Fit, Fat, or Failing?
The Financial Health of Private Higher Education

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The impetus for this talk came from an oft-asked question from my Juniata colleagues when discovering that I research finance issues in higher education: "How do we stack up?" What follows is a brief overview of the context in which Juniata operates, an examination of the relationship of institutional prestige to financial health, and a discussion of how Juniata College and some familiar peers and aspirants stack up with a cohort of roughly 390 private nonprofit baccalaureate institutions on a number of important financial measures. Much of this work was presented at the 2010 Northeastern Association of Business, Economics and Technology (NABET) conference.

INTRODUCTION

The high rate of tuition inflation and reduced affordability threaten the equity of access and choice in higher education. From 1984 to 2008, college tuition and fees increased 439 percent, compared to a 251 percent increase in medical costs and a 147 percent increase in median family income.[1] Although they are one of the most expensive higher education options, private nonprofit baccalaureate colleges are an important segment of the higher education market and may be the best options for many undergraduate students. These small colleges stand at a competitive disadvantage with both state-funded public universities and larger private colleges and often come under intense criticism for high tuition rates. Despite broad public perception of private colleges as wealthy, many face poor financial circumstances. Lacking public support, private colleges are heavily dependent on tuition, making them more vulnerable to demographic shifts and changes in the overall economy.

Higher education in the U.S. is diverse and includes large public and private research universities, land-grant universities, regional comprehensive institutions, community colleges, and for-profit universities located in urban, suburban, and rural locations. Small learning-centered private liberal arts colleges are an alternative favored by many prospective undergraduate students. Compared to research universities and regional institutions, "liberal arts colleges evidenced stronger positive impacts on a broad range of empirically-vetted good practices in undergraduate education."[2] These good practices include: student-faculty contact; faculty interest in student development; peer cooperation; academic effort/involvement; and faculty instructional skill, organization, and preparation.[3] Students at private

liberal arts colleges are also more likely than their peers at larger public universities to interact with faculty, get involved in campus government and honors programs, participate in athletics, participate verbally in class, and find their classroom instruction more satisfying.[4] Additionally, a high proportion of liberal arts graduates earn PhDs, and private liberal arts colleges have better degree-completion rates than public universities.[5] Private colleges and universities enroll a greater proportion of low-income students and a lower proportion of higher-income students than do large public research (doctoral) universities.[6] The median family income of students' families in state universities and private colleges is identical.[7]

However, these institutions are not without problems as they face both considerable financial challenges and fierce competition from one another and from competitors in other higher education sectors. The majority of private baccalaureate colleges have enrollment under 2000 students. Compared to their larger private counterparts, these small colleges are at greater risk of closing, more likely to have tuition dependency greater than sixty percent, more likely to experience enrollment volatility, and more likely to report operating deficits.[8] To continue to operate, small private colleges with already high tuition have routinely increased tuition by three percent more than the rate of consumer inflation.[9] Private colleges with high tuition are often perceived as the least-affordable option for many prospective students. For instance, tuition and fees for the academic year 2008-09 at private four-year colleges was $25,143 compared to $6,585 at public universities.[10]

Many students, parents, and legislators often assume private colleges are wealthier than their public counterparts and question the astronomical growth of both tuition and expenditures. These critics levy accusations of inefficiency, waste, and greed, asking why colleges and universities cannot "behave more like business firms and hold down their costs?"[11] Despite collecting an "avalanche of data about every facet of the institution," these institutions are accused of ignoring relevant financial information in setting tuition.[12] According to one estimate, only fifteen percent of college governing boards use long-term strategic financial planning and only thirty-five percent have minimal knowledge of fiscal planning.[13] Moody's credit rating agency often identifies small private colleges as "institutions facing challenges."[14] In spite of these criticisms, small private colleges have endured.

OBJECTIVES

This paper aims to clarify the overall financial condition of and identify trends for private nonprofit baccalaureate colleges in the U.S. Using publicly-available data from nearly 390 colleges for the period 1998 through 2007, the variables of annual increase in tuition and annual financial ratios assessing comprehensive financial condition will be focused upon. Specifically, this paper examines the colleges' annual operating results; liquidity and flexibility; leverage; asset performance; and market position.

For the interest of Juniata stakeholders, I provide a brief additional discussion of Juniata College, some familiar peer and aspirant institutions, and Dana College of Nebraska. See Exhibit 1 for a list of these institutions, their *U.S. News and World Report* ranking, and their selectivity ratings. Dana College was founded in 1884 in rural Blair, Nebraska. From 1997 through closure, the college had an annual enrollment of just under 600 students. Dana makes for an interesting case study for two reasons. One, the college was forced to close after a proposed sale to the for-profit Dana Education Corporation fell through because the Higher Learning Commission of the North Central Association of Colleges and Schools decided not to transfer accreditation to the new institution. This decision was a blow to for-profit universities' strategy of buying failing colleges and, in effect, buying accreditation. Two, the rapid nature by which the college moved to close caught many higher education observers by surprise. Hints of Dana's poor financial condition became apparent around 2005 but over 100 colleges fared worse and continue to operate.

FINANCIAL ANALYSIS FRAMEWORK

The financial condition of private baccalaureate colleges has been seriously questioned since the end of World War II when regional comprehensive state universities began to dominate enrollment. Several studies found small private baccalaureate colleges to be endangered and predicted their demise.[15] In all cases, their pessimism proved unfounded. Despite the enrollment decreases after the graduation of the baby boom generation, the high inflation of the 1970s, economic weakness in the early 1980s and 1990s, and public criticism over steep increases in tuition, private baccalaureate colleges have persevered.

These studies may have failed to predict accurately the demise of small private colleges for two reasons. First, the studies defined financial condition only in terms of operating measures such as annual revenues and expenses, and ignored other assets (both financial and physical) and debt. Operating measures, while important, are only one part of an organization's comprehensive financial condition. Second, the studies did not use ratio analysis. As a result, the financial data were neither scaled for comparative purposes nor related to one another in a meaningful way.

Because of the broad range of institutional types and control, coupled with the unique nature of revenues and costs, financial analysis in higher education can be challenging. One of the most effective ways to assess financial condition is ratio analysis. Ratio analysis considers the relationship between two numbers in the financial statements and allows for both trend and comparative analyses. Trend analysis identifies trends in a particular ratio at one institution and helps guide strategy by measuring past performance and charting progress on goals and objectives. Comparative analysis scales financial data to allow comparisons between different institutions. Financial ratios provide more useful information than considering only absolute dollar value measures from the financial statements. For example, the amount of total expenditures is meaningless without considering whether current resources are sufficient to meet

them. Additionally, ratio analysis can provide common benchmarks for financial condition and can guide financial decision-making.

The literature on financial ratio analysis is based heavily in a for-profit context. Generally, financial condition is the result of measures in four critical areas of an organization: profitability, liquidity, leverage, and asset efficiency.[16] Profitability, the excess of revenues over expenses, is the primary goal and this element of financial condition is supported by the other elements.[17] Liquidity is the ability of the organization to meet its short run obligations; this provides a measure of the flexibility in making adjustments for changing market conditions and opportunities. Leverage concerns the amount of debt and the ability to pay debt over the long and short runs. Asset efficiency refers to how well management uses assets, both physical and financial, to enhance profitability over time. For-profits have long used this comprehensive approach to assessing financial condition.

There are also forms of financial ratio analysis aimed at government and nonprofit organizations and more specifically at private and public colleges and universities.[18] In Strategic Financial Analysis for Higher Education (SFAHE), the authors translate several of the analysis areas from the for-profit context into a comprehensive framework for strategic financial analysis in higher education: operating results (profitability), resource sufficiency and flexibility (liquidity), financial resources including debt (leverage), and asset performance (asset efficiency).[19]

The SFAHE framework is useful for college managers, trustees, and several other higher education industry organizations. Credit ratings organizations like Moody's Investors Services are concerned with an institution's creditworthiness, or the ability to repay debt.[20] They assign a rating based on their assessment of a college's financial condition based on ratios similar to the ones described in SFAHE. The U.S. Department of Education (DoE) identifies institutions that might bear risk to student financial aid programs. The DoE uses three ratios (also in SFAHE) to assess an institution's viability, profitability, liquidity, ability to borrow, and capital resources.[21] Institutionally, higher education executives and trustees use financial ratios to assess progress toward objectives and to make decisions for the future. The Council of Independent Colleges developed a Financial Indicators Tool using the Composite Financial Index developed in SFAHE.[22]

This paper's financial analysis framework includes the following elements: operating results; liquidity and flexibility; leverage; asset performance; and market position.

METHODS

This study uses data from the Integrated Postsecondary Education Data System (IPEDS) of the U.S. Department of Education's National Center for Education Statistics (NCES). IPEDS data is derived from several surveys that must be completed by all institutions that participate in "any federal financial assistance program authorized by Title IV of the Higher Education Act of 1965, as amended."[23] This

study examines the entire population of private nonprofit baccalaureate American colleges (those with the Carnegie classifications "Baccalaureate Colleges-Liberal Arts" and "Baccalaureate Colleges-Diverse Fields") that provided IPEDS data from fiscal years 1998-2007. Accordingly, there is no need for a sampling frame or sample size calculations. Approximately 390 institutions have sufficient data to be analyzed. These institutions have average enrollment of roughly 1600 students and are comparable in their primary teaching mission.

Variables

The financial ratio variables were chosen to represent the elements of the framework for financial analysis: operating results; liquidity and flexibility; leverage; and asset performance.

The tuition increase (TI) is an important measure of operations and an indicator of pricing strategy. Previous research indicates a relationship between the annual surplus or deficit and tuition setting.[24] Additionally, the TI is related to the tuition discount as the discount essentially reduces the TI to a net price increase.

The net operating revenues ratio (NOR), also known as the net income ratio, represents the annual operating results of the organization. The NOR is similar to the profit margin ratio often computed to evaluate for-profit enterprises. It is calculated by taking the ratio of the change in net assets to total revenue; it measures whether a college is living within its resources. A positive value indicates an annual surplus and a negative value indicates an annual deficit. Bond ratings agencies such as Moody's and Fitch, and the U.S. Department of Education, use this or very similar ratios when evaluating colleges and universities.[25]

The reserve ratio (RES) measures liquidity and flexibility and is computed by dividing unrestricted net assets by total expenses. It is a rough measure of how many months of expenses can be covered by unrestricted net assets. For instance, a RES of 0.50 indicates an institution could cover its expenses, assuming no incoming revenues or other cash inflows, for six months. A similar and more commonly computed measure is the primary reserve ratio (PR) used by college finance and accounting practitioners, Standard & Poor's, Moody's, Fitch, and the U.S. Department of Education.[26] The PR's numerator is expendable net assets, a value derived from other financial statement figures, one of which is long-term project related debt.[27] The PR is not used in this study because IPEDS data reports a value for only total liabilities (i.e. total debt) and does not divide it into short-term and long-term components; nor does IPEDS indicate whether or not the debt was incurred for a building project. As a result, this study uses the reserve ratio, a ratio similar to the level of reserves ratio used in other higher education research and identical to another common nonprofit organization performance indicator.[28]

Representing leverage, the capitalization ratio (CAP), also known as the equity ratio, indicates whether the organization relies more on equity (known as "net assets" in nonprofit organizations) or debt

to finance its operations. It is calculated by taking a ratio of its total net assets to its total assets. The CAP should range from 50 to 85 percent.[29] Institutions at or below the low end of this range may find it difficult to borrow additional funds, while institutions above the high end of the range may want to consider better leveraging of their assets to increase future income and wealth. The CAP most closely measures debt capacity.[30] Again, there are additional measures of debt but IPEDS is limited in that its finance survey only collects information on total liabilities and provides no further information. Future changes in the IPEDS finance survey ought to include more information on debt and related measures such as long-term and short-term status, interest rate, and the percentage of fixed rate versus variable rate debt. This additional information would be particularly helpful in light of the credit market crisis of 2008-2009.

The return on net assets ratio (RNA) is calculated by dividing the change in net assets by the total net assets, and measures asset performance. The RNA is similar to the for-profit financial ratios, return on equity, and return on investment. Colleges and universities must possess large amounts of both physical and financial assets to operate. The RNA "furnishes a broad measure of the change in an institution's wealth over a single year" and is the "most comprehensive measure of the growth or decline in total wealth over a specific period of time."[31] Moody's uses this ratio in evaluating an institution's financial condition.[32]

The tuition discount (TD) measures students' willingness to pay or a college's market position and is calculated by taking the ratio of total institutional aid to gross tuition revenue. It is the means by which private colleges fill their entering classes.[33] Colleges are engaged in fierce competition to enroll academically talented students and need revenue streams to remain competitive. Prospective students and their families have budgetary constraints and expectations of quality that limit their willingness to pay. Colleges, aware of their own fiscal constraints, measure prospective students' academic quality and willingness to pay, and adjust the tuition discount accordingly. Tuition discounting is a common source of concern for private nonprofit baccalaureate colleges. Unlike many for-profit enterprises, colleges cannot easily make short-run adjustments to output (i.e. enrollment). Costs are often committed based on enrollment projections and capacity before actual enrollment is certain. The college is "designed for a set number of students, which the institution seeks to enroll regardless of changing economic circumstances . . . forcing all of the market adjustment onto prices."[34] Ideally, the tuition discount serves as a tool to help maximize total net tuition revenue. However, an increasing tuition discount over a period of time may indicate a problem with the college's market position.[35] If the tuition discount grows faster than the rate of tuition increase, the resulting increase in net tuition is less, leading to possible cash flow shortages. From 1981 to 1996, the rate of increase in institutional financial aid was five times that of the increase in the consumer price index. No other higher education expense category increased even half that much.[36]

Tuition dependency (TDEP) is the ratio of net tuition revenues to total revenues and is an important measure of financial condition. Institutions that rely on tuition to provide more than 60 percent of their total revenues are classified as tuition dependent.[37] Non-tuition revenues include gifts, grants, and endowment income. Tuition dependent colleges are more likely to have small endowments and are at a disadvantage with colleges with larger endowments. An endowment allows colleges to draw on funds to support current operations. Tuition-dependent colleges are more susceptible to unexpected financial events. Colleges with larger endowments are more financially stable and can weather short-term challenges. Tuition dependent colleges count on tuition revenue to stay even or ahead of inflationary pressure. When enrollment growth slows, the college will lack the cash necessary to pay expenses. Tuition-dependent colleges are more likely to have annual operating deficits (i.e. negative NOR).[38]

Level of prestige in this study is defined by using the selectivity rankings in *Barron's Profiles of American Colleges*. Barron's reports a single summary measure of selectivity (non-competitive, less competitive, competitive, very competitive, highly competitive, and most competitive) based on the entering class's SAT and ACT scores, class rank, high school grade point average, and the percentage of applicants who were accepted. This ranking indicates a college's place in the competitive market for students – the more selective the better. A series of six dummy variables are included in the model to represent selectivity. The 2007 *Barron's* selectivity ranking is used since it falls at the conclusion of the 1998-2007 period and there is evidence of a high degree of correlation across time in the selectivity ranking of colleges and universities.[39]

Analysis

After computing the variables for each of the colleges over the ten-year period, I identified trends for the entire private nonprofit baccalaureate sector. To identify significant differences, I separated colleges by level of prestige and performed ANOVA by regression modeling in which the variable of interest is the dependent variable and dummy (categorical) variables are the independent variables. It is unnecessary and redundant to create a dummy variable for all groups. The number of necessary dummy variables is the number of groups minus one. The intercept represents the value of the group without the separate dummy variable.[40] Non-ranked colleges are represented in the intercept in the "LEVEL OF PRESTIGE" regression results.

RESULTS (Please see Exhibit 2 for annual averages and graphs of the trends.)

Tuition Increase (See Exhibit 3)

The TI mean during the period was 5.4 percent. The TI hit a low of 3 percent for 2000 following a sustained period of stock market growth and resulting endowment growth for many colleges. After a steep decline in the stock market following 9/11 and the collapse of both the Enron and WorldCom,

tuition grew at an annual rate of 6 percent per year through 2007. The TI did not drop from 6 percent despite improvement in the stock market and economy.

There were no statistically significant differences by level of prestige. This may suggest the existence of a pricing umbrella where the most prestigious colleges set tuition first and the rest follow suit.[41] Generally, demand for student spots at the most prestigious colleges is relatively inelastic; demand is steady when price increases. Despite similar gross tuition prices, there is price competition. Tuition discounting (or institutional merit aid) allows less selective private colleges to adjust their net tuition price to attract a sufficient number of students.

Any discussion of tuition increase ought to consider changes in enrollment and tuition discount. The tuition discount remained fairly stable for many of the institutions in the comparison group (see discussion below), but the largest changes in enrollment tended to favor institutions with the largest average annual TI. Ursinus was very aggressive in tuition-setting during much of the ten-year period, exceeding the average annual tuition rate in most years, and still saw a 32 percent increase in enrollment. Juniata raised tuition at a more aggressive rate than most of the comparison group, but remained below the national average. Allegheny's average TI was the bottom of the comparison group and they experienced a 15.6 percent increase in enrollment. More research on the relationship of TI and enrollment is needed. In no way should the reader conclude there is a correlation between TI and enrollment without considering tuition discount, regional differences, traditional college-aged population, institutional capacity, institutional prestige, economic indicators, and several other factors.

Net Operating Revenues Ratio (see Exhibit 4)

The NOR averaged over 9 percent for the period. This return occurred during a period when the Dow Jones Industrial Average had three of its five single largest annual point declines (2000-2002).[42] However, there was considerable volatility in NOR: a high of 25 percent during 1998 and a low of negative 27 percent during 2002. This volatility is extraordinarily rare for for-profit organizations using a comparable measure, profit margin. The most competitive colleges have an average NOR of 19 percent, while the remainder had an average NOR ranging from 7.5 to 11 percent. These differences were statistically significant.

Juniata's alarmingly low ten-year average is the result of a very large negative NORs in 2001 (-98 percent) and 2002 (-22 percent). However, a large and isolated negative NOR is not necessarily cause for concern if competitors also experience negative NORs, and/or the negative NOR is not repetitive. For instance, Juniata's four previous NORs were never less than +28 percent. During the ten-year period, Dana had a negative NOR in five years. In three of those years, Dana was the only college in the comparison group to have a negative NOR. From 2001-2003 at least half of the colleges in the

comparison group had negative NORs. Susquehanna managed to have only two negative NORs during the period, both less than negative 2 percent.

The NOR uses the total change in net assets in the numerator, which includes the results of operations and unrealized gains and losses on investment assets like the endowment. The stock market downturn during 2001-2002 resulted in large negative NOR ratios for many of the colleges. The negative NOR ratios were not the result of annual operating deficits nor of negative cash flow, but the result of large unrealized losses. Normally, a negative NOR of the magnitude found in 2001-2002 would be cause for alarm. A better measure, one more indicative of the operations of the college, might be the change in unrestricted net assets divided by total unrestricted revenues.

Reserve Ratio (see Exhibit 5)

The RES ratio was steady during the period. The steadiness of the RES coupled with the volatility in the NOR further illustrate 1) the problem of using unrealized gains and losses from restricted assets (i.e. endowments) in evaluating financial condition; and 2) the ability of colleges to remain liquid despite stock market downturns.

There are statistically significant and large differences in RES ratio between colleges ranked "competitive" through "most competitive." The "most competitive" colleges had an average RES ratio of 360%, "highly competitive" had ratios of 236%, "very competitive" had ratios of 177%, and "competitive" had ratios of 109%. RES ratio does not include restricted assets such as endowment. However, the large draw from the endowment and availability of unrestricted assets appears to allow top-ranked colleges considerably more breathing room than their less prestigious competitors.

The comparison group data indicate that both Susquehanna and Ursinus are above-average performers in their Barron's selectivity peer group. All others are below average in their selectivity group, but relatively stable during the period, except for Dana, where the RES declined steadily from 2002 onward. Elizabethtown had a RES less than one in every year. Juniata's RES was near the ten-year average for all institutions and remained stable during the period.

Capitalization Ratio (see Exhibit 6)

The CAP steadily declined during the ten-year period, indicating an increased proportion of debt on colleges' balance sheets (see Exhibit 2). While this amount of debt is still astonishingly low compared to many for-profit industries, the change indicates a negative trend. The trend illustrates the fierce competition that requires colleges to update, renovate, and/or build new facilities and offer other amenities or risk losing students to competitors. Additionally, interest rates during this period were very low and made debt more affordable.

The acceptable range for the CAP is 50 to 85 percent.[43] Thirty-five colleges in the cohort fell below this range and none of them were ranked "highly competitive" or "most competitive." Sixty-five

colleges had a CAP ratio above 85 percent. Not unexpectedly, the CAP differed significantly by rank. For example, the "most competitive" colleges had a CAP of 15% greater than "competitive" colleges. Not only do the top-ranked institutions hold larger endowments and have a higher RES, but they also have a lower proportion of debt and are more creditworthy than lesser-ranked colleges. Schools outside the top ranking are forced to remain competitive by taking on more debt to finance campus improvements or expansion.

With the exception of Allegheny, all comparison group colleges experienced a decrease in CAP from 1998 through 2007. By the end of the period Dana and Elizabethtown had the lowest CAP ratios. However, Elizabethtown's CAP remained stable while Dana took on more debt during the period. Juniata saw the second largest decrease in CAP during the period. However, Juniata had one of the highest CAP scores at the beginning of the period, indicating the College started the period with more debt capacity than comparison institutions. However, Juniata's CAP was near the national average by 2007.

Return on Net Assets Ratio (see Exhibit 7).

The trend for the RNA, like the NOR, was volatile and averaged 7.4 percent for the period. Again, this volatility is the result of the computation of the ratio: the change in net assets divided by total net assets. The change in net assets includes unrealized gains and losses but is not indicative of cash flows. A better measure of RNA might be the change in unrestricted net assets divided by unrestricted net assets or separate return ratios for capital and financial assets.

There were no significant differences by level of prestige. As for the comparison group, the RNA followed the same general pattern as the NOR. During the ten-year period, Dana had a negative RNA in five years. Juniata had three consecutive years of negative RNA, from 2001-2003, with 2003's RNA just under zero. Ursinus also had negative RNA during the same three year period. All other institutions had only 2 years of negative RNA. Susquehanna's two years of negative RNA were each less than one percent.

Tuition Discount (see Exhibit 8)

The TD increased steadily from 29 to 34 percent over the period. This trend is consistent with the National Association of College and University Business Officers' (NACUBO) tuition discounting surveys, but is far less an increase than what occurred during the 1990s.[44] An increasing tuition discount over a period of time may indicate a problem with the market position of the college.[45] As the tuition discount grows faster than the rate of tuition increase, net tuition falls, which leads to possible cash flow shortages.

There were significant differences by level of prestige. "Very competitive" and "highly competitive" colleges discounted at a much higher rate than either "competitive" or "most competitive" colleges. It is expected that the "most competitive" colleges would offer a much lower tuition discount

than other colleges because they find low price elasticity for their educational service (i.e. students want to attend regardless of price). It is generally believed that colleges at the low end of the prestige hierarchy accept discounting as a normal part of operations and are forced to give entering freshman large discounts. Doti found "schools with lower student selectivity need to give back a high proportion of tuition increases to students in the form of discounts (financial aid) than do higher selectivity schools."[46] However, the fact that "competitive" colleges discount at a lower rate than either "very competitive" or "highly competitive" colleges may indicate a different partitioning of the higher education market. "Competitive" colleges, knowing they cannot compete with more prestigious colleges on price, may tend to offer lower gross tuition as a value incentive to prospective students. Therefore, they need to discount less than either "very competitive" or "highly competitive" colleges that may tend to set gross tuition similar to their aspirant institutions (i.e. "most competitive") to signal higher quality.

Another issue concerns this study's definition of TD. The TD numerator includes the sum of funded plus unfunded institutional aid. More prestigious colleges have larger endowments and, therefore, more funded institutional aid. These colleges can increase the discount with little effect on operations. Unfunded institutional aid is often simply a price reduction to attract the right number of students. Lesser-ranked colleges with smaller endowments "have found that the tuition discounts essentially forced upon them by the market" have reduced net cash from tuition.[47] The analysis of the RES provides some evidence of reduced cash flows for lower-ranked colleges. Future research on TD ought to consider the distinction between funded and unfunded institutional aid.

The comparison group shows little change in the tuition discount for seven institutions during the decade and all institutions exceed the national average. Dana, despite their very large ten-year average TD, substantially reduced their discount during the decade from nearly 80 percent to 56 percent. Juniata saw a small decrease from 48.6 percent in 1998 to 45.5 percent in 2007.

Tuition Dependency (see Exhibit 9)

TDEP peaked during 2002, a result of the endowment losses discussed earlier. TDEP averaged 45 percent for all colleges during the period. Again, there were statistically significant differences by level of prestige. "Most competitive" colleges had a TDEP of approximately 34 percent compared to "highly competitive" and "very competitive," both at 42 percent, and non-ranked colleges at 48.6 percent. Again, this difference is likely due to the much larger endowments held by top-ranked colleges and the large unrealized gains during most of the period. Forty of the approximately 390 colleges had TDEP greater than 60 percent, the common benchmark for tuition dependency.[48]

From the comparison group, Dana's results are surprising and may be the result of donor support in an effort to stabilize the college's fiscal health and/or the decline in tuition revenue relative to other sources of revenue. Juniata scored near the ten-year average for TDEP.

Comparison Group Summary (See Exhibit 10)

The comparison group's composite financial rankings indicate most of the institutions are well within the average range. Juniata stakeholders might prefer a better composite score but generally, the trend for Juniata is positive throughout the period.

On the other hand, Dana, like many failed colleges, experienced large and/or frequently deficits, increasing tuition dependency, less liquidity and flexibility, large increase in debt, large rate of increase in tuition discount, and enrollment of less than 1000. Their collapse occurred quickly. For the period 1998-2007, Dana's composite financial rank is 260, meaning 130 institutions fared worse and remained open. Dana's financial condition continued to deteriorate into 2009 when their RES fell below zero and CAP fell below 50 percent. The combination indicated that Dana had an extraordinary liquidity problem, with little likelihood of obtaining a loan.

CONCLUSION

Generally, private baccalaureate colleges are resilient institutions that have survived many previous financial challenges. From 1998 through 2007, average operating results were impressive in spite of large decreases in stock market performance during the middle of this period. Liquidity was also strong for the sector, but particularly strong for the most-prestigious colleges. Debt as a proportion of total assets increased during the period, but the greater levels of debt are held by less-prestigious colleges. Asset performance was solid despite a down stock market during the middle of the ten-year period. The tuition rate increased at a much higher rate during the last half of the period and the tuition discount increased slowly throughout the period. Tuition dependency was steady throughout the period but was lower for more-prestigious colleges and over 10 percent of the sector can be defined as tuition dependent.

Much of this period saw both increases in the percentage of high school graduates and a reasonably stable economy after 2003. However, given the projected decreases in high school graduates in the Northeast and Midwest, unemployment over 10 percent, the credit market fallout in 2008-09, consumers' unwillingness to take on more debt, and a slow and uncertain economic recovery, the next decade is unlikely to be the same as the last. Tuition increases are already down to 4 percent annually and tuition discounting for the Fall 2009 freshman class was much higher than in recent years.[49] Several private colleges enter this challenging era at a disadvantage, having more debt, fewer reserves, steep tuition discounting, and high tuition dependency.

Future research on financial condition in higher education could consider the use of financial information for decision-making. A better understanding of the relationship of financial condition and tuition setting, salary decisions, strategic planning, and philanthropic support is important. Additionally, more research is needed on the ways in which colleges use endowments and debt to achieve their objectives. While IPEDS information contains very detailed information on operating results (such as

revenues and expenses), it lacks the same detail on assets and debt. Changes in the IPEDS survey are a necessity.

NOTES

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EXHIBIT 1

COMPARISON GROUP

Institution	U.S. News & World Report Ranking (2011)	Barron's Selectivity Ranking (2007)
Dickinson	47	Highly Competitive
Gettysburg	47	Highly Competitive
Ursinus	71	Very Competitive
Juniata	81	Very Competitive
Allegheny	93	Highly Competitive
Susquehanna	114	Very Competitive
Elizabethtown	5*(Regional Colleges-North)*	Very Competitive
Dana	Tier 2 *(Regional Colleges-Midwest)*	Competitive

EXHIBIT 2

ANNUAL AVERAGES

	98	99	00	01	02	03	04	05	06	07
TI	-	5%	3%	5%	6%	6%	6%	6%	6%	6%
NOR	25%	18%	16%	-4%	-27%	2%	16%	12%	14%	22%
RES	164%	167%	171%	156%	138%	133%	142%	144%	148%	161%
CAP	75%	74%	74%	72%	70%	69%	69%	69%	69%	70%
RNA	17%	10%	11%	3%	-1%	3%	6%	6%	8%	13%
TD	29%	32%	32%	32%	33%	32%	33%	33%	34%	34%
TDEP	39%	41%	41%	50%	58%	48%	43%	46%	45%	42%

TEN-YEAR AVERAGES

VARIABLE	MEAN	STANDARD DEVIATION
CAP RATIO	0.7112	0.1605
NOR RATIO	0.095	0.1434
RES RATIO	1.4475	1.2382
RNA RATIO	0.0743	0.0593
TD	0.3234	0.1272
TDEP	0.4536	0.1284
TI	0.054	0.0172

N=391

For Exhibits 3-9, please consult the following table:

Summary Results of ANOVA by Regression Analyses –
Financial Measures and Barron's Selectivity Rankings

	Tuition Increase	**Net Operating Revenues Ratio**	**Reserve Ratio**	**Capitalization Ratio**	**Return on Net Assets Ratio**	**Tuition Discount**	**Tuition Dependency Ratio**
Intercept	0.0583 (16.6223)	0.0752 (2.6522)	0.6038 (3.0834)	0.6096 (21.4774)	0.0869 (7.6764)	0.2414 (10.8831)	0.4861 (20.8878)
Non-Competitive	-0.0002 (-0.0436)	0.0088 (0.1984)	0.3348 (1.0875)	0.0883 (1.979)*	-0.0162 (-0.9134)	0.0011 (0.0309)	-0.0098 (-0.2584)
Less Competitive	-0.001 (-0.2249)	-0.0235 (-0.6553)	0.0781 (0.3158)	0.0074 (0.2062)	-0.0064 (-.4465)	0.0066 (0.2312)	-0.0124 (-0.413)
Competitive	-0.0037 (-0.9746)	0.0098 (0.3188)	0.4937 (2.3374)*	0.0775 (2.5301)*	-0.0187 (-1.5283)**	0.082 (3.4001)*	-0.0045 (-0.1796)
Very Competitive	-0.0061 (-1.5345)**	0.0346 (1.067)	1.1706 (5.2251)*	0.1653 (5.0904)*	-0.0187 (-1.4484)	0.1525 (5.934)*	-0.0625 (-2.3175)*
Highly Competitive	-0.0079 (-1.7957)*	0.0261 (0.7248)	1.7635 (7.0641)*	0.181 (5.0251)*	-0.0058 (-0.4051)	0.111 (3.8569)*	-0.0569 (-1.8853)*
Most Competitive	-0.0065 (-1.3357)	0.1143 (2.8768) 0.*	3.0041 (10.952)*	0.2308 (5.8066)*	-0.0036 (-0.2287)	0.0688 (2.1508)*	-0.1454 (-4.2915)*

*- Statistically significant ($p<.01$), **-Statistically significant ($p<.05$)

Note: Dependent variables (financial measures) are listed on the upper horizontal axis. Independent variables (Selectivity rankings) on the vertical axis.

EXHIBIT 3

TUITION INCREASE BY LEVEL OF PRESTIGE

COMPARISON GROUP

Institution	10- year average	Overall Rank	Average Enrollment 1998-2007	Percentage Change in Enrollment 1998-2007
Ursinus	7.5%	31	1467	32.1%
Elizabethtown	5.5%	172	1988	34.9%
Juniata	5.0%	231	1351	21.4%
Dickinson	5.0%	235	2177	29.1%
Dana	4.9%	239	587	14.9%
Gettysburg	4.6%	290	2336	17.9%
Susquehanna	4.5%	307	1926	15.5%
Allegheny	4.2%	330	1976	15.6%

EXHIBIT 4

NET OPERATING REVENUES RATIO

COMPARISON GROUP

Institution	10- year average	Overall Rank
Susquehanna	19.4%	50
Gettysburg	15.5%	88
Dickinson	14.8%	100
Allegheny	13.5%	125
Ursinus	9.1%	191
Elizabethtown	7.4%	222
Juniata	4.3%	297
Dana	1.2%	337

EXHIBIT 5

RESERVE RATIO BY LEVEL OF PRESTIGE

COMPARISON GROUP

Institution	10- year average	Overall Rank
Susquehanna	2.14	82
Ursinus	1.89	98
Gettysburg	1.51	144
Dickinson	1.45	145
Juniata	1.44	150
Allegheny	1.37	159
Dana	0.87	237
Elizabethtown	0.78	252

EXHIBIT 6

CAPITALIZATION RATIO BY LEVEL OF PRESTIGE

COMPARISON GROUP

Institution	10- year average	Overall Rank
Susquehanna	80%	123
Ursinus	79%	137
Allegheny	77%	154
Dana	75%	188
Juniata	74%	201
Dickinson	73%	206
Gettysburg	70%	235
Elizabethtown	59%	318

EXHIBIT 7

RETURN ON NET ASSETS RATIO BY LEVEL OF PRESTIGE

COMPARISON GROUP

Institution	10- year average	Overall Rank
Dickinson	7.9%	126
Susquehanna	7.3%	154
Gettysburg	7.2%	161
Allegheny	6.5%	191
Elizabethtown	6.1%	215
Juniata	5.9%	223
Ursinus	4.3%	298
Dana	1.6%	355

EXHIBIT 8

TUITION DISCOUNT BY LEVEL OF PRESTIGE

COMPARISON GROUP

Institution	10- year average	Overall Rank
Gettysburg	33.7%	205
Dickinson	35.4%	231
Susquehanna	37.3%	255
Elizabethtown	38.2%	266
Allegheny	42.2%	313
Ursinus	47.1%	353
Juniata	47.9%	354
Dana	59.1%	384

EXHIBIT 9

TUITION DEPENDENCY RATIO BY LEVEL OF PRESTIGE

COMPARISON GROUP

Institution	10- year average	Overall Rank
Dana	35.8%	80
Ursinus	41.9%	157
Dickinson	42.4%	164
Allegheny	43.9%	176
Juniata	44.1%	178
Gettysburg	47.4%	220
Susquehanna	49.8%	243
Elizabethtown	50.3%	251

EXHIBIT 10

COMPARISON GROUP

Institution	USN&WR 2011 Rank	Composite Financial Rank
Dickinson	47	172
Susquehanna	114	173
Ursinus	71	181
Gettysburg	47	192
Allegheny	93	207
Juniata	81	232
Elizabethtown	5 *(Regional Colleges-North)*	242
Dana	Tier 2 *(Regional Colleges-Midwest)*	260