Non-Profit Organizations in a Down Economy: The Financial Performance of Higher Education Institutions in the New England Area

The Honors Program
Senior Capstone Project
Student's Name: Yuanjun Li
Faculty Sponsor: Andres Ramirez
April, 2010

Table of Contents

Non-Profit Organizations in a Down Economy: The Financial Performance of Higher Education Institutions in the New England Area
Senior Capstone Project for Yuanjun Li

ABSTRACT

An economic recession affects an entire economy, including the non-profit sector. The impact could result from changes in government support, a decrease in donations, investment income, service fees or a combination. Many private universities and colleges, which rely on tuition and endowment, have been affected by a dip in enrollments, while their endowments shrink because of the recession and declining stock values. This study will examine how an economic recession can affect non-profit organizations, focusing on private, four-year higher education institutions in New England. Different types and sizes of schools will be affected differently. Since the large, well-known schools have more diverse income sources than small, less-recognized ones, the former will be less affected during an economic recession. This study will identify and define the main income sources for higher education institutions and conclude with some recommendations for ways these schools can weather the economic storm.

INTRODUCTION

The stability of non-profit organizations depends on their ability to acquire and maintain resources. The primary revenue sources for non-profits include sales of services and goods, government grants, and private contributions. During recessions, the government generally cuts budgets as its tax revenue declines; and likewise, private donors are likely to reduce charitable donations. Thus, non-profits are sensitive to the effects of a financial crisis and its concomitant economic slump. During the current recession, private institutions of higher education, which rely mainly on tuition payments, investment income, and fundraising, have taken an especially heavy hit.

As universities struggle to balance their budgets, many have had to cancel or delay infrastructure projects and equipment purchases, suspend pay raises and freeze hiring; and in some cases, even reduce course offerings, while laying off staff and faculty. Although higher education institutions are negatively affected by recessions in general, schools of different types and sizes are affected in different ways by the economic downturn. This study will focus on four-year private universities and colleges in the New England area—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont. This paper will test whether large, better-known schools (LBKs) are less affected in an economic recession than small, less-recognized schools (SLRs). To approach this question, this study will use financial information obtained from the Internal Revenue Service (IRS) Form 990, an annual reporting return required for all higher education institutions. In addition to the changes in revenues and expenses, ways in which different institutions cut their expenses will also be examined. This paper will then link the findings to actions some institutions have taken since the beginning of the recession, and examine the implications for students, faculty, and academe. Finally, possible solutions will be explored and recommendations to higher education institutions will be made.

Non-Profit Organizations in a Down Economy: The Financial Performance of Higher
Education Institutions in the New England Area
Senior Capstone Project for Yuanjun Li

BACKGROUND INFORMATION

Non-Profit Organizations
By the year 2005, there were over 1.9 million non-profit organizations in the United States.

This figure includes both the organizations registered with the IRS (approximately 1.4 million)

and an estimate of the number of religious congregations that have not chosen to register

(Facts and Figures about Charitable Organizations, 2009). Small organizations, whose annual

revenues are less than $5,000, are not required to register with the IRS. If they were to be

counted, the number of non-profits would increase even further.

While the U.S. GDP increased by approximately 35 percent from 1995 to 2005 after adjusting

for inflation, revenues and assets for reporting non-profits grew by at least 54 percent. In

2006, the non-profit sector accounted for 5.0 percent of GDP (Blackwood, Wing, & Pollak,

2008). In 2005, non-profits employed 12.9 million individuals (approximately 9.7 percent of

the U.S. economy), which was greater than the number of people employed by the financial

activities sector (Employment, Hours, and Earnings from the Current Employment Statistics

survey (National), 2009).

The majority of non-profit organizations are collectively referred to as the "independent

sector," which emphasizes their unique role in society, distinct from government and

business. The independent sector includes 501(c)(3)s and 501(c)(4)s (Internal Revenue

Service, 2008). The latter includes social welfare and advocacy organizations, and political

campaign activities. Contributions to 501(c)(4) non-profit organizations are not tax-deductible

(Facts and Figures about Charitable Organizations, 2009). Although the total number of

independent sector groups has approximately doubled in the last 15 years (Hodgkinson, 1992),

the number of 501(c)(4) organizatins has fallen nearly five percent since 1997. This is due to

the steady growth in the number of 501(c)(3) organizations over the last ten years (Internal

Revenue Service, 2008).

501(c)(3) non-profit organizations range from hospitals and human service organizations to

public television and radio stations. In contrast to other types of non-profit organizations that

benefit the private, social, or economic interests of their members, 501(c)(3) organizations

must also benefit the broad public interest. In recognition of this purpose, Congress has provided that contributions made to 501(c)(3) non-profits are tax-deductible (Facts and Figures about Charitable Organizations, 2009).

501(c)(3) non-profit organizations generally can be divided into two groups—501(c)(3) public charities and 501(c)(3) private foundations (Blackwood, Wing, & Pollak, 2008).

Public charities include most arts, education, health care, and human service organizations. Nearly 63 percent of total non-profit organizations registered with the IRS are public charities. The nation's approximately 350,000 religious congregations are also considered public charities, but they are not required to register with the IRS, even though about half have chosen to do so (Blackwood, Wing, & Pollak, 2008). Public charities are what most people refer to when they use the term "non-profit."

Private foundations are endowed by a founding individual, a family, or a corporation with investment assets. Typically, foundations fund 501(c)(3) public charities, although they may also provide scholarships, support government activities, or conduct operating activities similar to those of public charities (Blackwood, Wing, & Pollak, 2008).

Non-profit organizations registered with the IRS with more than $25,000 in gross receipts are required to file an annual Form 990. All private foundations are required to file Form 990-PF annually, regardless of size (Internal Revenue Service, 2008). In 2005, the total revenue of all reporting public charities came to nearly $1.14 trillion, slightly higher than total expenses of $1.05 trillion. Total assets were estimated at $1.98 trillion (Blackwood, Wing, & Pollak, 2008). Health and education are the dominant contributors, together accounting for more than half of the total revenue, expenses and assets of all public charities. Human service organizations accounted for the greatest number of reporting public charities with 32.3 percent of all public charities in 2005, followed by education organizations with 18.7 percent (Blackwood, Wing, & Pollak, 2008).

Figure 1: Sources of Revenue for Reporting Public Charities, 2005
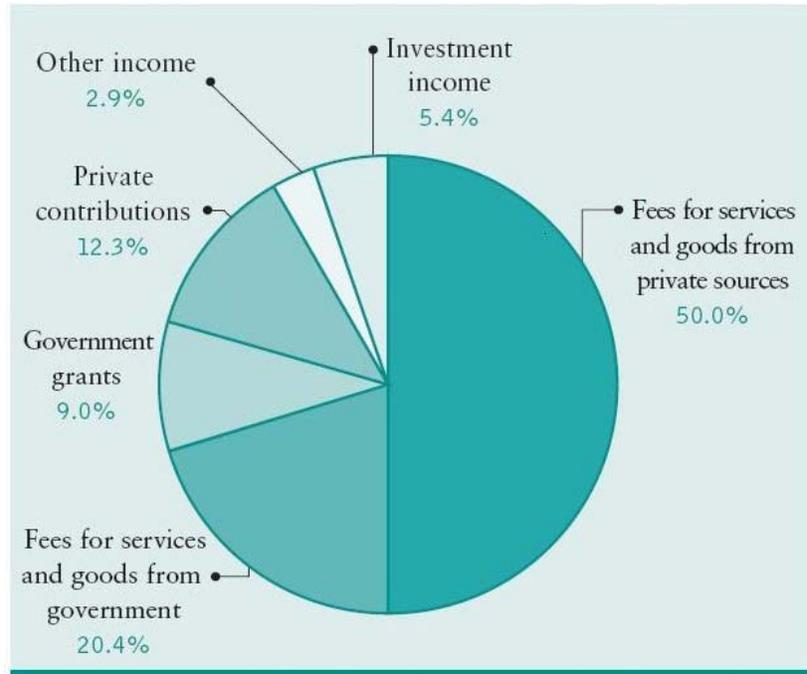
Sources: Urban Institute, National Center for Charitable Statistics, NCCS-GuideStar National Nonprofit Research Database: Special Research Version (2005); U.S. IRS Statistics of Income Exempt Organizations Sample File (2004).

Note: See NCCS web site, http://nccs.urban.org, for additional sources and technical notes.

Figure 1 shows the sources of revenue for reporting public charities in 2005. The total revenues of approximately half of the reporting public charities came from fees for the sales of goods and services from private sources, which include payments to organizations offering services. 29.4 percent of total revenue came from government sources. Of those, fees for the sale of services and goods from the government accounted for 20.4 percent of total revenue, and government grants accounted for the remaining 9 percent. Private contributions, including individual contributions and grants from foundations and corporations, accounted for 12.3 percent. Other sources, such as investment income and interest income, accounted for 8.3 percent of the total revenue (Blackwood, Wing, & Pollak, 2008).

According to the latest figures from Giving USA, private charitable contributions reached $307.65 billion in 2008. Individual donations accounted for 81.9 percent of the total charitable contributions, foundations accounted for 13.4 percent, and corporations accounted for the remaining 4.7 percent. Educational organizations received 13.3 percent of all private charitable contributions in 2007, the second only to congregations and other religious organizations with 34.7 percent (Giving USA Fundation, 2007).

Higher education alone, while comprising only 0.7 percent of reporting public charities, controlled more than 11 percent of revenue, 10 percent of expenses, and 21 percent of assets (Blackwood, Wing, & Pollak, 2008). College enrollment in fall 2008 was 19.1 million students. Of those students, 12.1 million students attended 4-year colleges and universities and 7.0 million attended 2-year colleges. In the fall of 2007, approximately 3.6 million people were employed in colleges and universities, including 2.6 million professional and 0.9 million nonprofessional staff. About 48 percent of all the staff employed were faculty or teaching assistants; 6 percent were managerial; 20 percent were other professional staff; and 26 percent were nonprofessional staff. The revenues of colleges and universities were to total $465 billion for academic year 2006-2007, while the expenditures were about $376 billion (Snyder, 2009). Higher education institutions' primary source of revenue differs depending on the type of the institution. In academic year 2006-2007, the largest single source of revenue for public institutions was state appropriations, amounting to 24 percent of total revenue. Public institutions received 17 percent of their revenue from tuition and fees and 11 percent from federal grants. While in that same year, private non-profit institutions' largest source was revenues from investment return, which totaled 31 percent of their revenue. The next largest sources for were tuition and fees at 26 percent, federal government at 11 percent, and private gifts and grants at 11 percent (Snyder, 2009).

Current Economy

The recession that started in 2007 is the longest and probably the deepest economic downturn since the Great Depression of 1930s. A recession is defined as "a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in production, employment, real income, and other indicators" (Determination of the December 2007 Peak in Economic Activity, 2008). On December 1, 2008, the National Bureau of Economic Research (NBER) announced that the U.S. has been in a recession since December 2007. NBER, a private group of leading economists charged with dating the start and end of economic downturns, believes that domestic production and employment are the primary conceptual measures of economic activity (Isidore, 2008). A recession begins when the economy reaches a peak of activity and ends when the economy reaches its trough. Based on the payroll employment measure, declines in real GDP, industrial production, and the wholesale and retail sales measure, the NBER identified December 2007 as the peak month since the subsequent decline in economic activity was large enough to qualify as a recession (Determination of the December 2007 Peak in Economic Activity, 2008).

While the NBER did not specify causes of the current recession, the general public agreed that the recession was triggered by the outbreak of the financial crisis of 2007-2010, largely driven by the housing downturn starting in 2006, which itself resulted from the subprime mortgage crisis going back to the early 2000's, when housing and credit bubbles started to build.

At the start of the new century, interest rates were unusually and artificially low; this was due to a large inflow of foreign savings. In addition, the Federal Reserve promoted low interest rates following the tech bubble burst to prevent deflation (Bernanke, 2005). The low interest rates fueled a housing boom and a mortgage market in which loans were available to just about everyone at unbelievably generous terms. Consumers were encouraged to assume difficult mortgages, believing they would be able to quickly refinance at more favorable terms. Many investors and regulators had started to believe that financial innovation and sophisticated risk management had changed the rules—the new and mind-bendingly complex forms of financial engineering that had swept Wall Street virtually guaranteed the safety of

banks and investment firms (Taylor, 2009). As a result, loan standards became increasingly lax in the housing market, and investors' appetites for securities created from home loans had grown. Investors "borrowed to the hilt" and took greater risks in search of higher returns (Yellen, 2009). They not only bought securities in subprime mortgages, but also all kinds of credit products around the world.

Housing prices leapt higher every year during the first half of the decade. Once interest rates started to rise and housing prices began to drop in 2006, loan delinquencies surged and the sophisticated financial engineering collapsed. Housing related investments plummeted, threatening the solvency of some banks and investment firms. The rapid and dramatic drop in housing prices caused a sharp rise in mortgage foreclosures, which in turn resulted in losses of hundreds of billions of dollars among the nation's leading banks, and a tightening of credit (Krainer, 2009). Also, because the financial engineering was so unfathomable that it was nearly impossible to identify which institutions were safe and which were not, financial firms started to avoid lending money to anybody (Yellen, 2009). In September 2008, Wall Street financial services firm Lehman Brothers was hit by a liquidity crisis, when the firm was unable to borrow the money it needed to meet day-to-day obligations. Following Lehman's collapse, the financial markets on which banks and businesses relied to fund daily operations froze. Then as investors tried to sell whatever they could to raise cash, the value of investments held by financial institutions plunged even more (Taylor, 2009). The breakdown of the financial system not only threatened the most solid institutions, but also negatively impacted the broader economy.

A variety of loans, including auto, student, credit card, Small Business Administration, jumbo mortgage, and commercial real estate loans, were packaged as securities and sold to investors (Penner, 2008). As financial institutions cut back on lending and private securitization markets seized up entirely, the massive credit crunch caused the economy to plunge. The loss of so many jobs is a vast tragedy—more than 6 million jobs vaporized during the recession (Yellen, 2009).

In response to this calamity, the government then started to take emergency steps to keep credit flowing into the economy. Congress approved the Troubled Asset Relief Program (TARP), which allows the U.S. government to purchase assets and equities from financial institutions, aiming to bring the credit markets back from the precipice by capital injection (Paletta & Enrich, 2009). Congress also passed the stimulus program to increase government spending, which they expected would add to payrolls and boost economic output. The Federal Open Market Committee (FOMC), the Federal Reserve's policymaking body, cut the federal funds rate—what banks charge each other for overnight loans—to essentially zero. As a result, many other interest rates in the economy sank to record lows. The FOMC launched a program to purchase large quantities of longer-term Treasury debt, to help bring down corporate bond and other rates that are linked to Treasury yields (Yellen, 2009). The Federal Reserve also became a major buyer of securities issued by the giant mortgage companies, Fannie Mae and Freddie Mac. This move showed support to the housing sector by helping push conforming mortgage interest rates to near-record low levels. In addition, the Federal Reserve and Treasury jointly intervened to support important institutions whose collapse was judged to threaten the entire financial system (Paletta & Enrich, 2009).

These polices have helped to stabilize the financial market and the pace of decline has gradually slowed. Financial markets are in much better shape today than a year ago. The stock market has rallied and investor appetite for corporate bonds and other assets has rebounded, restoring access to capital for healthy companies. Banks and corporations have been able to raise funds on reasonable terms, and confidence in the financial system is slowly returning. Although housing prices are continuing to fall in most markets, housing sales and new construction appear to have stabilized. Some other sectors are poised to rebound (Yellen, 2009).

By July 2009, a growing number of economists believed that the recession may have ended (Gross, 2009). But the NBER has not yet announced the recession's official termination date; it typically takes a long time after the end of a recession to declare its end because of the need to look at final readings of various economic measures.

IMPACT ON HIGHER EDUCATION INSTITUTIONS

Regardless of whether or not the recession has ended, the toll it has taken on higher education systems is undeniable, and many fear the impact may last until 2013 (Response to the Downturn: A Follow-UP Survey of Colleges, 2009).

Many higher education institutions are feeling immediate effects from the economic downturn. Public institutions, which rely heavily on public contributions, were largely protected by the federal stimulus money from the worst-case scenarios of having to shut campuses or lay off large numbers of employees (Kelderman, Public and Private Colleges Feel Ripples of Wall Street's Woes, 2009). However, they will soon lose the protection as many states expect there will be no stimulus money left for education in 2011 (Kelderman, Stimulus Money Helps Colleges Avoid Slashing Budgets Now, but Big Cuts May Loom, 2009). Harold Hovey, a longtime state budget analyst, believed states' legislators would target higher education for larger budget cuts than other state services for two reasons. First, public institutions can "collect their own revenues in the form of tuition." Second, college students are not "the states' neediest population," compared to needy families and Medicaid (Doyle & Delaney, 2009). In the past, students have been asked to shoulder the burden when states and institutions cannot or will not make changes that would reduce the need for increased tuition. But in this recession, as **payrolls continue to shrink**, many more students will be priced out of higher education. Many private universities and colleges, which rely on tuition and endowment, have been affected by a dip in enrollments, while their endowments shrink because of the recession and declining stock values.

Unlike public institutions who receive large government grants to fund their operating costs, private ones mainly rely on their endowments. Thus, the health of private schools' financial performance can be evaluated according to the vitality of their endowments. On the IRS Form 990, a school's endowment size, known as net assets or fund balances, is calculated as total revenue – total expenses + endowment size at the beginning of the year + changes in endowment over the year. This section will take a look at the three main factors of schools' financial performance—total revenues, total expenses, and changes in net assets or fund balances, examining each closely to determine the recession's impact.

Revenue

Higher education institutions' revenues mainly come from investment income and program service revenue. Program service revenue includes tuition and contributions, gifts, grants, and the like. In academic year 2006-2007, investment income revenue totaled $56 billion, followed by tuition and fees at $47.5 billion. Government contributions and private gifts and grants were $22.3 billion and 20.2 billion, respectively.

According to the data gathered by the National Association of College and University Business Officers, the value of college endowments declined by an average of 23 percent from 2008 to 2009. The average investment return was -18.7 percent in the fiscal year 2009, the worst average return since 1974 (Blumenstyk, Average Return on Endowment Investments Is Worst in Almost 40 Years, 2010).

Table 1: Average Return on Endowment for Fiscal Years 2008 and 2009

	2009 Average Return	**2008 Average Return**
More than $1-billion	-20.5%	0.6%
$501-million to $1-billion	-19.8%	-1.9%
$101-million to $500-million	-19.7%	-2.9%
$51-million to $100-million	-18.6%	-3.2%
$25-million to $50-million	-18.5%	-4.3%
Less than $25-million	-16.8%	-4.1%
Public institutions	-18.0%	-3.3%
Private institutions	-19.1%	-2.8%
All endowments	-18.7%	-3.0%

SOURCE: COMMONFUND INSTITUTE, NATIONAL ASSOCIATION OF COLLEGE AND UNIVERSITY BUSINESS OFFICERS

Table 1 represents average return of endowments by different size and type for fiscal year 2008 and 2009. The data also indicate that in the past, larger endowments tended to have bigger returns than smaller endowments. This is the result of diversification and greater access to investments that often yield high returns. However, in 2009, the biggest endowments experienced the biggest declines. This was due to the across-the-board crash in the financial market. Institutions with large endowments lost money in almost all investments they made, which added up to substantial losses.

Although they experienced negative average returns two years in a row, institutions with large endowments still keep a positive average return over a five year period or longer. This is due to the boost gained by investments in the early years of the decade (Blumenstyk, Average Return on Endowment Investments Is Worst in Almost 40 Years, 2010).

For most private schools without big endowments, tuition and fees revenue is the main income source, and it depends on tuition charges and enrollment rates.

Maria Klawe, president of Harvey Mudd, believes that tuition prices will keep going up as they are driven by "building projects and competitive faculty salaries" (Carlson, 2009). Schools face difficulty with balancing tuition prices and enrollment rate; three surveys have shown that financial concerns may change how students select schools.

An annual survey—*The American Freshman: National Norms Fall 2009*, conducted by the Higher Education Research Institute at the University of California at Los Angeles, provides information about incoming freshmen classes. Data are collected from about 220,000 first-time, full-time freshmen at 297 four-year colleges and universities at the beginning of their first semester. In the survey, more than 60 percent of freshmen said they were either somewhat or very worried about their ability to finance their college educations. This may due to the increase in the proportion of unemployed parents. 4.5 percent of freshmen said their fathers were unemployed—a record high compared with rates of 2-3 percent in the past (Marchand, 2010).

Another survey, conducted by the College Board and the Arts & Sciences Group, found that the recession has caused one in six high school seniors to change his/her college plans. 53 percent of all respondents said they had eliminated specific colleges solely because of their sticker prices. 41 percent of the respondents said they were more seriously considering a

public university or college close to home. The survey was responded to by a random national sample of high-school seniors who registered for the SAT (Supiano & Hoover, Will the Economy Really Change Students' College Plans? Early Signs Say Yes, 2009).

Maguire Associates, an education-consulting firm, conducted a survey that showed similar findings—about 72 percent of high-school seniors somewhat or strongly agreed with the statement "I am more likely to consider attending a public college or university due to the recent economic downturn." Around two thirds of the seniors and seniors' parents said the concerns about the economy "somewhat" or "greatly" affected which colleges they would consider. *The 2009 College Decision Impact Survey* is based on responses from over thirty thousand high-school juniors and seniors (the majority are seniors) and close to six thousand parents of juniors and seniors who were members of FastWeb, a scholarship-search Web site (Supiano & Hoover, Will the Economy Really Change Students' College Plans? Early Signs Say Yes, 2009).

The Chronicle of Higher Education published a Tuition and Fees database, whose data were collected by the College Board from its *Annual Survey of Colleges 2009*. The data show that tuition and fees have continued to increase. In light of this study, tuition and fees for private four-year non-profit institutions in the New England area grew at a rate of 6 percent each year between 2006 and 2009. There was a decrease in growth rate for the academic year 2009-2010, but the tuition and fees still climbed by 4 percent (Tuition and Fees, 2009-2010, 2009).

Surprisingly, the enrollments remained strong for fall 2009. However, the high enrollments came at a cost—many institutions have increased financial aid at a faster rate than tuition and fees to achieve their enrollment goals (Blumenstyk, 2009). In a survey conducted by the Chronicle of Higher education, 83 percent of respondents said their actual enrollments had met or exceeded their target enrollments. However, only 73 percent said they met or exceeded their projections for net-tuition revenue, which is the sum of total tuition and fees minus average grant and tax benefits for full-time undergraduate students (Response to the Downturn: A Follow-UP Survey of Colleges, 2009). That is, 10 percent of respondents had to accept a net tuition cut in order to get their target class size. According to a report from

Moody's Investors Service, *New Tuition Challenges at Many U.S. Private Universities*, a decline in net tuition revenue could hurt schools' future financial strength (Supiano, Many Private Colleges Expect Tuition Revenue Declines, Moody's Report Says, 2009).

As the recession hit virtually every industry and the stock market has not fully recovered, many donors have lost significant portions of their wealth. Therefore it is not surprising to see people being cautious about giving.

A survey conducted by the Council for Aid to Education reported a large drop in private giving to colleges in the 2009 fiscal year, which started on July 1st, 2008. Almost all 1,027 institutions surveyed were negatively affected in some way by the recession. The top 20 fundraising institutions raised $7.28 billion, or 26.2 percent of the total amount higher education institutions raised in 2008; this was 11.8 percent lower than the previous year. The bottom quarter of the 980 fundraising institutions saw an even larger decline of 32.3 percent. The survey also found that alumni participation dropped to a record low in 2009, which may become a problem for schools since normally alumni are the largest source of contributions (Masterson, 2010). Many fund raisers expect that loyal donors will continue to give big gifts, although it may take them longer to fulfill their pledges (Wilson, 2008).

Expenses

Faced with reduced private donations, declining endowment income, and increasing students who need financial aid, higher education institutions are looking for ways to cut down their expenses. This section will examine how schools reduced expenses through salaries and hiring freezes, and changes in accreditation.

To cut costs, some higher education institutions have started to freeze salaries and hiring to fill staff and faculty vacancies. According to a survey done by The Chronicle of Higher Education, nearly two-thirds of 166 respondents said they had frozen salaries, and around 40 percent said they had frozen hiring during 2009. Nearly one-third of respondents had laid off non-faculty personnel, and 60 percent had frozen hiring for non-faculty positions. 58 percent of the survey's respondents said their institutions were reviewing administrative structures and business operations in order to "increase efficiencies and eliminate redundancies," the survey said. Around 5 percent of respondents said they had laid off faculty members during 2009, and nearly 70 percent said they were "somewhat unlikely" or "very unlikely" to make any layoffs this academic year (Response to the Downturn: A Follow-UP Survey of Colleges, 2009). Layoffs are not common in higher education, but as schools continue to feel the financial pressure, faculty benefits maybe next in line to get cut.

Concerns about rising costs (estimated to be $2-million annually in order to meet those standards), some schools have decided not to obtain specialized accreditation or to terminate a current one. According to data from the U.S. Department of Education, accrediting associations have terminated the accreditation of more than a dozen colleges since 2005 (Kelderman, Troubled Barber-Scotia College Seeks Revival, 2009). Annual membership fees for business-school accreditation ranges from $2,500 to $7,300, and one-time fees for initial accreditation are as much as $18,500. The price covers annual dues and the expenses of peer reviewers who visit the campus every few years. However, schools have to pay more to maintain their accreditation standards by hiring a sufficient number of qualified faculty members. For example, to meet the Association to Advance Collegiate Schools of Business' standards, undergraduate programs that have more than a quarter of their courses in business, and graduate programs with at least half of their courses in that field, must be taught primarily

by "full-time, conventional faculty, with advanced research credentials and an active record of ongoing scholarship" (Kelderman, Struggling Colleges Question the Cost-and Worth-of Specialized Accreditation, 2009).

Some people think that the cost of getting accredited outweighs its benefits, but nevertheless schools should seek and maintain accreditation if possible. First, accreditation from a federally recognized organization is required for an institution whose students receive federal financial aid. When a school loses its accreditation, it may see a drop in its enrollment as students transfer to other accredited schools for financial aid. Second, getting a specialized accreditation can help to strengthen school's reputation. Third, for international students who have little information about the quality of an institution before coming to the United States, the specialized accreditation makes them feel less concerned. In addition, maintaining Accreditation can increase the portability of the degree. This will be especially helpful for gradates who seek jobs overseas. Last, higher education should set and maintain high educational standards. Being accredited can assure that colleges are providing quality education to students who want to improve their job skills (Kelderman, Struggling Colleges Question the Cost-and Worth-of Specialized Accreditation, 2009).

RESEARCH METHODOLOGY

A recession normally will cause losses in schools' endowments, and schools policy changes to cut back expenses during/right after a recession. The hypothesis of this study is that schools will experience a decrease in revenues and expenses during an economic recession, but that large, better-known schools will be less affected than small, less-recognized schools.

In this study, the hypothesis test is stated as:

$$H_0: \mu_1 \geq \mu_2$$

$$H_a: \mu_1 < \mu_2$$

Where μ_1 is the population mean of the percentage changes of the financial variable in testing of LBKs, and μ_2 is the population mean of the percentage changes of the financial variable in testing of SLRs. The significance level of $\alpha = 0.10$ is used to decide whether to reject the null hypothesis.

The hypothesis is based on the assumptions that better-known schools' reputations enable them to recruit more students and get more donors; and large schools have more revenue sources, thus enabling them to provide more financial aid. Also, these schools tend to have large and diversified endowments, which will be less affected by recession.

In this study, schools are categorized into LBKs or SLRs based on their total assets. The top 15 schools with the largest total assets are the sample data for LBKs, and the bottom 15 are the sample data for SLRs have smaller total assets.

The two samples are independent, thus the unpaired two-sample t-test is used. The variances of each population are assumed to be unequal, so Welch's t-test, or two-sample unspooled t-test, is more appropriate to test the hypothesis. The t statistic to test whether the population means are different is calculated as follows:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2}}}$$

And the degrees of freedom can be calculated using the Welch-Satterthwaite equation:

$$d.f. = \frac{\dfrac{s_1^2}{n_1} + \dfrac{s_2^2}{n_2}}{\dfrac{(\frac{s_1^2}{n_1})^2}{(n_1 - 1)} + \dfrac{(\frac{s_2^2}{n_2})^2}{(n_2 - 1)}}$$

Where $\bar{x}_1$ is the sample mean of the percentage changes of the LBKs' financial variable over one year of LBKs, and $\bar{x}_2$ is that of SLRs'. s_1, s_2 are the sample standard deviations for each group, and n_1, n_2 are the sample sizes.

For this paper, data are extracted from the National Center for Charitable Statistics (NCCS) Core Files database. The NCCS gathers data primarily from information that non-profit organizations file with the Internal Revenue Service. The NCCS Core Files have been published annually since 1989, and contain data on all 501(c)(3) organizations that were required to file a Form 990 or Form 990-EZ. Its financial variables come from the IRS Return Transaction Files (RTF)—a convenient source of financial data, which are transcribed by the IRS from the 990 forms (Guide to Using NCCS Data, 2006).

Each organization is classified using the National Taxonomy of Exempt Entities Core Codes (NTEE-CC) system, a hierarchical mixed notation (letters and numbers) organization classification system of 630 centile level codes. There are 26 major groups in the NTEE-CC system, and 10 major categories in each group (Gronbjerg, 1994). For example, B Educational Institutions is a major group, and B40 Higher Education Institutions is a category within the major group B. Each major category also breaks down to classify more specific groups. In this study, data extracted are either under NTEE code B42 Undergraduate College (4-year) or B43 University or Technological. According to the 2009 Almanac published by the Chronicle of Higher Education, there are 149 private four-year non-profit institutions in the New England area. But only 108 institutions, depending on the year, are found in the NCCS Core Files database.

The three variables to be examined in this study—Total Revenue (TOTREV), Total Expenses (EXPS), Net Assets or Fund Balance at End-of-Year (FUNDBAL) —are the main indicators of institutions' financial performance of the year. In additional, this study uses the following variables to take a close look at different sectors in revenue and expenses: Program Service Revenue (PROGREV), Total Investment Income (INVINC), and Total Other Salaries and Wages (OTHSAL).

Due to the nature of financial filing with the IRS, there is a large time gap between the tax year and the availability of the financial statistics. Thus, data from all higher education institutions in the New England area for the tax year 2008 and later are not yet available. Out of all 108 schools examined, only one school's tax period ends in August of the following

year; all others end in May or June of the following year. This study will use the data from tax year 2007, with ending dates primarily in May or June of 2008, as a sample of the current recession to test the hypotheses. Since another, less serious recession occurred between March and November of 2001, data from tax year 2000 to tax year 2002 will also be examined. The results from these two recession periods will be compared in order to draw a final conclusion about the hypothesis.

The data are employed by subtracting the previous year's value from the current year's value to obtain the dollar value change over the year. Then the difference will be divided by the previous year's value to find the percentage change over the year. This study is interested in finding whether the recession's impact is smaller on large, better-known schools than on small, less-recognized schools, and not necessarily the direction of the impact; thus, the t-test uses the absolute value of the percentage changes.

LIMITATIONS

Although there is some disagreement as to whether or not the current recession has ended, it is clear that the recession's impact on higher education institutions is not yet finished. In the interests of this study, to examine the impact of recession on higher education institutions, it would be ideal to have data from the start of the recession to at least two years after its end, which means data from year 2007 to year 2012, at the earliest, would be needed. Also, as mentioned earlier, a large time gap between the tax year and the availability of the financial statistics exists. Thus, as of right now (spring of 2010), NCCS only has financial information for all higher education institutions in the New England area for the tax year 2007. The limitation of data's availability may affect the hypothesis test's finding significantly.

While NCCS verifies and corrects (if needed) the financial data when it creates the NCCS Core Files, potential data-entry errors may still exist. Also, the reliability of the underlying data on the Form 990, Form 990-EZ, or Form 990-PF is questionable. Small institutions may not fully understand the complexities of the financial filing, while some institutions may shift variables from one category to another to obtain desired ratios (Guide to Using NCCS Data, 2006).

Another limitation occurs due to the inaccuracy of the NTEE classifications. As this study's focus is private four-year non-profit institutions in the New England area, all target institutions should be listed under NTEE code B42 Undergraduate College (4-year) or B43 University or Technological. However, schools having a graduate division not large enough to file a return separately, may falsely classify themselves under NTEE code B50 Graduate, Professional (Separate Entities). Thus, these schools are not included in the data used to test the hypothesis.

RESULTS

The significance level is set as α = 0.10. If the p-value is less than 0.10, then the null hypothesis is rejected in favor of the alternative hypothesis. If the p-value is greater or equal to 0.10, the decision will be to fail to reject the null hypothesis due to the lack of evidence.

Table 2: Two-Sample T-Test Results for Tax Year 2007 – Part I

	TOTREV		EXPS		FUNDBAL	
Year	T-Value	P-Value	T-Value	P-Value	T-Value	P-Value
2007	-0.52	0.304	-0.28	0.391	-1.82	0.040

Table 3: Two-Sample T-Test Results for Tax Years 2000-2002 – Part I

	TOTREV		EXPS		FUNDBAL	
Year	T-Value	P-Value	T-Value	P-Value	T-Value	P-Value
2000	1.19	0.877	-0.26	0.400	-1.36	0.095
2001	2.42	0.989	-1.49	0.077	-1.36	0.096
2002	-0.86	0.202	-0.86	0.198	-2.63	0.010

In Table 2, the only variable having a p-value below 0.10 is FUNDBAL, which is highlighted in red. The conclusion is LBKs' net assets or fund balances were less affected by the recession than are those of the SLRs' for the tax year 2007. The p-value of 0.040 means the probability of being wrong in the conclusion is at most 0.040. However, another two variables—total revenue and total expenses—with high p-values, fail to reject the null hypothesis. That is, there is not enough evidence to reject either LBKs' total revenues or total expenses were equally or more affected by the recession than SLRs'.

When comparing the t-test results for the tax year 2007 with the results for the tax years 2000 through 2002, there are some similarities in the impacts of the two recessions. In both the p-values of FUNDBAL are low enough to reject the null hypotheses, while the p-values of

TOTREV and EXPS fail to reject the null hypotheses. The only exception is in tax year 2001, where EXPS has a p-value of 0.077, which means over that tax year LBKs' total expenses were less affected by the recession than SLRs'.

Table 4: Two-Sample T-Test Results for Tax Year 2007 – Part II

	PROGREV		INVINC		OTHSAL	
Year	T-Value	P-Value	T-Value	P-Value	T-Value	P-Value
2007	-1.40	0.088	-1.18	0.125	0.00	0.500

Table 5: Two-Sample T-Test Results for Tax Years 2000-2002 – Part II

	PROGREV		INVINC		OTHSAL	
Year	T-Value	P-Value	T-Value	P-Value	T-Value	P-Value
2000	-1.94	0.035	-1.16	0.133	-0.33	0.370
2001	-2.37	0.016	-2.48	0.012	-1.53	0.075
2002	-2.41	0.012	-1.53	0.075	-0.21	0.420

When subjecting the major factors of revenues and expenses to close examination, some interesting findings appear. In tax year 2007, program service revenue has a p-value of 0.088, which is low enough to reject the null hypothesis. Thus, it can be concluded that LBKs' financial performance for program service revenue was less affected by the recession than for SLRs'. The results for tax years 2000 through 2002 also show that LBKs' program service revenues were less affected during the recession than they were for SLRs'. Also, in tax years 2001 and 2002, the p-values of INVINC are 0.012 and 0.075, respectively—both below the significance level, meaning that the total investment income for LBKs was less affected by the recession than for SLRs during that period. In addition, the p-values of INVINC for tax years 2000 and 2007 are 0.133 and 0.125, just passing the significance level to reject the null hypotheses. Thus, in general, it can be concluded that LBKs' financial performance in total investment income was less affected by an economic downturns than SLRs'. Out of four years tested, three years' OTHSAL have t-values close to 0.00. This can be interpreted as for total

other salaries and wages, the estimated difference of the population means for the two groups is almost 0. That is, the impact of recessions on total other salaries and wages for both groups was roughly equal. The only exception is tax year 2001, where the t-value of OTHSAL is 1.53 and the corresponding p-value is 0.080.

In addition, this study examines market values and one-year percentage changes on endowments of four-year non-profit private institutions in the New England area. The figures were compiled by the National Association of College and University Business Officers in partnership with the Commonfund Institute. This database shows the market values of endowments serving institutions for the fiscal years ending on June 30th each year. The figures include growth from gifts and returns on investments, as well as reductions from expenditures, withdrawals, and investment losses. However, the association does not disclose rate-of-return figures by institution (College and University Endowments, 2010). Same methodology procedure is employed to test the data.

Table 6: Two-Sample T-Test Results for Fiscal Years 2007-2009

	Endowment	
Year	T-Value	P-Value
2008	-3.51	0.001
2009	2.20	0.981

Table 6 shows the results for endowment changes for fiscal years 2007 through 2009. For fiscal year end on June 30, 2008, it has a low p-value of 0.001. This shows that during that period LBKs' endowment sizes were less affected than they were for SLRs'. For fiscal year end on June 30, 2009, the p-value is 0.981, which fails to reject the null hypotheses. However, this large p-value indicates that there is strong evidence that LBKs' endowment sizes actually were more affected than they were for SLRs' over that period.

In summary, the t-test results suggest that during an economic downturn, large, better-known schools' financial performance of program service revenue and net assets or fund balance is less affected than for small, less-recognized schools. The financial performance of total investment income is also likely to be less affected for LBKs than for SLRs. However, more recent data shows that this trend may only happen during the early stage of the recession. As the economy continues souring, financial performance of large, better-known schools actually may be more affected than of small, less-recognized school.

RECOMMENDATIONS

As the Great Depression brought reform to higher education, this economic downturn is a great opportunity for higher education institutions to examine their strengths and weaknesses. Such a critical period is the best time for institutions to evaluate their efficiencies, and implement changes. However, there are no one-size-fits-all solutions. Just as Harvard failed to hedge all the risks when the whole financial market crashed, despite its well-diversified investment portfolio, it is impossible to control all the unpredictable. Higher education is changing rapidly, making it difficult to find a single strategy that would assure an institution's sustainability. Schools should not focus specifically on increasing endowments; rather it should focus on improving educational quality, so as to attract the most promising students, who will eventually help to expand the endowment. The purpose of the endowment is to serve as a safety net during times of financial hardship; to cut academic programs to protect the endowment violates the purpose of higher education.

CONCLUSION

The purpose of this study is to examine an economic downturn's impact on financial performance of higher education institutions, focusing on private four-year non-profit institutions in the New England area. An institution's financial performance is evaluated by the vitality of its net assets/fund balance, which is affected by its total revenue, total expenses, and the changes within the endowment. Although higher education institutions are negatively affected by recessions in general, schools of different types and sizes are affected in different ways by the economic downturn. By applying the two-sample unspooled t-test, the study revealed that large, better-known schools are less impacted by a recession than small, less-recognized schools in terms of financial performance—especially in program service revenue, net assets or fund balance, and total investment income. This recession likely will make fundamental changes in how private universities operate and endowment as they struggle to maintain both quality and affordability. But these changes should not be at the expense of educational standards or quality educational services.

REFERENCES

Bernanke, B. (2005). The Global Saving Gult and the U.S. Current Account Deficit. *Virginia Association of Economics.* Richmond, VA.

Blackwood, A., Wing, K. T., & Pollak, T. H. (2008). *Non-profit Almanac 2008.* Washington, D.C.: The Urban Institute.

Blumenstyk, G. (2010, January 28). Average Return on Endowment Investments Is Worst in Almost 40 Years. *The Chronicle of Higher Education*, pp. A22-A27.

Blumenstyk, G. (2009, October 25). In a Time of Uncertainty, Colleges Hold Fast to the Status Quo. *The Chronicle of Higher Education*.

Carlson, M. (2009, November 1). The $50K Club: 58 Private Colleges Pass a Pricing Milestone. *The Chronicle of Higher Education*.

Carroll, D. A., & Stater, K. J. (2009, October). Revenue Diversification in Nonprofit Organizations: Does it Lead to Financial Stability? *Journal of Public Administration Research & Theory*, pp. 947-966.

Cohen, B. (2008, December). Education Quality in Hostile Financial Times. *University Business*, p. 60.

College and University Endowments. (2010, March 10). Retrieved March 15, 2010, from The Chronicle of Higher Education: http://chronicle.com/premium/stats/endowments/

Credit Squeeze Exposes Weaknesses in Investments. (2008, October 17). *Chronicle of Higher Education*, pp. A1-A22.

(2008). *Determination of the December 2007 Peak in Economic Activity.* Cambridge: The National Bureau of Economic Research .

Doyle, W. R., & Delaney, J. A. (2009, July/August). Higher Education Funding: The New Normal. *Change*, pp. 60-62.

Employment, Hours, and Earnings from the Current Employment Statistics survey (National). (2009, December 1). Retrieved December 1, 2009, from US Department of Labor Bureau of Labor Statistics: http://data.bls.gov/PDQ/servlet/SurveyOutputServlet?&series_id=CEU5500000001

Facts and Figures about Charitable Organizations. (2009, October 30). Retrieved November 21, 2009, from Independent Sector: http://www.independentsector.org/programs/research/Charitable_Fact_Sheet.pdf

Ferguson, R. W. (2009, Spring). Intellectual Capital in America. *Presidency*, pp. 22-25.

Giving USA Fundation. (2007). *Giving USA.* Bloomington: Giving USA Fundation.

Gronbjerg, K. (1994). Using NTEE to Classify Non-Profit Organizations: An Assessment of

Human Service and Regional Applications. *Voluntas*, pp. 301-328.

Gross, D. (2009, July 14). *The Recession is...Over?* Retrieved March 2, 2010, from
    Newsweek: http://www.newsweek.com/id/206631?from=rss

Guide to Using NCCS Data. (2006, August). *National Center for Charitable Statistics* .

H., M. (2009, October). First Aid for Financial Aid Woes. *University Business*, p. 13.

Hodgkinson, V. A. (1992). *The Nonprofit Almanac 1992-1993: Dimensions of the
    Independent Sector.* San Francisco: Jossey-Bass.

Internal Revenue Service. (2008). *Internal Revenue Service Data Book 2008.* Retrieved
    August 22, 2009, from Internal Revenue Service: www.irs.ustreas.gov/pub/irs-
    soi/08databk.pdf

Isidore, C. (2008, December 1). *It's official: Recession since Dec. '07*. Retrieved Feburary 10,
    2010, from CNNMoney:
    http://money.cnn.com/2008/12/01/news/economy/recession/index.htm?postversion=2
    008120112

Kelderman, E. (2009, November 12). Land-Grant Universities Consider Restructuring to
    Cope With Expected Shortfalls. *Chronicle of Higher Education*.

Kelderman, E. (2009, August 28). Public and Private Colleges Feel Ripples of Wall Street's
    Woes. *The Chronicle of Higher Education: Almanac Issue 2009-10* , p. 38.

Kelderman, E. (2009, June 12). Stimulus Money Helps Colleges Avoid Slashing Budgets
    Now, but Big Cuts May Loom. *Chronicle of Higher Education*, p. A25.

Kelderman, E. (2009, October 5). Struggling Colleges Question the Cost-and Worth-of
    Specialized Accreditation. *Chronicle of Higher Education*.

Kelderman, E. (2009, November 12). Troubled Barber-Scotia College Seeks Revival. *The
    Chronicle of Higher Education*.

Krainer, J. (2009, October). Recent Developments in Mortgage Finance. *FRBSF Letter*.

Marchand, A. (2010, January 21). Cost of College is Big Worry of Freshmen in National
    Survey. *The Chronicle of Higher Education*.

Masterson, K. (2010, February 3). Private Giving to Colleges Dropped Sharply in 2009. *The Chronicle of Higher Education*, p. A24.

Nelson, C. (2009, Mar/Apr). Campus Equity Year. *Academe*, p. 112.

Paletta, D., & Enrich, D. (2009, January 22). Political Interference Seen in Bank Bailout

Decisions. *The Wall Street Journal*.

Penner, E. (2008, July 8). The Future of Securitization. *The Wall Street Journal* .

Response to the Downturn: A Follow-UP Survey of Colleges. (2009, October 25). *Chronicle of Higher Education*.

Rosenberg, R. (2009, January 26). College Tested by Grim Reality. *Crain's New York Business*, pp. 15-16.

Snyder, T. D. (2009). *Mini-Digest of Education Statistics 2009.* Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

Supiano, B. (2009, November 2). Many Private Colleges Expect Tuition Revenue Declines, Moody's Report Says. *The Chronicle of Higher Education*.

Supiano, B. (2009, September 21). With State Budgets Tanking, Cost of Merit-Based Scholarships Gets a Second Look. *Chronicle of Higher Education*.

Supiano, B., & Hoover, E. (2009, April 24). Will the Economy Really Change Students' College Plans? Early Signs Say Yes. *The Chronicle of Higher Education*, p. A21.

Taylor, J. (2009). The Financial Crisis and the Policy Responses: An Empirical Analysis of What Went Wrong. *NBER Working Paper*.

Tuition and Fees, 2009-2010. (2009, October 20). Retrieved January 7, 2010, from The Chronicle of Higher Education: http://chronicle.com/article/TuitionFees-2009-10/48879

Wilson, R. (2008, October 10). As Credit Crisis Chills Campuses, Worries Mount. *The Chronicle of Higher Education*, p. 7C.

Yellen, J. L. (2009, July 6). A View of the Economic Crisis and the Federal Reserve's Response. *FRBSF Economic Letter*. San Francisco, CA, United States of America.