Debt to Long-Term Debt and Fund Balance**

		Regression Equation Standardized Predictor Variable Coefficient (ß)			
	Adjusted R^2	*Total Annual Revenue*	*Endowment Value at Year End*	*Estimated Replacement Value of Buildings and Equipment*	*Year*
ALL INSTITUTIONS	.0119*	0.0288*	-.0062	.0072	.1074*
PRIVATE INSTITUTIONS					
All	.0221*	0.1300*	-.1084*	.0100	.1197*
Baccalaureate	.0192*	0.0996*	-.1277*	-.0037	.1146*
Comprehensive	.0962*	0.3373*	-.2157*	-.0093	.1222*
Doctoral	.0173*	0.0442	-.1656*	.0362	.0917
Research	.1256*	0.2402*	-.2484*	-.1272	.2327*
PUBLIC INSTITUTIONS					
All	.0197*	0.0424	.0831*	.0190	.0813*
Baccalaureate	.0227*	0.0710	.0460	-.1160	.1111
Comprehensive	.0179*	0.0005	-.0407	.1061*	.1053*
Doctoral	.0837*	0.2975*	-.0229	.0333	.0636
Research	.1269*	0.1976*	.2226*	.0343	-.0194

*p < .05.

arrangements beyond one year. The federal government continues to increase research and development grant funding available to colleges and universities in the physical, biotechnology, and health-related basic sciences. To keep pace, institutions must increase their long-term commitment to research facilities, research technology, and other research infrastructure. As academic libraries continue to undergo the transformation brought about by the computer technology revolution in how library services are provided, library facilities and infrastructure likewise will require major long-term investments to adapt physical facilities and communications networks.

Four-year colleges and universities are complex, sophisticated business operations. The increase in use of long-term debt in the 1990s, as documented by this study, suggests that institutions as a whole have become increasingly capable of taking on the responsibilities of issuing and managing long-term debt financing. Strategy and practice at private institutions for many years has contended with long-term debt in the financing mix, and the percentage of operating funds provided by state governments to public institutions has now declined to between 30% and 40%, suggesting a requirement for increasing financial sophistication at public institutions as well. This is indicated by the fact that many public institutions have established institution-affiliated nonprofit foundations and partnerships with private facilities management companies for financing construction and maintaining ownership of new facilities, as well as for acquiring land and existing buildings. In the year 2000, for the first time a public institution was granted the highest possible credit rating by Moody's Investors Service, and then two other public institutions joined the top group in the same year.

Recent reports from the private financial services and credit rating communities continue to indicate a generally favorable view toward the financial stability of higher education on the whole and toward the investment quality of college and university long-term debt instruments. Higher education institutions as a whole, nationwide, have earned an outstanding reputation for reliability as long-term borrowers. For the twenty-year period beginning in 1980, higher education as a whole defaulted on only $143 million of outstanding debt, or approximately one half of one percent of all long-term borrowing by institutions during the period. In addition, within the past few years, credit analyses and credit ratings for many major public institutions by the private financial services industry have become separated from the credit rating process as applied to their state governments because many large public institutions are stronger financially than the state governments with which they are affiliated.

The number of private and public institutions in the Carnegie classification Baccalaureate and Master's institutional categories taking on long-term debt and the amount of outstanding debt by all institutions in these groups will continue to increase. In these institutional categories in general, growth rates in outstanding long-term debt and growth in numbers of institutions issuing debt in the 1990s, as demonstrated in the findings of this study, exceeded growth rates among Research and Doctoral institutions. This trend is expected to continue in the first decade of the 21st century. Continued competition for students and the need to constantly invest in new facilities, campus infrastructure, and adaptive re-use of existing space to meet changing academic program needs will mean increasing use of long-term financing as part of the financial strategy of Master's and Baccalaureate institutions. For these institutions, as well as for the Doctoral/Research universities, both private and public, this will mean accepting more financial risk in terms of a greater percentage role of long-term debt in the institutional financial structure, and it will mean a commitment to long-term development of the institutional capabilities and professional staff sophistication necessary for initiating and overseeing growing long-term debt management programs.

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Commentary

The Human Resources Function in Education: 2010

Scott Norton

"The new focus in administration is to be the human element. The new center of attention and solicitude is the individual person, the worker. And this change comes about fundamentally for no sentimental reasons, but because the enlistment of human cooperation, of the interest and goodwill of the workers, has become the crux of the production problem." (Tead & Metcalf, 1920, p. 1).

The foregoing statement was asserted by Tead and Metcalf over 80 years ago in their text, *Personnel Administration*, one of the very first completed works in the field of personnel administration. Although the text was directed primarily to managers in business and industry, its intent to define the science and art of industrial administration ultimately influenced practices in educational administration as well. Tead and Metcalf's concepts of the role of personnel administration were amazingly insightful for this early time in the history of human resources (HR) management. Their vision that the personnel function belonged in the center of planning and production operations in all organizations was revolutionary: "The personnel executive should be on a parity with the production executive; and both should in turn be members of the executive or operating committee of the company" (Tead & Metcalf, 1920, p. 3). Keep in mind that these perspectives were expounded when the scientific management concepts of Frederick Taylor and others were still prominent. The challenges by Mary Parker Follett and others to Taylor's task system, and its strictly controlled work conditions, were still ahead. Tead and Metcalf were well aware that "this view is, of course, at odds with the conception of the 'employment manager' who has no policy- determining power, no major executive influence and authority; who is in reality no more than a hiring agent" (p. 3).

Although the personnel function in education has greatly expanded beyond the processes of recruitment, selection, assignment and dismissal, today it continues to serve primarily in a support and maintenance role. Although positive views of the importance of the human dimension in organizations have broadened over the years, the people dimension in organizations is now being viewed as the without-which-not of organizational success. As Rana (2000) has succinctly stated, "With so many companies referring to staff as their greatest asset, never before in the history of work have people been so relevant to the bottom line" (p.16). New directions in people management in this decade will not only view the human component as the greatest asset for the successful attainment of organizational goals, but the truism that "schools are people" will be the center of the system's thinking when planning and adopting guiding policy and determining goals and school procedures.

The acceptance of the belief in the importance of the human element in all organizations position the human resources function in its most relevant and exciting role to date; and this fact changes the human resources function to one of system leadership. This new leadership role requires new thinking about: (1) the qualifications needed by persons in roles of human resources administration; (2) the redesigning of preparation programs in higher education for those individuals who will serve in these leadership positions; (3) the importance of gaining an expanded understanding and use of technology in the administration of the human resources processes; (4) the implementation of programs of continuous professional growth on the part of HR leaders; and (5) the need to gain a fuller understanding of the mission and operations of the school system as a whole. Two major changes in the role of the HR function will be witnessed during the remaining years of this decade: (1) change from a support and maintenance function to a key leadership role in the total operations of the school system; and (2) change from the traditional focus of administering the basic processes of the HR function to a broader and more strategic focus of people management whereby the employee becomes the center of attention and concern (Webb & Norton, 2003).

The Strategic Role of the Human Resources Function

A brief look at strategic planning may serve to illustrate the inextricable relationship of the school system and its human resources dimension. "Strategic planning is the means by which an organization constantly recreates itself to achieve extraordinary purposes...and have the prerogative...for providing the vision, values and leadership that control, guide, and sustain" (Norton, Webb, Dlugosh, & Sybouts, 1996, p. 132). Rather than merely serving as a support system for school system operations, human resources administration will have a "seat at the table" as part of top management and will serve as a partner in the determination of system goals. This relationship is based on research findings that organizational progress is directly tied to the system's human component – the goals, attitudes, commitments and satisfactions of people. System goals will have to be the first consideration of the human resources function during the remainder of this decade, and for each goal there will be an accompanying, planned and integrated strategy set forth by the human resources function throughout the system that facilitates its achievement. Tyler (2001) notes that, "An HR plan describes what HR must do to help the company achieve the goals outlined in the business plan. An HR plan lists the action steps or milestones for meeting those goals, as well as target dates for completion and specific guidelines for measuring performance" (p. 95). As stated by Ulrich (2000), "To be full fledged strategic partners with senior management...HR executives should impel and guide serious discussion on how the company should be organized to carry out its strategy" (p. 24). A program change or the initiation of a new school program will be accompanied by an integrated strategy of the human resources function. This perspective makes HR processes such as recruitment and selection of personnel more compelling than merely filling jobs with persons meeting the qualifications for various position openings. Strategic staffing requires that every effort be made

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to match individuals with specific short- and long-term job needs. Purposeful thought is given to "good fit" whereby persons with the specific talents for the position at hand are recruited with the school system's immediate and future needs in mind as well as the applicant's career and professional growth aspirations. In many ways, this concept is revolutionary. It places the employee's interests and aspirations on the front burner; thus bonding with the school district is enhanced and employee retention is fostered. Can the individual's career goals and professional growth interests be met in the school district over time and does the applicant truly want to become a member of the system and for the right reasons? If a mismatch is hired, the employee will not be able to form a bond with the school district and the commitment needed for achieving successful outcomes is unlikely to materialize. This perspective, however, cannot overlook the fact that in education, like business and industry, the customer is "king." Conger (1997) states it clearly, "When the customer comes first..., something has to adjust in the company culture. Customers care nothing for our management structure, our strategic plan, or our financial structure. They are interested in only one thing: results, the value we can deliver" (p. 27). When the students and parents in education express their specific needs, the personnel needs of the school system become less important than those of the stakeholders being served. Paraphrasing the thoughts of Conger, the school system must offer the opportunity for teachers and other staff personnel to achieve their personal and professional goals, but, in turn, school personnel must work to assure that the needs of the stakeholders are being served.

How will the present organizational arrangements of school districts and the busy world of of the HR administrator permit attention to these growing leadership demands? Part of the answer rests in giving needed attention to the administration of the HR processes at the local school level. Studies by Norton (2000) reveal that the selection, assignment, induction and evaluation of school personnel have become much more than a shared responsibility of the school and the central personnel unit; studies indicate that these processes are increasingly being administered by local school administrators, and although the HR function has always been a shared function, this decade will witness the placement of personnel specialists at local school sites who are prepared to coordinate HR activities. In addition, technological developments will revolutionize the automation of the HR processes and enable many tasks to be completed more efficiently and effectively and at less cost. This result will allow the HR administrator to give needed attention to other matters such as HR strategy questions and best ways to gain required knowledge and skills to meet immediate and long-range needs. As noted by Kemske (2000), "Leading change will become the HR's greatest contribution to the corporation" (p. 39).

New Competencies Required

The new leadership role for human resources will require new competencies on the part of all HR administrators and will demand a higher level of knowledge about the school system and its community. All of this means that the HR function increasingly will be more effective. Specifically, the new HR leadership role will demand:

- A variety of leadership styles and human resources competencies to deal with a diversified array of workers and work teams.
- A comprehensive knowledge of the the total operations of school organization and the school community in which it is embedded.
- The skills and knowledge to employ human resources strategy in relation to the strategic goals of the overall system.
- The capacity to employ the necessary human resources technologies to the HR strategies and the ability to apply those strategies more quickly and effectively to rapidly changing conditions at less cost to the school system.
- A broader and more concentrated preparation for positions in HR administration including specific instruction in organizational policy analysis and policy development; policy and school law; strategic planning; organizational development and people management; human motivation; and educational applications of technology.

The Broader Focus of People Management

Changes in the make-up of the workforce itself, along with general attitudes of workers about life and work, will necessitate new attention to the management of people. Successful schools will demonstrate the belief that the human component is indeed the school's greatest asset. These schools will implement policies and procedures that serve to make the school a place where professional and support personnel want to work. The career and life interests of the employee will be priorities of paramount importance. Work schedules will be reconfigured so that teaching assignments and incentives will stem from both the school system's needs and the talents and the interests of the professional teacher. Competition for talent will require greater attention to the deployment of personnel; placement in roles that allow for the maximization of talents and personal interests. Flexible schedules and other approaches to work assignments will include the work and life balances required by the teacher; not all teaching personnel will be assigned to a full day of teaching. Flexible work contracts with more time off and variations in the number of hours worked, optimal use of workers' special knowledge and skills, and more use of virtual technologies will be common practices. Many employees will assume part-time teaching positions that suit their family life needs. Neither the school program nor the student will suffer from these developments; rather many will benefit by having a highly qualified, committed teacher even though that teacher may not be employed fulltime. Studies on the topic of part-time workers are changing some older myths about the practice. In one study (*Arizona Republic*, September 10, 2000, Catalyst), for example, part-time women employees remained with their employers for many years; many were promoted during the time they were employed part-time; most were satisfied with the flexible work schedules; and indeed half of the women in the study did return to fulltime employment after their part-time work experiences. Distance education technologies and other virtual means of educational instructional delivery will permit talented teachers to reach many students during a more abbreviated work schedule. Although some persons contend that education is different and therefore flexible scheduling won't work in that field, the facts are that this arrangement has already found its way into educational practices. As underscored by an article in *HR Focus* (March, 2001), one of the strongest economic arguments for the utilization of virtual technologies is its power to attract and retain good employees.

Current demographic trends will have profound effects on the HR function with their many implications in the area of people management. U.S. population forecasts call for a continual increase in the graying of America; 28% of the population will be 45 to 65 years of age by the 2010. Furthermore, data indicate that 18.4 million were in the under age 5 category in 1990 and only 17.6 million in the year 2000, amounting to a decrease of 4.3% in only a ten-year time period. Although the percentage of young people in America will continue to decrease, this population will have more education than their parents and grandparents. Thus, schools will be working with a more educated citizenry that will place new demands on schools regarding the quality of school programs for their children. Concerns for highly qualified personnel in the schools will continue.

The workforce also will be reflective of the fact that race in America is quite rapidly turning upside down; by mid-century there will be more minorities and a minority of whites living in the country. By 2010, the white population will account for only 9% of the world's population making them the earth's smallest ethnic minority (Lunenburg & Ornstein, 2000). Labor statistics reveal that one-third of the nation's workforce already is minority and women constitute 63% of the American workforce. Women with young children are entering the world of work at an unprecendented rate. Today an estimated 75% of the male workforce has working wives. The bottom line seems quite clear, HR administrators must have the ability to work with a highly diversified workforce and with diverse cultures that hold differing attitudes toward work and family life. Differences in work ethics, organizational loyalty, personal beliefs and values, and perspectives relative to personal motivation have become considerations of paramount importance for HR leaders.

Work and Worklife Balances

HR administration is committed to the administration of the human resources of the school system. This concept compels us to recognize the importance of the personal and family life of employees. Balancing the demands of work and the need to deal with family issues have become topics of primary importance. American workers today are increasingly trying to balance their family life with their workplace responsibilities. Just think about this matter for a moment; what types of balancing acts are employees trying to maintain in school systems today? The working husband and wife, for example, are attempting to perform effectively on their jobs while maintaining the responsibilities of home and family. Children and their schooling are important matters of concern. In many instances, parental care presents personal responsibilities for them as well. Just finding the time to care for family matters and related financial obligations is problematic for many persons. Effective performance in teaching requires a continuous program of professional development, including the securing of higher levels of certification and/or degree program completions. The popular saying today, and the trending point of view, is that today's worker is changing from the perspective of "living to work" to that of "working to live." If the employee does not find the school working conditions that suit his or her life needs, they most likely will look elsewhere.

Summary

The needs of the schools' clientele and the demands of changes described in this article will require HR administrators to be much more aware of best practices as demonstrated by action research activities and the monitoring of program results. Such perspectives will require school leaders to be less concerned with routine administrative tasks and more involved in the strategic operations of the school and school system relative to: (1) the alignment of HR practices with those of the total school system; (2) the improvement of communication among and between all employees on matters that depend on the knowledge and collaboration of workers in different units; and (3) the status of worker assignments and attitudes in the workplace, such as workplace conditions and supervisor relationships with employees, that are enhancing or inhibiting the achievement of school-wide goals.

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