FINANCIAL SUSTAINABILITY IN PRIVATE COLLEGES AND UNIVERSITIES; MEASURING RETURN ON NET ASSETS AND ASSESSING BUSINESS STRATEGY

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This dissertation is dedicated to my grandparents, Raymond & Lillian, and Elizabeth & Thurston.

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ABSTRACT

FINANCIAL SUSTAINABILITY IN PRIVATE COLLEGES AND UNIVERSITIES;

MEASURING RETURN ON NET ASSETS AND ASSESSING BUSINESS STRATEGY

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Higher education institutions are facing a challenging operating environment as enrollment declines pressure revenue, inflation pressures budgets, endowment earnings remain volatile, and concerns that fewer Americans see the value of post-secondary education threaten institutions' financial viability. Policymakers and Boards rely on financial ratios to measure institutions financial viability, though there are drawbacks to financial ratio analysis, including that financial ratios are current or historical looking, rather than forward looking. Institutions employ a range of strategies in response to operational challenges, including focusing on market position and the competitive landscape, as well as pursuing revenue diversity, alternative revenue growth and expense management. Institutions have pursued management strategies to counteract conditions of decline including joint ventures, programs, partnerships, mergers, and privatization as well as communication strategies to build a comprehensive campus response to challenges. These strategies are assessed, albeit infrequently, in the context of long-range planning models to guide management decision making – drawing some parallels to scenario planning best practices in corporations. A limited body of research correlates strategy with financial and operating performance. This dissertation addresses measures of financial sustainability in private non-profit academic institutions. An explanatory sequential mixed methods design was used from a pragmatic research view, in which quantitative data was collected, and quantitative results were explained with in-depth qualitative data. Financial data (including IRS 990, IPEDS and Ratings Agency data as well as underlying financial statements) was collected from private non-profit institutions to measure financial sustainability and assess Return on Net Assets of institutions. Interviews with the administrative leadership of institutions which have demonstrated the highest Return on Net Assets from 2004 – 2022 were conducted, to explore illustrative case studies of actionable strategies of progress towards financial sustainability. The results of the study provide a clearer sense of the quantitative and qualitative methods utilized by leadership of academic institutions in making

decisions related to long term financial sustainability and viability. Given the financial pressures facing academic institutions, a clearer understanding of decision-making methods may facilitate strategies for financial sustainability and education policy.

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CHAPTER 1: INTRODUCTION

Summary

The December 2019 publication of the Western Interstate Commission for Higher Education ("WICHE") projections for protracted declines in the number of U.S. high school graduates expected to attend all postsecondary institutions was widely covered in the higher education press as a bombshell for university financial planning (Knocking at the College Door, 2020). Slowing birth rates due to the Great Recession of 2008-2009 have resulted in fewer graduating high school seniors, with a decline in the number of potential post-secondary students beginning in 2026. Slowing population growth is particularly acute in the Northeast and Midwestern United States, and – against the backdrop of slowing global population growth – portents a more limited base of prospective students for post-secondary academic institutions (National Student Clearinghouse Research Center, 2021).

The WICHE publication of projected post-secondary student populations reflects a long-term challenge to the business model of many academic institutions, which are widely acknowledged as dependent on tuition revenue (Bowen, 1981). The foreshadowing of future enrollment challenges is not a new trend in the higher education sector; academic institutions have seen declines in enrollments, with a cumulative decline of 6.6% over the past two years (National Student Clearinghouse Research Center, 2021). In fact, the higher education sector has faced a slowing rate of growth since the 1980's, though only recent years have resulted in declining enrollment levels (Massey, 2013). With future enrollment pressures, demographic declines and slowing birth rates intersecting in 2026, concerns regarding the financial sustainability of the post-secondary higher education sector are present in the minds of many institutions administers and trustees, as well as policymakers (Osterland, 2021).

The potential for population declines to pressure tuition revenues are hardly the only financial concern facing academic institutions. A protracted decline in state funding for public higher education institutions, as well as reductions in tuition grant funding for low-income families, has reduced government subsidies for post-secondary education in many states (Vedder, 2019). These reductions – due to the impact of the Great Recession on state budgets - followed a protracted period of budgetary growth as the

result of increased federal and private research dollars including from the National Institutes of Health (Cole, 2010). This growth resulted in increased institutional fixed costs; the subsequent reduction in state, federal and private funding has resulted in persistent, ongoing budget pressures (Klechen, 2018).

Further budgetary pressures exist from the impact of technology on university operating models. Beginning in 2007, the advent of Massive Open Online Courses ("MOOCs") were expected to result in disruption to in-classroom education and further pressure traditional enrollments at academic institutions (Moody's, 2010). Though the most drastic predictions of institutional closure and disruption did not come to pass (Christenson, 2011) the expansion of online programs as a modality of education required incremental investment, and negatively impacted the financial position of institutions which were not "first movers" and lacked the resources to secure online capabilities. The brokerage of enrollment management contracts with private companies (Online Program Managers, or "OPMs") led to a temporary increase in revenues, but over time, the financial benefit of online education to institutions has faded (Craig, 2015).

These financial pressures were exacerbated by the COVID-19 pandemic, which resulted in severe disruptions to academic institutions and enrollment patterns (Moody's 2021), the long-term implications of which are unknown and outside of the scope of this dissertation and research study. What is clear is that a broad questioning of the purpose of higher education is underway, with lack of public trust in the value of post-secondary education undergoing intense scrutiny (Wall Street Journal, 2024). Recent polling shows that about half of Americans don't want their children to go to a four-year college, a profound shift in opinion (Herichinger, 2021).

A small source of solace that academic administrators, trustees and policymakers can take is that predictions of the higher education sectors demise are not a new phenomena, but a regularly recurring theme which reflects pressures in the underlying business model of academic institutions. Numerous researchers have focused on market position and the competitive landscape (Baltaru, 2022; Craig, 2015; Rhoades, 1995) as well as pursuing revenue diversity (Le, 2021; Besana & Esposito, 2015; Kasperski & Holland, 2013), and alternative revenue growth (Duderstadt, 2005; Parker, 2012; Genone, 2023; Lundy & Haven, 2023) as well as expense management (Christenson, 2011).

While there is a significant amount of research and public comment regarding the challenges facing academic institutions, there is limited research regarding what strategies make academic institutions financially sustainable. Despite an ever-growing list of qualitative and policy recommendations regarding evolving pathways for new models of educational delivery, there are few quantitative methodologies measuring financial sustainability and even fewer case studies illustrating effective financial strategy deployed to achieve broader financial stability and viability. Using a mixed methods research approach, this dissertation examines quantitative data through the lens of financial ratios and financial statistics to identify institutions which have seen the highest Return on Net Assets during the study period. Quantitative data reflecting key measures of business operations are reviewed for institutions which have demonstrated the highest level of Return on Net Assets during the study period. A qualitative case study approach was used to identify what specific management, financial and market strategies have led to strong sustained financial condition.

Justification of the Research and Audience for the Research

Higher education is central to the public good and economic mobility, and academic institutions' governing boards, senior administrators, and faculty (as well as government regulators, policy makers, and financial stakeholders including ratings agencies and investors) are grappling with an increasingly challenging operating environment. Specific management practices and strategies that have resulted in strong academic institutions' financial positions may have applicability for individuals in control positions over colleges and universities. Given the limitations of existing methodologies and research, identifying actionable strategies that can shift institutions' financial trajectory towards long term viability provides value to this broad audience.

The research provides a review of key financial methodologies, including quantitative financial ratio analysis, that can be adopted to provide forward looking views of an institution's financial trajectory. Further, the research provides case studies - including interviews with administrators and trustees of academic institutions which have become more financially viable - that speak to both the "what" and "how" of implementing business strategy in an academic context. Governing boards and senior administrators

striving for financial sustainability will benefit from real examples of institutions achieving high levels of financial performance. The methodology and case studies can help propel strategic decision making towards long term sustainability, despite ongoing operational pressures.

Research Questions

This study will address measures of financial sustainability in private non-profit academic institutions and address a number of research questions, including but not limited to:

1. What private, non-profit higher education institutions achieved the strongest financial performance over a eighteen-year period (from Fall 2003 to Fall 2021, or fiscal year 2004 to fiscal year 2022) as measured by the highest, average performance of the financial ratio *Return on Net Assets* as defined and reported by Moody's Investors Service.
2. For institutions which demonstrated the strongest financial returns over this period, to what degree was that strength associated with specific key business measures, including:

    a. Growth in *Operating Revenue* as reported to Moody's Investors Service
    b. Growth in Enrollment, as measured by *Full Time Enrollment (FTE)* growth, as reported to Moody's Investors Service
    c. Change in Revenue Diversity, as measured by *Tuition and Auxiliaries (e.g. housing revenue) as a % of Total Revenue* as reported to Moody's Investors Service
    d. Improvements in Profitability, as measured by *Operating Margin* as reported to Moody's Investors Service.
    e. Investment Growth, as measured by *Total Cash & Investments* as reported to Moody's Investors. Service

3. Of the institutions identified as demonstrating the strongest financial returns over the eighteen-year period, were there any intentional financial / business strategies employed?

The first and second research questions will be addressed quantitatively; the third research question will be addressed qualitatively through interviews with the administration of institutions which demonstrated a high level of financial performance. Five institutions across different institutional types (e.g. institutions representative of Carnegie Classification categories including Doctoral Universities, Masters Colleges and Universities, and Baccalaureate Colleges) will be utilized.

Though the study will address the specific research questions delineated above, a broader range of quantitative considerations were assessed in reviewing the financial position of each institution included in the qualitative component of the study. These included addressing broader trends in financial ratios and trends (e.g., enrollment, revenue, expense, and net income). Additionally, reviewing the financial position of institutions included in the qualitative component of the study will afforded the opportunity to review if institutions have undertaken a transformational transaction outside of the normal course of business operations – for example, monetizing an asset such as non-core infrastructure or patent holdings, acquiring another academic institution, or issuing long duration debt in the form of a century bond.

The focus of the qualitative component of the mixed methods study was to identify – for institutions where quantitative measures of financial standing have seen high performance - has there been an articulated financial strategy (e.g. a campus master plan, strategic plan, or other institutional policy)? To address this specific research question, a wide range of considerations were assessed through discussion with key administrators, interrogating the strategy through a range of topics. This included reviewing the institution's strategic and financial plan and exploring how that plan evolved and developed over the eighteen-year period. Understanding the budgeting and financial planning process at the institution was important, as was identifying to what extent financial ratios used in regular board and management reporting and the composition of the decision makers who were involved in the planning process.

The study was particularly focused on the extent to which the administration and board utilize rating agency metrics in assessing financial position, as well as if other quantitative measures of financial position (e.g. the Composite Financial Indicator "CFI" score, the Department of Education Financial Responsibility Composite Score,) or other ratios measuring the cost structure of the institution relative to peers are

incorporated in the planning process. Assessing these factors are adjacent to understanding how institutions assess the risk of financial markets and the broader macroeconomy, as well as institutions competitive position in the market.

Finally, in addressing the third research component through the qualitative component of the study, understanding the use of forward-looking forecasts and scenario modeling and contingency planning was a key focus. If the institution utilizes scenario modeling in the context of forward-looking financial forecasts, understanding the specifics of the scenario planning process – from the software utilized, to the frequency with which scenarios are run, to the methodology utilized to review key revenue streams – was essential in providing insight into the context within which strategic decisions were made, resulting in financial improvement.

Research Problems

Notwithstanding the wide range of research, no consistent measure of forward financial viability for academic institutions exists, and there is little to no literature commenting on the use of financial ratios as a management strategy, or the use of financial ratios to measure the efficacy of management strategies in either a steady state or turnaround environment. There is also an absence of case study literature regarding specific management strategies employed by academic institutions, framed against financial ratios.

While, on occasion, management strategies are assessed in the context of long-range planning models, this occurs infrequently, and is often impeded by the organization's focus initiating the next strategic plan, rather than assessing if a prior strategic plan resulted in success. These challenges are further exacerbated by turnover in management, which occurs frequently at the presidential and vice-presidential level in academic institutions, as well as turnover at the board level, resulting in inconsistent continuity of governance (a unique feature in non-profit corporate structures, when compared to for-profit entities which are governed by shareholder interests) (Cohen, et, al., 1972). Most often, methodologies are applied retroactively to identify areas in which risk factors which were present could have predicted financial stress and closure (Hatfield, 2016; Sherman, 2016). There is some analytical work related to the impact of

financial responsibility scores on institutional behavior (Kelchen, 2018), which suggests that ratios provide meaningful feedback to administrators and board members, but does not specify the analytical value of the ratios as a predictive measure of financial performance.

While there is a significant amount of research and public comment regarding the challenges facing academic institutions, with a large number of qualitative and policy recommendations regarding evolving pathways for new models of educational delivery, there is relatively little research reviewing quantitative methodologies measuring financial sustainability and even fewer case studies illustrating effective financial strategy deployed to achieve broader financial stability and viability. This dissertation addresses the limitations of the existing literature and research in the field, first by focusing on one measure of financial performance (Return on Net Assets) and exploring the relationship between that ratio and business operation measures. This provides feedback on the utility of one ratio to measure financial improvement, as well as points to broader business strategies which drove financial growth. Second, the qualitative component of the research study points to how business strategies were conceived, operationalized and measured by the administration and boards of instiuttions.

The Return on Net Assets ratio is not a forward-looking measure of financial sustainability. This initial research study lays the groundwork for future exploration of how this single key ratio can be incorporated into financial analysis forecasting an institution's trajectory over time. This type of forecasting can address the length of time an institution has to enact change in trajectory. This research study ascertains the efficacy of the Return on Net Assets ratio, as well as identifies business strategies that have led to the ratios improvement, which is an initial step to addressing the broad, significant question of how academic institutions can achieve greater financial sustainability.

Significance of the Research

A number of researchers have worked to develop different measures of financial standing. David S. Hopkins and William Massy (1981) were among the first scholar / practitioners to provide a comprehensive overview of the theories influencing long range planning models for academic institutions

with the publication of their seminal text *Planning Models for Colleges and Universities,* but while they advanced methods to prepare long term projections, they did not incorporate benchmarking or ratios to guide strategic decision making. Kent Chabotar (in 1989) was critical to the development of applicable financial metrics from for-profit corporate finance to non-profit higher education with the creation of the current ratio, the quick ratio, and the available funds ratio. A core measure of financial viability evolved from Chabotar's ratios – the Composite Financial Index ("CFI") which was developed over seven editions of the published Strategic Financial Analysis for Higher Education published by a collaboration of KPMG, Prager Sealy and Attain. (Prager, Sealy & Co, 2017). This measure of financial viability is limited in that it does not provide a forward-looking view of financial sustainability, and does not incorporate non-financial measures (e.g., strategy or strategic position) into the measures of financial viability. Other researchers – including Charles Clotfelter (1996) and Richard Vedder (2019) have focused on the determinants of rising costs, including the acceleration of overhead spending, but have not incorporated these cost measures into forward projections, or included recommendations on how costs can be contained.

Organization of the Research

An explanatory sequential mixed methods design was used from a pragmatic research view, which involved collecting quantitative data first and then explaining the quantitative results with in-depth qualitative data. In the first quantitative phase of the study, financial data (including IRS 990, IPEDS and Ratings Agency data as well as underlying financial statements) were collected from private non-profit academic institutions through public and private databases to test measures of financial sustainability and assess their relationship to existing measures of financial standing.

The second qualitative phase was conducted as follow up to the quantitative results. In this exploratory follow-up, the researcher interviewed the administrative leadership of institutions which demonstrated financial sustainability, to providing illustrative case studies of actionable strategies.

Limitations of the Research

The limitations of the research included maintaining objectivity, given potential points of intersection between the researcher and those interviewed, as well as the credibility of the broad generalizations made from the small sample of institutions explored during the case study. Additionally:

- Not all private, non-profit colleges and universities were reviewed for this study, given limitations on availability of consistent financial data during the reporting period.
- There were limitations specific to IPEDS data related to the reporting of missing data fields. Data reported to the National Center for Education Statistics and the Department of Education is often incomplete, with missing data variables coded as “0”.
- There are inherent limitations to the use of the collection of data by others than the researcher, as the researcher does not have any control over the data collection process (Creswell, 2013).
- The data may be inaccurate or unreliable (Creswell, 2013).

CHAPTER 2: LITERATURE REVIEW

Introduction

Higher education institutions in the United States face an increasingly challenging operating environment as enrollment declines pressure net tuition income, operating budgets escalate, endowment earnings remain volatile, and concerns that fewer Americans see the value of post-secondary education along with demographic shifts threaten institutions' viability.

A key challenge faced by academic institution is slowing population growth. On a national and state basis, the number of high school graduates is projected to slow following 2025 due to the "birth dearth" resulting from the Great Recession. Fewer graduates are expected in every successive high school class from 2026 to 2037; the graduating class in 2037 is predicted to equal the graduating class in 2012, and almost an 11% decline in graduates is expected from 2025 through 2037. These graduates are distributed unevenly nationally; the Southern region is projected to have robust graduate production, while the Midwestern and Northeastern regions will have declining or stagnate graduation numbers (Western Interstate Commission for Higher Education, 2020). These demographic challenges are coupled with shifts in consumer preference and changes in types of degrees pursued; recent National Student Clearinghouse Research Center data reflects undergraduate enrollment in bachelor's degrees falling more steeply than associate's degrees (1.4% decline vs. 0.4% decline for Spring 2023). Further, private non-profit four-year institutions have continued to see year-over-year enrollment losses, falling -0.2%, -0.4%, -1.2% and -1.0% in Spring 2019-2023, more than any other category of institution (National Student Clearinghouse Research Center, 2023). Two successive years of enrollment declines post-pandemic have challenged previously held notions that enrollments run counter-cyclical to unemployment rates, and impacted less selective institutions (Osterland, 2021). This enrollment pressure intersects with a long run-up in the cost of higher education, in particular elite higher education. From 1977 to 1992 the costs at three research universities (Duke, Chicago, and Harvard) and an elite liberal arts college (Carleton) increased, due not to increased faculty salaries, but due to paying for new student services and investments in new facilities (Clotfelter, 2016); these expenditures fueled a broader "arms race" across the higher education sector. In aggregate, expenditures by all 3,400 colleges and universities in the United States totaled $164 billion in 1991,

reflecting a 3.4% annual increase for the period between 1979 to 1988 for private institutions. This increase in expenditure was matched by rapid increases in tuition (4.5% annually for private institutions for the period following 1980), posing challenges for affordability (Clotfelter, 2016). A detailed quantitative analysis of the economics of private university cost structures from 1979 to 2011 reflects that expense base escalation has occurred in focused areas, specifically administrative overhead, costs associated with the construction of student housing, and expenditures on athletics programs (Vedder, 2019). The combined forces of escalating costs and slowing demand pose an acute challenge for academic institutions, in particular non-elite private colleges and universities in areas with slow or declining demographic growth.

There is a long history of concern regarding financial challenges facing the higher education system, and theories for the root cause of instability of the sector reflected in the conflicting priorities of institutional mission and margin. Howard Bowen's revenue theory of cost stipulates that there is "no limit to what higher education institutions are willing to spend' and that they will raise the necessary funds to pursue these goals and remain competitive (Bowen, 1981). Under this theory, there is no constraint to curb institutional expenditures, and institutions will effectively spend whatever resources are available. Further, many academic institutions function as "donative commercial non-profits" with a revenue seeking strategy driven by sourcing funds from successful alumni (Winston, 1997); under this construct, institutions compete in a market to attract students of the highest academic quality – and provide subsidies (tuition discounts) to obtain these future dollars – sacrificing current tuition revenue for hypothetical future donor dollars (Winston, 1997). This strategy at times leads to financial instability and conflicts in governance. Beginning in the 1970's higher education administrators have been concerned with conditions of decline and industry pressure (Hopkins, 1981). In particular, the financial struggles of undercapitalized and smaller higher education institutions are not new, including the use of strategies for institutional turnaround or merger as an alternative to financial exigency and closure (Cowan, 1993). The threat of institutional closure and financial pressure is not expected to subside in the current environment due to demographic pressures in enrollment, business pressures as the sector emerges from COVID-19, and ongoing fluctuations in financial markets and the macroeconomy.

Apart from tuition revenue, fluctuations in and dependence on endowment payouts poses a risk to the operating model of academic institutions (Spence, 2002); endowment payout is not the total amount of investment income, but the percentage spent during any given year; academic institutions typically target between 4.0% to 4.5% subject to a multi-year spending rule (Ehrenberg, 2000), however, fluctuations in endowment earnings can place pressure on operating budgets. In a study examining the strategies used by 20 private colleges and universities to respond to the 2007 – 2009 Great Recession – a period during which endowment values declined due to turbulence in equity and capital markets - institutions responded with budget cuts, reductions in academic programs, and layoffs (Dorantes & Low, 2016). Market volatility poses an ongoing challenge to stable operations, despite the broad adoption of endowment spending policies and payout formulas intended to limit the impact of declining investment spend (Anguiano, 2013).

Finally, United States university pre-eminence and research funding - which comes from a range of sources including government (Federal and State) grants, foundations, and corporations – faces pressure from the emergence of global competition, evolving technologies, inadequate investment, and the absence of a broad national strategy (Duderstadt, 2002). This places pressure on the ongoing availability and reliability of grant revenue from state and federal sources.

In the face of these economic and financial challenges, policymakers and boards rely on financial ratios to measure institutions' financial viability. The development of financial indicators - including ratios - in the 1970's was part of a broader effort to slow decline in higher education institutions, in the face of warnings regarding the challenges the higher education sector faced from thought leaders including Gordon Gee and Clay Christenson (Kelchen, 2028). Financial ratio analysis allows for the measurement of past performance, and for comparative assessment of institutions across institution type and size. Initially introduced into higher education management and financial dialogue in 1976, key financial ratios are utilized to evaluate effectiveness, efficiency and provide accountability in higher education (Chabotar, 1989). The categorization of institutions by size and scope of operations (the Carnegie Classification categories of Doctoral Universities, Masters Colleges and Universities, Baccalaureate Colleges, and Baccalaureate Associate's Colleges) further provides relevant groups for the comparison of institutional operating performance (Carnegie Foundation for the Advancement of Teaching, 2001). Both categorization and

financial ratios allow for comparative analysis of operations, including of institution cost structures (Brinkman, 2017). Research utilizing financial ratios also provide for key measures of financial distress in institutions which have failed, when reviewed retroactively (Schipper, 1977) and correlates to research on conditions of decline in academic institutions (Cameron, 1983). Financial ratios are also commonly utilized in analysis of creditworthiness in capital markets underwritings, often in conjunction with the issuance of a ratings agency assessment, in accordance with pre-established methodologies (Moody's 2021). For institutions with significant endowments and financial wealth, ratios may also be utilized to assess investment risk, as well as the volatility of investment income (Cole, 2010; Kutz, 2009; Townsley, 2002).

There are drawbacks to financial ratio analysis, including that financial ratios are current or historical looking, rather than forward looking. The use of financial ratios in assessing financial sustainability has limitations, with three areas of challenge: first, non-standard recording practices that limit the ability to make comparisons, second, resource inflation that distorts ratios over time, and third, the use of qualitative terms as ratios change over time (DiSalvio, 1989). Additionally, accounting treatment of certain items lacks uniformity, for example, the treatment of contingent liabilities, or commitments for major plant additions. Further, valuing assets at market value is difficult, especially with fixed assets (e.g., land or buildings) which are valued based on the original or purchase price vs. the current market value. In research from the Journal of Education Finance, the challenges support the conclusion that "the information currently available in the field of higher education does not systemically address these limitations" (DiSalvio, 1989).

The use of ratios and long-range plans to guide management decision making draws parallels to best practices in corporations especially as it relates to scenario planning. Financial forecasting is an often-utilized tool in the economic and business world, this despite a body of empirical evidence showing that accurate forecasting in the economic and business world is usually not possible, as statistically sophisticated, complex, models fit past data well but do not necessarily predict the future accurately (Makridakis et al 2009). Forecasting, another commonly utilized business tool, has been quantitatively proven to be similarly challenged with respect to accuracy, largely as forecasts are predicated on the assumption that future market conditions will parallel historical conditions. According to forecasting researchers, sooner or later forecasts will fail when they do not anticipate major shifts in the business

environment (Wack, 1985). To develop effective scenarios requires the engagement of top and middle managers, as well as perception of the business environment (Makridakis et al 2009).

The challenges associated with accurate comparative analysis of institutions financial performance are not unique to higher education in the United States, and international research reflects a focus on measures of revenue diversity. While ratios assessing financial viability of Australian universities find some correlation with revenue diversity, it is difficult to generalize to the broader university system in the continent, reflecting the limitations of the ratios (Irvine & Ryan, 2019). Vietnamese public universities have demonstrated revenue seeking capabilities in pursuit of financial viability (Garland, 2020) while using management tools including the Hirschman-Herfindahl Index to estimate their financial sustainability (Le, 2021); and institutions in the United Kingdom utilize limited forward scenario modeling to demonstrate financial viability in response to regulatory requirements associated with the receipt and stewardship of public funds (Cropper, 2021). This literature reflects the broad use of ratios in shaping management strategy, as well as the limitations of this approach.

The literature outlining financial analyses and management strategies specific to higher education can be grouped into four categories:

1. The use of ratios and metrics to quantify an institution's financial position,
2. The use of ratios, rankings, and metrics to quantify an institution's position relative to competition,
3. Management strategies to improve an institution's financial position, for example, the use of planning models to optimize resource allocation; and,
4. Management strategies to improve an institution's market position relative to competition.

Ratios Quantifying Financial Position

A financial or accounting ratio reflects the relative magnitude of selected numerical values taken from an institution's financial statements and is useful in evaluating the financial condition of an institution as well as providing a basis for comparing institution's financial performance. The use of financial ratios is widely considered a best practice in measuring an academic institution's financial position (Chabotar, 1989;

Moody's 2021; Prager, 2017), and a wide range of financial ratios are utilized to highlight measures of liquidity, profitability, and financial flexibility. These ratios factor into administration and board decisions regarding financial and operational strategy, though their efficacy can be called into question (DiSalvio, 1989). Ratios are commonly grouped into measures of profitability, financial flexibility and liquidity.

Liquidity ratios include days cash on hand, cash to debt, and the primary reserve ratio, which measure the ability of an institution to sustain operations. The primary reserve ratios is specifically defined as the ratio of expendable net assets to total expenses, and would be calculated as the sum of unrestricted net assets, temporarily restricted net assets, less net property, plant and equipment and plus long term debt (divided by total expenses). Liquidity is different than asset value (e.g., the size of an institution's endowment) as it reflects the ability of assets to be converted to cash and cover operating expenses (Moody's 2021). The importance of liquidity was highlighted during the financial crisis in 2008 – 2009, when institution's endowment losses ranged from 20-40%, and were especially severe for institutions which had long-dated private equity investments (with lock up provisions) which were illiquid (Cole, 2010). These liquidity challenges resulted in institutions drastically reducing expenses to remain viable, with even Harvard being forced to lay off employees, reduce salaries, and cut expenses, despite an endowment of $25 billion (Kutz, 2009).

Profitability ratios include operating margin, net income ratio, and change in fund balance (Moody's 2021). The net income ratio is defined specifically as the change in unrestricted net assets divided by total unrestricted revenue, with total unrestricted revenue defined as unrestricted revenue and gains, plus net assets released from restriction, plus unrestricted investment return in excess of the endowment spending rate (Moody's 2021). There is quantitative research suggesting that current fund measures for non-distressed colleges are usually constant or follow a smooth trend, while these measures for distressed colleges increase and decrease one or more times – implying that the current fund balance is an effective measure of private college financial sustainability (Shipper, 1977). Surpluses help universities compete nationally and internationally (as they enable universities to make investments), allow universities to settle unforeseen adverse circumstances, and can be used to meet student expectations and demands even

during periods of financial hardship. This measure of financial sustainability is identified as one of the key financial indicators of universities financial position (Baltaru, 2022).

Financial flexibility ratios - as measured by the ratio of unrestricted net assets to total assets, or the equity ratio (Moody's 2021) – are an important measure of financial position as they reflect the ability of an institution to deploy assets. Research has shown these ratios to be inversely correlated to cost efficiency and long-term financial viability, as institutions with high levels of donor restrictions have lower overall growth in costs. (Mensah & Werner, 2003).

These categorical ratios are viewed by financial analysts, regulators, and administrators; the ratios can be viewed independently, though are often combined to provide an indicative score of financial stability. For example, the primary reserve ratio, net income ratio, and equity ratio are combined by the Department of Education to create a single Financial Responsibility Composite Score reported on all institutions which receive Title IV funding (United States Department of Education, 2021). Ratios are combined in specific methodologies by ratings agencies (Moody's Investors Service, Standard & Poor's, FitchRatings, and Kroll, among others) to provide a single categorical rating of creditworthiness (Moody's, 2021). Finally, the Composite Financial Indicator ("CFI') score – designed by KPMG and Prager, McCArthy & Sealy based on experience working to analyze the financial condition of clients – combines key ratios to produce a single indicative score. These three examples of combining ratios to provide a single indicator (the Financial Responsibility Composite Score, a rating agency credit rating, and the CFI Score) are highly relevant to understanding the credit trajectory of an institution based on historical data, though their methodologies do not provide forward looking measures of viability. A review of the exact computation of each of these indicative scores is provided below.

Department of Education Financial Responsibility Composite Score ("FRCS") Data is prepared by the Department of Education, which requires all non-profit private and proprietary academic institutions that participate in federal student aid programs to provide audited financial statements to the Department, which are the basis for a Department calculated Financial Responsibility Composite Score. The computation of the FRCS reflects a three-prong calculation derived from the following financial ratios, specifically:

- The Primary Revenue Ratio,
- The Equity Ratio, and
- The Net Income Ratio

The Department calculates the FRCS on a range between -1 to 3.0, with 3.0 being most financially responsible; this metric provides a single measure of financial position in a given fiscal year. The Department uses this measure as a mechanism of regulatory enforcement, with institutions scoring below 1.5 being subject to further financial scrutiny related to the release of Title IV funds (Heightened Cash Monitoring) and institutions scoring below 1.0 being subject to a requirement to provide financial surety to the department in the form of a bank Letter of Credit for the amount of Title IV funds received annually. (U.S. Department of Education, 2021)

Credit Ratings, specifically those of Moody's Investors Service, are a further data set to be considered. There are ten Nationally Recognized Statistical Ratings Organizations ("NRSRO"), four of which provide quantitative and qualitative measures of higher education institution's abilities to repay liabilities, as measured by a single credit rating, those being Moody's Investors Service, Standard & Poor's, FitchRatings and Kroll Ratings. While the nomenclature of credit ratings varies by each agency, the agencies rate institutions on a seven-tiered scale ranging from "Aaa" (highest, investment grade) to Ca (lowest, junk) with intermediate tiers (i.e. Aaa, Aa1, Aa2, Aa3) and with different outlooks (i.e. positive, stable, negative).

In assigning these credit ratings, each agency employs its own rating methodology which assesses sector-specific credit factors in "rating" an academic institution. Of the ratings agencies, Moody's Investors Service provides the broadest universe of rated academic institutions (as of April 2022, rating 249 non-profit private colleges and universities). Moody's Higher Education Methodology was updated in August 2021, and provides a scorecard with qualitative and quantitative factors used to assess the credit rating of an academic institution (Moody's, 2021), these being:

- Scale (15% of the scorecard weight), as measured by an institution's adjusted operating revenue;

- Market Profile (20% of the scorecard weight), as measured by an institution's Brand and Strategic Positioning (10%) and Operating Environment (10%)
- Operating Performance (10% of the scorecard weight) as measured by an institution's EBIDA Margin
- Financial Resources and Liquidity (25% of the scorecard weight) as measured by an institution's total cash and investments (10%) and the ratio of total cash and investments to operating expense (15%)
- Leverage and Coverage (20% of the scorecard weight) as measured by the ratio of total cash and investments to total debt (10%) and annual debt service coverage (10%), and
- Financial Policies (10%)

Beyond the scorecard assessment, Moody's tracks a wide range of higher education data, which is reported on an annual basis. Of relevance is Moody's release of an annual review of an academic institution's credit, having assessed financial performance for the previous fiscal year. The majority of private, non-profit academic institutions operate on a June 30 fiscal year basis, meaning that the financial impact of fall enrollment is reflected in the next calendar year (i.e. Fall 2014 enrollment would be reflected in the June 30, 2015 financial statements).

The Composite Financial Index is a further essential ratio. Kent Chabotar – the former CFO of Bowdoin College – was critical to the development of applicable financial metrics from for-profit corporate finance to non-profit higher education. Chabotar's research developed ratios in three key areas which would serve as a early warning system for financially challenged academic institutions; these ratios were focused on net operating results, liquidity, and debt capacity. Specific liquidity ratios of focus include the current ratio, the quick ratio, and the available funds ratio; debt capacity is measured through the debt-equity ratio and the debt service ratio; and net operating results are measured through the net operating results ratio (Chabotar, 1989). These ratios are the pillars of both the Moody's quantitative scorecard (detailed above) and the component ratios calculating the Composite Financial Index. The development of these ratios in 1989 proceeded the adoption of uniform standard accounting practices by non-profit organizations.

Evolving from Kent Chabotar's ratio analysis (Chabotar, 1989) – the Composite Financial Index ("CFI") which was developed over seven editions of the published Strategic Financial Analysis for Higher Education published by a collaboration of KPMG, Prager Sealy and Attain. The CFI utilizes four ratios (Primary Reserve, Viability Ratio, Return on Net Assets Ratio and Net Operating Revenue Ratio) to provide a calculation of financial viability on a scale ranging -3.0 to 9.0 – with the intention of providing guidance on measures an institution should take at each threshold (Prager, Sealy & Co, 2017). The four component ratios are:

- Primary Reserve – a measure of the level of financial flexibility, with a weight of 35%;
- Net Income Ratio – a measure of operating performance, with a weight of 10%;
- Return on Net Assets – a measure of overall asset return and performance, with a weight of 20%, defined as change in net assets divided by total net assets; and
- Viability – a measure of the organizations ability to cover debt with available resources, defined as the ratio of expendable net assets to long term debt, with a weight of 35%

The ratios are calculated and combined with their strength measures, resulting in a score for each component ratio, each of which are added to comprise the CFI (Prager, 2017). There are recommended levels for each ratio; for example, it is recommended that the Return on Net Assets ratio maintain a level of 3-4% above inflation, so that institutions can sustain unexpected fluctuations or one-time financial events. Likewise, it is recommended that the Viability Ratio maintain a score of 1.25 or greater, as a score lower than 1.25 implies that an institution is overleveraged and has taken on too much indebtedness. The CFI score ranges from -1 to 10, with guidance provided on measures institutions should take at each threshold. For the lowest score measures (-1 to 3), the model recommends an institution assess the viability of survival, reengineer the institution, or direct resources towards transformation. For scores from 4 to 8, the institution is recommended to direct resources towards transformation, and focus resources to compete. For scores of greater than 8, the objective is to achieve a robust mission and consider expansion of the institutional mission (Prager, 2017).

Despite the relevance of these ratios to assessing financial viability, the use of ratios as a management tool is limited, with wide variations in the level of sophistication of financial modeling and of

approaches taken (Cropper & Cowton, 2021). There are ample examples of historical looking measures of financial viability, including the retroactive application of methodologies to failed institutions to identify "tipping points" in their financial trajectory; this includes the development of Higher Education General Information Surveys and viability grades (Gilmartin, 1984). These methodologies tend to be categorical, rather than quantitative; for example Gilmartin's research retroactively grouped 1,509 public and private colleges and universities into viability categories based on the presence of at least two of five factors (defaulting on a loan, closure, enrollment decline, decrease in salaries, and a negative or decreasing fund balance), but did not rely on financial ratios or forward looking measures to assess when institutions reached a financial tipping point (Cowan, 1993). Beyond the challenges associated with the use of ratios is the planning capacity of many academic institutions; most colleges and universities are not set up with a strategic planning capacity, as they are focused on operations rather than strategy, therefore most changes occur during a crisis (Kotler and Murphy, 1981). Many planning methodologies are focused on budgeting and scheduling (short term processes) which are different than strategic planning. Broader research on these ratios has shown that the current fund measures of non-distressed colleges are smooth or follow a constant or smooth trend, whereas the measures for distressed colleges increase and decrease multiple times (Schipper, 1977). This research has been employed in the creation of a National Income Diversification Index for publicly funded, generalist universities in England, with the objective of assessing financial viability (Garland, 2020). Even broad strategic planning initiatives across the higher education sector have had inconsistent results and have been abandoned over time – for example, efforts beginning in the 1970's by the National Center for Higher Education Management Systems (Townsley, 2002). These limitations are reflected in the literature, and illustrate a broader challenge with quantifying the forward financial position of a university's financial performance.

Ratios and Rankings Quantifying Market Position

An institution's comparative position in the market is an important signifier of quality and drives financial viability, as institutions with stronger market positions are successful in attracting students, donations, and grant revenue. Examples of market position ratios and rankings include those utilized by

U.S. News and World Report, the Hirschman–Herfindahl Index, the Times Higher Education Index, and other measures. Research demonstrates that rankings exacerbate, rather than alleviate, resource inequalities between universities with historically consolidated reputations (elite universities) and all other non-elite universities (Baltaru, 2022), which emphasizes the importance of achieving a high ranking relative to competing institutions. Research further illustrates that open markets for higher education reinforce any inequality that exists in the system – i.e., the strong get strong while the weak get weaker (Altbach, 2002).

A range of qualitative and quantitative measures are used to determine market position and link to the "value" of education. Ryan Craig's research identified four "R's" that define the market position of most institutions (research, rankings, real estate and "rah!"/sports), while demonstrating that for many students attending non-elite institutions, the "four R's" offer poor value for the expense associated with college education (Craig, 2015).

A more rigorous measure of market position is the Hirschman–Herfindahl Index ("HHI") which has been widely employed to measure the degree of diversification of financial revenue of organizations, ranging from the private sector to the public sector. The HHI was first introduced to measure the concentration or inequality of trade and industry. Specifically, the HHI is calculated as the sum of the squares of the market shares of each firm participating in a certain market (Rhoades, 1995). Universities are now more active in seeking sources of revenue other than public funding. In a study of universities in Vietnam, the degree of financial diversification was determined as a measure of the health or sustainability of higher education institutions (Le, 2021). Research regarding the use of this market position measure by institutions in pursuit of a strategy for financial sustainability does not exist, which is noted as a deficiency in the literature.

Management Strategies to Improve Financial Position

Institutions pursue a number of management strategies to improve their financial position, and there is a wide range of research regarding both the types of strategies utilized and the efficacy of their deployment. These strategies include pursuing revenue diversity, achieving growth in alternative

revenues, and expense management among others. These strategies are often summarized in a strategic financial plan (Townsley, 2009), which typically has the following component parts:

- A SWOT analysis, providing identification of internal strengths and weaknesses, and external threats and opportunities;
- An analysis of risks that are currently facing the institution;
- An identification of strategic options and alternatives to eliminate and manage risks;
- A plan to execute strategic options and monitor progress towards institutional goals; and
- Data regarding institutional financial position, markets, academic programs, tuition and tuition discount levels, financial policies, and other market considerations related to the financial and strategic operating position of the institution.

Townsley's research concludes that the success of a financial plan is directly related to administration and boards understanding critical factors such as enrollment and competition that shift financial outcomes.

Approaching revenue diversity utilizing portfolio management theory is a common approach, in that institutions will pursue a more balanced reliance between income from teaching, research, third-stream activity, public funding, and investment income. Research has demonstrated that this approach leaves institutions is less vulnerable as all sources of income are not likely to be challenged at once (Besana and Esposito, 2015), with income diversity being highly correlated with financial viability (Irvine and Ryan, 2019). In a 2012 study of not-for-profit universities financial results, statistical research demonstrated that solvency is connected to revenue diversity, and that non-profits which rely solely on donor's dollars experience financial challenges when the economy worsens. (Besana and Esposito, 2015). The concept of revenue diversity is clearly established across multiple areas of financial research, ranging from corporate strategy to commercial fishing (Kasperski & Holland, 2013); concluding that there is "a dome-shaped relationship between the variability of … income and income diversification, which implies that a small amount of diversification does not reduce income risk but that higher levels of diversification can substantially reduce the variability of income".

Adopting a broadly defined commercial approach to the market is another commonly discussed management strategy adopted by academic institutions - which is not limited to institutions in the United States – as universities internationally have encountered in a climate of government withdrawal from direct investment in areas of social welfare (Parker, 2012). This has resulted in a more globalized approach to education, with institutions seeking international students outside the home country and (in some cases) opening international campuses. In 2001 the OECD estimated that globally, 1.65 million students were studying at universities outside their country of origin, over 70% being educated by universities in the USA, UK, Australia, Germany and France (Altbach, 2002) The internationalization of higher education is one component of a broad range of commercial approaches defined in the literature, including:

- Charging fees for student tuition
- cultivating sources of gifts and benefactions (e.g. alumni)
- establishing joint venture research programs with corporations
- establishing named and endowed professorships
- undertaking contract research
- pursuing external research grants
- securing sporting program sponsorships
- building or acquiring commercialised research and technology companies
- sponsor naming building and facilities
- patenting and licensing research discoveries
- selling university badged products and services
- profit sharing with on-campus enterprises
- expanding executive, adult education and other lucrative fee-paying markets
- developing of on-shore and off-shore international fee-paying student education programs

(Berman et al, 1998; Gumport, 2000; Parker, 2012). This research is further supported by recent survey data from E&Y Parthenon (a consultancy) which conducted outreach to a wide range of public and private institutions in the United States regarding their efforts to expand alternative revenues and pursue a portfolio approach to developing new revenue generating alternatives (Lundy & Haven, 2003). The survey results supported the conclusion that new revenue generating activities which leverage an institution's core assets (including physical resources) tend to generate the greatest operating margin.

Apart from seeking diverse revenue, a significant management strategy is pursuing diverse learning structures and different "modalities" for teaching – including low residency, online and hybrid alternatives as well as asynchronous courses and hyflex courses. As addressed by the creators of the Minerva Project – an innovative, new institution with a predominately online learning platform:

> *The transition to hybrid learning is becoming a necessity. As a new frontier, it provides a rare opportunity to bring about systemic improvements to the learning experience that higher education institutions frequently avoid. Institutions that focus on educational quality when undertaking hybrid transformation can enhance the value of their offerings, their brands, and the credentials they provide. At a time when enrollments are dropping and public opinion of higher education is in decline, adopting high-quality hybrid learning is an opportunity to counteract this prevailing narrative.* (Genone, 2023).

Separate from management strategies to diversify revenue, institutions have pursued cultural shifts (termed "corporatization"), such that the organization culture of an institution (management, values and practices) more closely resembles that of a for-profit corporation (McClure, 2019). This is reflected in management practices, strategic plans and operational policies developed by private and public institutions and is reflected in the growth of administrative expenditures and increase in number of administrators working at higher education institutions (Vedder, 2019).

Further, institutions have pursued management strategies to counteract "conditions of decline" (Cameron, 1983), including joint ventures, programs, partnerships, mergers, and privatization, as well as communication strategies to build a comprehensive campus response to challenges. James Martin and James Samels research into effective management strategies for leading stressed institutions acknowledges that most private institutions operate very close to the margin, and that (when excluding investment returns) small institutions had operating deficits for three of five years in a survey of financial

performance from 2000 to 2004 (Martin and Samels, 2013). This operating pressure is particularly acute for organizations which are 85% or greater dependent on tuition for revenue. This small margin, when coupled with volatility in external market conditions, limits the length of runway academic institutions have to confront financial challenges. These factors point to the significance of organizational strategy in determining the trajectory of institutions, and is a driver of financial results (Miles, et al 1978).

Decreasing returns from endowments, a decrease in family contributions to cover the cost of higher education, a decline in traditional enrollments, a decline in return from endowments and increasing costs in the 1980's prompted a shift in management strategies. Managing academic institutions finances in conditions of decline, rather than growth, has proved challenging due the organizational structure and approach of administration (Cameron, 1983). Kim Cameron's research – which is of material significance to the study - noted three areas of difficulty in administrative approach, that; organizations have broadly experienced conditions of growth, that growth is assumed to be a measure of effectiveness, and that most organizational theory is based on assumptions of growth. In a study of forty higher education institutions in the northeast United States, a questionnaire was mailed to 2,147 faculty department heads and administrators to assess perceptions of organizational structure and the environment strategic emphases of administrators, organizational goal preference and organizational effectiveness, measuring a six-year period. This research study collected usable returns from 1,294 individuals and measured their approach to conditions of decline. Institutions (16 of which were state, 24 of which were private non-profit) were categorized into groupings of rapidly growing, moderately growing, stable and declining, with declining institutions experiencing enrollment losses of (on average) 13% (as compared with rapidly growing institutions, which experienced a 50% rate of growth). Declining institutions where characterized as utilizing standard operating structures, and relying on conservative practices in responding to the external environment; the external environment was perceived as being low on resources, and institutions had low organization effectiveness beyond working to achieve efficiencies. Conservative administrative strategies for managing decline were found to contribute to the challenges of an institution. Cameron's conclusion - that *"when faced with conditions of decline, administrators define these conditions exclusively as resource allocation problems or problems of efficiency, and they respond conservatively rather than innovatively"* is

reflected in several common management strategies including controlling costs, using long-range planning models, adopting budgeting models, pursuing economies of scale, and adopting enrollment growth strategies. Cameron's research does not measure the efficacy of these strategies on an institutional level or correlate with institutions' financial reporting.

Beyond delineating the challenges of responding to conditions of decline, Cameron noted strategies for reversal of those conditions; domain defense (e.g., through lobbying), domain offense (e.g., through competition for students), and domain creation (e.g., through expansion of new growth opportunities); these strategies were based on observations of the challenges faced by the tobacco industry – which faced significant external pressure from market and political forces – but adapted to the new environment to avoid demise. Analogizing from the response of tobacco companies to the response of institutions of higher education, Cameron provides a number of hypothetical strategies for academic institutions to consider. Specific domain defense strategies include the use of constitution support groups as well as alumni engagement to define the value of the academic institution; specific domain offense strategies include engaging in non-traditional academic programs, such as professional development and adult degree completion; domain creation strategies include launching new academic programs to meet market demands, acquiring subsidiaries, making capital investments and undertaking public service endeavors in untapped areas (Cameron, 1983). These strategies take the overall approach of shifting the external environment, rather than focusing on the internal environment, with the objective of making it more supportive of the institutions strategies.

Research focused on cost data (Clotfelter, 1996) highlighted the rapid escalation in costs attributable to a broad effort to improve quality, provide new student services, pay for large investments in new facilities, and ensure access for low-income students through increasingly expensive financial aid. Clotfelter's research points towards weak institutional controls *"[with] weak central control, a remarkable degree of freedom accorded to its faculty…. [the university] lacks any corporate goal other than the pursuit of excellence."* This lack of central control is exacerbated by high levels of competition among institutions, which bid up for faculty and scarce resources (intelligent students) to their detriment, and to the detriment of non-elite institutions (Baltaru, 2022).

To combat this lack of central control, long-range planning models were developed to focus on identifying an appropriate endowment planning / spend model as well as measuring the impact of interest rates and investment rates on determining a university budget (Massy & Hopkins, 1973). This technocratic, statistical approach to long range planning variables provided a theoretical framework within which to assess the optimization of an academic institution's mission, however, the long-range planning model was focused on endowment investment strategy, rather than mission optimization.

A further challenge to decentralization with highly distributed budget models is that - while they allow institutions to be more competitive for revenue - this comes at the expense of a less coordinated approach for aggregate expense management and strategic prioritization, as well as growth in alternative revenue (Duderstadt, 2005). Developing innovative strategies for alternative revenue growth requires leveraging a university's expense base for greater productivity (Christenson, 2011), and may improve institutions chances of survival. Christenson researched a set of ~700 "at risk" institutions, which had defined as (non-profit) institutions which grant degrees but are outside the top ~200 elite research institutions identified by the Carnegie Foundation. These institutions lack large endowments and prestige (required for high tuition rates / net tuition income) and have a high expense base due to an expansion of physical plant, as well as high fixed faculty costs and money-losing athletics teams. Christenson's research concluded that a focus on alternative revenue growth led to greater financial stability for institutions which pursued this strategy (Christenson, 2011).

Research demonstrates that rapid acceleration in university cost structures (the acceleration in growth of "overhead" spending across categories including administrative officials, student housing, and athletics) has been linked to the deterioration of enrollment growth and measures of education quality (Vedder, 2019). Using the expense base for greater productivity can include better measurement of outcomes; including departmental-level organization around assessments of what "inputs" are needed to achieve the greatest "outputs" with respect to learning effectiveness by students. Institutions using "Activity Based Costing" as a budgeting strategy have been correlated with slower rates expense growth, relative to institutions using a centralized budget model (Massy, 2017), however, there is almost a complete lack of visibility how much it actually costs to delivery post-secondary education and how these costs compare

with the outcomes achieved (Anguiano, 2013) despite the development of financial models that support this analysis (Massy, 2020), including productivity measures (Massy, 2013). A component of the challenge is obtaining accurate comparative data, given that data is high level, when the most effective unit of cost measure is per course cost allocation. Integrated Postsecondary Education Data System (IPEDS) Enrollment Data – is a system of interrelated surveys conducted annually by U.S. Department of Education's National Center for Education Statistics, and gathers information from every college, university and technical and vocational institution that participates in federal student financial aid programs. The Higher Education Act of 1965 requires that institutions that participate in federal student aid programs report data on enrollments, program completions, graduation rates, faculty and staff, finances, institutional prices, and student financial aid. (United States Department of Education, 2021) These data are made available annually.

A further challenge to cost and expense management strategies is that institutions may be structurally limited in their ability to realize economies of scale from expanding (or limiting) enrollment. A comprehensive study of 60 years of cost data across private universities suggests that the economies of scale cost curve for private universities is "saw toothed", meaning that achieving cost savings is not linear based on institution's size. Very small institutions and those with enrollments in the 10,000 to 15,000 range experience the highest costs, with lowest cost units being achieved by research universities at enrollment levels between 6,000 to 10,000 and 14,000 to 18,000 (Brinkman & Leslie, 2017). Effectively, the minimum academic and administrative infrastructure required to run an institution scales in steps - this implies that not all growth will result in economies of scale, and that the impact of expense cutting on academic quality may be severe.

Enrollment management and growth initiatives are often positioned as a management strategy to improve financial performance. In a research study measuring enrollment and financial aid–related predictor variables (admitted student yield rate; annual percent change in undergraduate enrollment; percent of total enrollment from adult, graduate, and professional programs; unfunded discount rate; and institutional aid from gifts or endowment) to the participating institutions' Composite Financial Index (CFI) during a four–year period, enrollment strategies did not improve institutional financial performance

(Supplee, 2014). Also, the influence of graduate and adult programs on financial health remained unclear. This suggests that focusing on enrollment management may not meaningfully alter the financial sustainability of institutions. This research correlates with earlier studies regarding types of enrollment decline, and institutional susceptibility to fluctuations in enrollment (Supplee, 2014). When categorized into groups ("generalist" – meaning major doctoral, comprehensive, and two-year institutions, and "specialist" – meaning general baccalaureate and religious organizations), generalist organizations experiencing enrollment declines are found to respond through minor realignment, whereas specialist organizations respond through experimentation due to fear of collapse (Zammuto, et. al 1983). The researchers' conclusion is that administrators must be aware of the causes of enrollment decline, as it is a multidimensional phenomenon, and retrenchment strategies have to be tailored to the population change causing the decline. The implication is that many enrollment strategies utilized lack this tailored approach and are not generally applicable to all colleges and universities.

When institutions do encounter financial challenges, the decision-making process is critical to navigating financial stress. Research regarding decision making under situations of constrained financial resources projects that – following periods of chaos under stress – decision making improves based on completeness of information, quality of information used, definitiveness of decisions, criteria informing decision making, and timelines of decisions (Rubin, 1977). A thorough decision-making process can help reverse conditions of financial decline.

In *A Prescription for Small College Turnaround*, Ruth Cowan outlines a number of strategies for navigating challenging operating environments, including symbolic actions to maintain optimism and energy, implementation of comprehensive changes consistent with the College's character, and emphasizing the need for a collaborative process to facilitate change (Cowan, 1993). There is compelling research suggesting that the manner in which strategic plans are communicated is as important as the strategic plan itself. The researchers' close analysis of financial performance and management strategy determined that institutions which utilized both interpretive and adaptive management strategies during the 2008 / 2009 financial crisis were more resilient than institutions which utilized only adaptive management strategies (Dorantes and Low, 2016). Ellen Chaffee's "models of strategy" provided a framework for the

study, with research on the strategic management in small, private colleges, and identified two different strategies for approaching challenging market conditions. The strategies are defined as *adaptive* – attuning the organization to changes in market demands and reorienting the organization to maintain or increase the flow of resources from the market to the organization, and *interpretive* – the use of communication and symbols to portray the collective reality of participants in the creation of meaning (Chaffee, 1984). The interpretive model reflects focus on the organization's management of stakeholders through communication in the face of challenges, with a clear link between the resiliency of institutions which use this approach compared to a purely adaptive approach. Organizational strategic management theory argues that a range of strategies exist to address budget deficits (e.g., borrowing, fundraising, increasing tuition, increasing endowment spending, etc.), but that the symbolic use of organizational culture by change agents enhances the actions of leaders (Chaffee, 1984). Practically, what an institution does is equally important as how it is done; institutions which explain (for example) budget reductions through a series of town halls, in person administrative listening sessions, community emails and other interpretative outreach strategies are more likely to weather a financial crisis than institutions which solely undertake budget reductions.

Management Strategies to Improve Market Position

Institutions are employing a range of strategies in response to operational challenges, including focusing on market position and the competitive landscape. A substantial body of literature has developed in educational economics regarding the incentives and motivations of dominant stakeholder parties in institutions of higher education (trustees, administrators, and faculty); specifically, the motivation of all parties to pursue prestige, and the influence of outside perspectives on decision making (Mensah & Werner, 2003). This explains the emergence and dominance of institutional rankings as a management tool, and the behavior of institutions to seek the highest possible ranking.

Research indicates that pursuit of positional rankings exacerbates, rather than alleviates, resource inequalities between universities (Baltaru, 2022). Elite status is a positional good, with a concentration of wealth at the top of the higher education market, generating significant investment returns from endowments. Pursuit of elite status in positional rankings at the expense of operating surpluses has been

demonstrated to result in a lower net operating revenue to total income ratio – or a less financially sustainable institution (Baltaru, 2022).

In response to conditions of decline, institutions have adopted several strategic approaches, including a range of collaborative activities to improve market position. Zammuto and Cameron (1985) expanded the original domain strategies with the addition of two categories of institutional activity that resulted in effective turnaround in the presence of conditions of decline; consolidation and substitution. Where consolidation reflects the downsizing of institutional activities (e.g., through discontinuing unprofitable academic programs), substitution reflects one set of activities for another by engaging with other external market participants, including through collaboration across academic institutions. James Martin and James Samels detail a range of collaborative activities between institutions. These include *Joint Ventures* – defined as shared investment and basic affiliation without a change of control, with limitations as to time and scope of involvement, *Institutional Merger* – a legally binding agreement in which the control of an institution is transferred to another institution, within the confined of a merger or acquisition agreement, *Partnerships* – which enable institutions to leverage their existing programs and resources to expand enrollment at minimal cost, *Consortium* – which provide a mechanism for cost sharing without merger, *Co-branding* – which allows for collaboration in a mutual growth, and *Program Transfer* – a mechanism for program sale between two institutions (Martin & Samels, 2017).

Researchers point to market driven approaches improving revenue growth, including commercial partnerships with Online Program Manager ("OPM") providers and the expansion of academic credentials to include certificates and non-degree courses of study (Craig, 2018). This market expansion is an example of a "domain dominance / domain expansion" strategy when faced with conditions of decline (Cameron, 1983). Research supporting the development of the Minerva Institute, which adopted a global campus using technology in which "the university employs a unique pedagogical model in which all classes are conducted as online seminars capped at 19 students" is a further example of domain expansion, though with mixed financial results (Nelson, 2018).

Positional rankings are also correlated with measures of financial sustainability (defined in this research as the ability to generate ongoing surpluses). Measuring financial sustainability as a dependent

variable (defined as net operating revenues to total income ratio, i.e., the percentage ratio of surplus/deficit for the year after tax to total income) shows a statistically significant correlation with positional rankings among U.K universities (Baltaru, 2022). For this reason, pursuing a shift in market position may be an effective management strategy.

There is a range of research in the literature regarding the reasons why organizations respond to threats in their market environment with differentiated strategies; prospect theory (Kahneman & Tversky, 1979) assumes that organizations in favorable market conditions become more risk averse because they believe entities have more to lose than gain by shifting strategy, whereas the threat-rigidity hypothesis reflects paralysis in the face of external environmental factors which imply limited control. These control limitations prompt a focus on managing the internal environment (e.g. through cost cutting, centralization of control, and strategic paralysis) rather than focusing on improving external market position (Ocasio, 1995). Research into management psychology is abundant – and may be relevant to the broader research question - but falls outside the area of focus for this literature review.

Limitations of the Literature

Notwithstanding the wide range of research, no consistent measure of forward financial viability for academic institutions exists, and there is little to no literature commenting on the use of financial ratios as a management strategy, or the use of financial ratios to measure the efficacy of management strategies in either a steady state or turnaround environment. There is also an absence of case study literature regarding specific management strategies employed by academic institutions, framed against financial ratios. While, on occasion, management strategies are assessed in the context of long-range planning models, this occurs infrequently, and is often impeded by the organizations focus initiating the next strategy plan, rather than assessing if a prior strategic plan resulted in success. These challenges are further exacerbated by turnover in management, which occurs frequently at the presidential and vice presidential level in academic institutions, as well as turnover at the board level, resulting in inconsistent continuity of governance (a unique feature in non-profit corporate structures, when compared to for-profit entities which are governed by shareholder interests) (Cohen, et. al., 1972). Most often, methodologies are applied retroactively to

identify areas in which risk factors which were present could have predicted financial stress and closure (Hatfield, 2016; Sherman, 2016). There is some analytical work related to the impact of financial responsibility scores on institutional behavior (Kelchen, 2018), which suggests that ratios provide meaningful feedback to administrators and board members, but does not specify the analytical value of the ratios as a predictive measure of financial performance.

A limited body of research correlates the use of strategic alternatives with financial and operating performance; it is unclear if institutions consider financial ratios in assessing strategy prior to exercising a strategic shift. Institutions have pursued the use of Activity Based Costing, Responsibility Center Analysis, and considered their production functions as a preliminary step in assessing the financial viability of alternatives (Anguiano, 2013; Martin & Samels, 2013), but this practice is not widely adopted (Massy, 2017; Hopkins, 1990; Dickmeyer & Hughes, 1982).

Finally, there is limited research providing quantitative assessments of key turnaround strategies employed by challenged academic institutions, or by growth initiatives undertaken in the sector generally. Initial research points to limitations in expense reduction based on economies of scale for institutions (Brinkman & Leslie, 2017), with institutions unable to achieve expense reductions beyond certain minimum thresholds of expense due to administrative requirements based on both regulatory frameworks and institutional size. Financial ratio analysis illustrates the limited efficacy of enrollment management initiatives (Supplee, 2014), though there is not a deep literature on this topic, and the conclusions are preliminary and based on a small subset of academic institutions. The risk an institution's donor base poses to future viability has been preliminarily explored in the context of financial ratios (Mensah & Werner, 2003), with some effort to put boundaries as to the type of donations that are most beneficial, and the long term impact on financial ratios of restricted gifts versus unrestricted gifts. Finally, there is limited research on projected operating deficits on financial viability, as the presence of consist operating deficits are considered as a measure of financial stress (Shipper, 1977; Baltaru, 2022).

CHAPTER 3: METHODS

Introduction

This chapter discusses the research methods and design of the study. Included in this chapter are the research questions, an overview of the rationale behind the selection of a mixed methods design approach to the study, and a discussion of concepts underlying the quantitative model design. A detailed discussion of data is included, specifically data sources, the methods of data collection and document review, and anticipated problems with the data. Given the comparative case study component of the mixed methods design, concepts underlying the comparative case study approach are reviewed, as well as the detailed case study design. Finally - bias, compliance and ethical questions along with limitations of the study are reviewed. The detailed interview protocol which has been designed for the purpose of the case study approach is provided as Appendix A, along with the Institutional Review Board approval provided by the University of Pennsylvania, which is provided as Appendix B.

Reiteration of Research Questions

As detailed in the Introduction, despite a wide range of research regarding ratios to quantify the financial position of nonprofit organizations including academic institutions, no consistent measure of forward financial viability for academic institutions exists. There is also little to no literature commenting on the use of financial ratios as a management strategy, or the use of financial ratios to measure the efficacy of management strategies in either a steady state or turnaround environment. This dearth of research is further exacerbated by an absence of case study literature regarding specific management strategies employed by academic institutions, framed against financial ratios. Finally, there is no forward- looking methodology to assess financial sustainability or provide future measures of financial strategy for academic institutions – a deficit this study seeks to correct.

A necessary component of constructing a forward-looking methodology to assess financial sustainability is understanding the strategic actions of institutions which have become more financially viable. Using a mixed methods approach, this research study identified private, non-profit academic

institutions which maintained the highest level of financial performance using existing quantitative measures. Specifically, quantitative data (Department of Education Financial Responsibility Scores, Ratings Agency Metrics, IPEDS data and Delta Cost Project Data) for private, non-profit institutions for the fiscal year period from 2004 to 2022 was be reviewed. Having identified institutions whose metrics reflect a high level of financial performance over this period, institutions were reviewed using a case study approach to qualitative research to identify the strategic rationale behind the move towards financial viability. These institutions were selected based on sustained nature of financial performance, with institutions selected to represent the Carnegie Classification categories of Doctoral Universities, Masters Colleges and Universities, and Baccalaureate Colleges (American Council on Education, 2021). Core research questions include:

1. What private, non-profit higher education institutions achieved the strongest financial performance over a eighteen-year period (from Fall 2003 to Fall 2021, or fiscal year 2004 to fiscal year 2022) as measured by the highest, average performance of the financial ratio *Return on Net Assets* as defined and reported by Moody's Investors Service.
2. For institutions which demonstrated the strongest financial returns over this period, to what degree was that improvement associated with specific key business measures, including:

    f. Growth in *Operating Revenue* as reported to Moody's Investors Service
    g. Growth in Enrollment, as measured by *Full Time Enrollment (FTE)* growth, as reported to Moody's Investors Service
    h. Change in Revenue Diversity, as measured by *Tuition and Auxiliaries as a % of Total Revenue* as reported to Moody's Investors Service
    i. Improvements in Profitability, as measured by *Operating Margin* as reported to Moody's Investors Service.
    j. Investment Growth, as measured by *Total Cash & Investments* as reported to Moody's Investors. Service

3. Of the institutions identified as demonstrating the strongest financial returns over the eighteen-year period, was there an intentional financial / business strategy employed?

Mixed Methods Research Design

A Mixed Methods research design was utilized because of the strength of drawing on both quantitative and qualitative research and minimizing the limitations of both approaches (Creswell & Creswell, 2017). Mixed methods research design originated in the late 1980's to early 1990's with work across the fields of education, management, sociology, and health science fields, among others. The use of mixed methods research has continued to evolve and develop, with changes in the evolution of mixed methods procedures (Teddlie & Tashakkori, 2009). As a research design, mixed methods involves the collection of both closed ended, quantitative data and open-ended, qualitative data – with the two forms of data integrated. As the data is merged, an explanatory analysis can embed the data within a larger framework.

The rationale for the study design is the necessity to address both quantitative and qualitative research components. When viewing measures of financial sustainability, purely quantitative measures are illustrative, but devoid of the context a qualitative study would provide, whereas a solely qualitative study would lack consistent comparative ratios provided by quantitative financial metrics (Creswell & Creswell, 2017). By first using quantitative measures to identify institutions which have experienced financial growth and have become more financially sustainable, a smaller subset of all private academic institutions can be identified. Understanding the strategic approach and management strategies of these institutions will provide context to solutions which may be more broadly adopted by the higher education sector, given the current environment of financial pressure.

Identifying the financial trends of academic institutions is a quantitative exercise; several well documented resources exist, and looking at these disparate data sets comprehensively will allow for the identification of both general trends as well as specific institutions of interest. The broader rationale behind the strategy for movement towards financial sustainability requires a detailed review of qualitative context. Interviewing key decision makers – in this case administrators - using a variety of collection methods (e.g.,

interview protocols, review of documents including board meeting minutes and strategic plans) will allow for an understanding of the financial strategies employed by an institution. The use of a flexible design case study approach allows for major changes proceeding from design to research, which will allow for "progressive focusing" from the three to four focused questions initially delineated (Yazan, 2015).

The combination of both this quantitative and qualitative research is anticipated to uncover common strategies across institutions with similar trends. The potential for the broad adoption of these strategies – and future design of a quantitative measure through which to assess the potential for a strategic pivot towards financial sustainability – is an area for further research that is framed by this initial research.

Concepts Underlying the Quantitative Model Design

The population for the quantitative component of the mixed methods study is defined as all private, non-profit institutions with consistent available financial data across four data sets detailed above for the period from 2004 to 2022. Institutions must have consistently reported data with no gaps to be included. From the data set of those which saw high financial performance during this period – defined as the highest average return on net assets - a group of five institutions agreed to participate in a qualitative case study approach where interviews with key decision makers (e.g. the Vice President for Finance, the President) were conducted. This sample provided context from which broader trends can be generalized. Institutions representative of differing Carnegie Classification categories were utilized (e.g. Doctoral Universities, Masters Colleges and Universities, and Baccalaureate Colleges); this was important to assess if there were common strategies for financial improvement across institutions regardless of size, or if the strategies utilized by a large institution are different than those utilized by a small institution. A further effort was made to identify and utilize a geographically diverse composition of institutions. A full summary of selections and data decisions is provided in Chapter 4, Findings.

In the study, the researcher analyzed the financial trends of private, non-profit academic institutions in the United States over a eighteen-year period (from Fall 2003 to Fall 2021, or fiscal year 2004 to fiscal year 2022), focusing on an academic institution's return on net assets, FRCS, and IPEDS-defined Full Time Equivalent ("FTE") Headcount, among other measures Because both the Department of Education and

Moody's Investors Service publish annual measure of financial viability, the researcher employed a descriptive research method with observational statistics from a longitudinal study of these variables for a group of continuously reporting private, non-profit academic institutions over this eighteen-year period.

Data Sources

The quantitative components of the mixed methods study draw upon existing measures of financial standing from external parties. There are multiple quantitative data sets which are applicable to higher education institutions; including Department of Education Financial Responsibility Scores, data and credit ratings provided by Ratings Agencies, and IPEDS data. Details of each data set are provided below.

The Department of Education requires all non-profit private and proprietary academic institutions that participate in federal student aid programs to provide audited financial statements to the Department, which are the basis for a Department calculated Financial Responsibility Composite Score (Department of Education, 2017). The computation of the FRCS reflects a three-prong calculation derived from the aforementioned primary reserve ratio, equity ratio and net income ratio.

The Department calculates the FRCS on a range between -1 to 3.0, with 3.0 being most financially responsible; this metric provides a single measure of financial position in a given fiscal year. The Department uses this measure as a mechanism of regulatory enforcement, with institutions scoring below 1.5 being subject to further financial scrutiny related to the release of Title IV funds (Heightened Cash Monitoring) and institutions scoring below 1.0 being subject to a requirement to provide financial surety to the department in the form of a bank Letter of Credit for Title IV funds received annually.

Given the potential consequences, this measure is closely tracked by academic institutions. Of relevance to this study, due to the COVID-19 pandemic, the Department extended the annual audited financial statements submission deadlines by up to six months. Due to the extended submission deadline, 2020 reporting does not identify all composite scores for school fiscal years ended between 7/1/2019 and 6/30/2020.

There are four ratings agencies which provide quantitative and qualitative measures of higher education institution's abilities to repay liabilities, as measured by a single credit rating, those being Moody's

Investors Service, Standard & Poor's, FitchRatings and Kroll Ratings. While the nomenclature of credit ratings varies by each agency, the agencies rate institutions on a seven-tiered scale ranging from "Aaa" (highest, investment grade) to Ca (lowest, junk) with intermediate tiers (i.e., Aaa, Aa1, Aa2, Aa3) and with different outlooks (i.e., positive, stable, negative).

In assigning these credit ratings, each agency employs its own rating methodology which assesses sector-specific credit factors in "rating" an academic institution. Of the four ratings agencies, Moody's Investors Service provides the broadest universe of rated academic institutions (as of April 2022, rating 249 non-profit private colleges and universities). Moody's *Higher Education Methodology* was updated in August 2021, and provides a scorecard with qualitative and quantitative factors used to assess the credit rating of an academic institution (Moody's, 2021), these being:

- Scale (15% of the scorecard weight), as measured by an institution's adjusted operating revenue;
- Market Profile (20% of the scorecard weight), as measured by the rating agency's qualitative assessment of an institution's Brand and Strategic Positioning (10%) and Operating Environment (10%)
- Operating Performance (10% of the scorecard weight) as measured by an institution's EBIDA Margin
- Financial Resources and Liquidity (25% of the scorecard weight) as measured by an institution's total cash and investments (10%) and the ratio of total cash and investments to operating expense (15%)
- Leverage and Coverage (20% of the scorecard weight) as measured by the ratio of total cash and investments to total debt (10%) and annual debt service coverage (10%), and
- Financial Policies (10%)

Of relevance to this study is Moody's release of an annual review of an academic institution's credit, having reviewed financial performance for the previous fiscal year. Many private, non-profit academic institutions operate on a June 30 fiscal year basis, meaning that the financial impact of fall enrollment is reflected in the next calendar year (i.e., Fall 2014 enrollment would be reflected in the June 30, 2015, financial statements).

IPEDS is a system of interrelated surveys conducted annually by U.S. Department of Education's National Center for Education Statistics, and gathers information from every college, university and technical and vocational institution that participates in federal student financial aid programs. The Higher Education Act of 1965 requires that institutions that participate in federal student aid programs report data on enrollments, program completions, graduation rates, faculty and staff, finances, institutional prices, and student financial aid. (US Department of Education, 2022) These data are made available annually. For 2020, IPEDS collected data from 5,916 academic institutions, of which approximately 38% were for-profit, 32% were public, and 30% were non-profit private institutions. This study focuses on the results for non-profit private institutions, as detailed below. Of relevance to this study is IPEDS' gathering of fall enrollment data, which is the traditional measure of student access to higher education. Fall enrollment data can be looked at by race/ethnicity; gender; enrollment status (part-time or full-time); and or level of study (undergraduate or graduate). For this study, Total Full Time Equivalent ("FTE") fall enrollment data will be reviewed.

The annual audited financial statements of academic institutions – along with IRS Form 990 Data – are available and can be analyzed using financial ratio analysis utilized to prepare indicative measures of financial strength and trajectory. This allowed the computation of ratios in key areas which serve as a measure of operations, including net operating results, liquidity, and debt capacity. Specific liquidity ratios of focus include the current ratio, the quick ratio, and the available funds ratio; debt capacity is measured through the debt-equity ratio and the debt service ratio; and net operating results are measured through the net operating results ratio (Chabotar, 1989). Each of these data sets, when viewed in concert with each other, provides a comprehensive set of quantitative measures of financial position. The footnotes of financial statements also provide key details of strategic transactions, financings, and investment policy.

Selections

A number of selections were made in developing a consistent data set, these being:

- The *Periodicity of Data*, in that the data selected was from Fall 2004 – Fall 2021 (fiscal year 2004 – fiscal year 2022) as the basis for the longitudinal study. The period is intended to capture a range in which there were broad enrollment declines across the higher education sector; it also reflects (partially) the impact of the global pandemic.
- The choice to analyze *not-for-profit private institutions only*, which is intended to exclude for-profit institutions (outside my area of interest) and public institutions (which have an implicit financial backstop due to state support).
- The choice to review data from *Moody's-rated institutions only* rather than those rated by other ratings agencies. This choice reflects that Moody's provides the broadest range of ratings to the greatest number of institutions (252).

Given the overlapping data sets, there will be limitations associated with the completeness and availability of quantitative data. Some examples of the limitations of the associated quantitative data include:

- There are often limitations specific to IPEDS data related to the reporting of missing data fields. Data reported to the National Center for Education Statistics and the Department of Education is often incomplete, with missing data variables coded as "0";
- The institution must be continuously rated by Moody's during the specified period of time; and
- There are limitations on the reporting of Financial Responsibility Composite Score in 2020 due to the onset of the COVID-19 pandemic.

These limitations are specifically delineated in the Findings chapter. Further, limitations associated with the research study include the number of selected case study participants. Having identified institutions which exhibit quantitative signs of financial sustainability during the period of 2004 to 2022, a number were selected to participate in the qualitative case study component of the mixed methods research design. Institutions selected reflected different Carnegie Classification categories (American Council on Education, 2021).

Documents are a further area of review. Institutional documents have been commonly utilized in qualitative research, with document analysis frequently cited in journal papers. A detailed procedure for document review and analysis is essential to the effective use of this qualitative resource in the context of research (Creswell & Creswell, 2017). Document analysis is a systemic procedure for the evaluation of printed and electronic material, the information contained in documents is useful to researchers as it has been prepared without a researcher's intervention. Documents are viewed as "social facts" which are produced, shared, and used in socially organized ways (Atkinson & Coffee, 1997).

Document analysis is commonly used with other qualitative research methods for the purpose of "triangulation" – the combination of methodologies in the study of the same phenomenon (Denzin, 1970). Triangulation in the context of this research study occurs through the use of quantitative data, review of internal documents, and interviews with key decision makers.

Examples of documents which were reviewed in the context of the study when publicly available or shared with the researcher include:

- Board Meeting Minutes
- Strategic Planning Documents
- Internal financial analysis and benchmarking analysis
- Internal and external budgets
- Audited financial statements
- Financial projections
- Enrollment statistics and enrollment management planning

The availability of these documents, along with the availability of key decision makers as discussed below, was a component in the identification of the institutions selected to participate in the case study approach delineated below. In many cases, this documentation was available either through institutional publication, or through public investor disclosure available through the Municipal Securities Rulemaking Board's Electronic Municipal Markets Access website.

Concepts Underlying the Comparative Case Study

The qualitative component of the mixed methods research will rely on a Case Study approach. Case Studies are a design of inquiry found in many fields, especially evaluation, in which the researcher develops an in-depth analysis of a case, often a program, event, activity, process or one or more individuals. Cases are bounded by time and activity, and researchers collect detailed information using a variety of data collection procedures over a sustained period of time. (Creswell & Creswell, 2017).

The study reviews strategic financial initiatives undertaken by academic institutions to ensure financial sustainability and long-term viability. The study will use an interview protocol to examine the quantitative and qualitative decision-making processes of executive administration and board members of select academic institutions, each of which have recently undertaking a financial pivot. This will allow for a "Case" to be built. Case is a specific, complex functioning thing. More specifically an integrated system which has a boundary and working parts and purposive (in social sciences and human services). Within this context, a Qualitative Case Study is a study of the particularity and complexity of a single case, coming to understand its activity within important circumstances. (Stake, 1994)

Some examples of qualitative research techniques anticipated to be utilized include:

- Observation
- Focused Group Interviews
- Depth Interviews
- Recording
- Textual Analysis

Design of the Case Study

The study will utilize an interview protocol for the purpose of posing both direct specific and open-ended questions to executive administration of select academic institutions. Each interview protocol will utilize direct, specific questions related to the strategy the institution has undertaken as well as generic open-ended questions regarding the decision-making process utilized by executive administration.

Interviewees were selected based on the intersection of their experience with the period of improvement in financial condition and were generally the Vice President of Finance, the President, or Treasurer.

The researcher administered the survey – which is included as an Appendix - through advance distribution of a questionnaire, with a virtual session of approximately one hour to gather responses. The only individuals recorded were the researcher and the individuals participating in the study. The research utilized in generating the direct, specific questions related to each institutions' strategy were generated with data from publicly available sources, and did not use confidential information. The identifiers utilized will be the name and title of the study participants. The study was completed over the Fall of 2023 and Winter of 2024. Study participants were provided consent forms in early Fall 2023, with interview protocols and questions provided following the receipt of the consent forms. The length of the participants' involvement in the study was limited to the time spent reviewing the interview protocol and questions and engaging in a recorded interview with the researcher. The interview protocol is provided as Appendix A for reference.

All participants in the study executed an informed consent form prior to participating in the case study. This form made clear that information will not be stored or shared for future research purposes upon completion of the study. Further, during the study, interviews were recorded and stored on file sharing services at the University of Pennsylvania. Upon completion of the study, the files were deleted. University of Pennsylvania Institutional Review Board approval and informed consent forms are provided as Appendices B and C.

Limitations of the Study and Further Considerations

The research study was limited by several factors, both general to mixed methods research and specific to the data utilized and form of quantitative and qualitative research undertaken. Limitations general to mixed methods research include:

- The researcher maintaining objectivity, given potential points of intersection between the researcher and those interviewed. These limitations are discussed in further detail below.

- The credibility of the broad generalizations made from the small sample of institutions explored during the case study.
- There are inherent limitations to the use of the collection of data by others than the researcher, as the researcher does not have any control over the data collection process (Creswell, 2013), and the data may be inaccurate or unreliable.

Limitations specific to the data utilized and form of quantitative and qualitive research undertaken include:

- Not all private, non-profit colleges and universities were reviewed for this study, given limitations on availability of consistent financial data during the reporting period. With respect to the availability of data, it is noted that Moody's Investor Service – while providing the broadest consistent measure of computation of key financial ratios – only rates a limited number of institutions, typically those with a financial position significant enough to support incurring bank or long term (bond) indebtedness in the debt capital markets.
- There were limitations specific to IPEDS data related to the reporting of missing data fields, in particular detailed categorical revenue breakouts. Data reported to the National Center for Education Statistics and the Department of Education is often incomplete, with missing data variables coded as "0".
- The periodicity of financial reporting and fiscal year end was not consistent across all institutions.
- A different set of qualitative study participants may have been identified if all private non-profit institutions had been reviewed, not just those with Moody's data. Moody's-rated institutions tend to be larger, and have outstanding, publicly rated bond indebtedness.
- Within the institutions surveyed in the qualitative component of the mixed methods study, only one individual was interviewed from within the administration. While this individual was responsible for financial strategy, gaining the perspective of additional administrative leadership may have provided additional context for the financial success of the institutions.

- Further the perspective provided was limited to administrators and did not include the perspective of board members. Given the shared governance structure of academic institutions, this perspective may have provided additional context for the financial success of the institutions.

Notwithstanding these limitations, the researcher believes that the data reviewed and qualitative interviews conducted provide meaningful perspective on the research questions.

There was no need for additional staff or facilities for the research beyond the researcher given the nature of the study. The population surveyed was individuals in leadership positions (e.g., President, Chief Financial Officer) at each of the academic institutions.

The benefits of the study are a clearer sense of the quantitative and qualitative methods utilized by leadership of academic institution in making decisions related to long term financial sustainability and viability. Given the financial pressures and challenges facing academic institutions in the United States, particularly in the Northeast and Midwest, developing a clearer understanding of decision-making methods may facilitate strategic pivots for academic institutions.

As a professional working with higher education institutions in an advisory capacity and as a financial intermediary, I am familiar with many of the institutions contained in the data surveyed. The researcher has a professional working relationship with the individuals at each ratings agency – including Moody's Investors Service – who author the ratings agency methodologies referenced in this paper. My course of study at the University of Pennsylvania is funded by my employer, a global investment bank, with financial interests in this area of work. The researcher is also a Trustee of a private, non-profit NCAA Division I Doctoral / Research University, and an Adjunct Assistant Professor at New York University in the Robert F. Wagner School of Public Service. These points of intersection with higher education both inform my the researchers perspective on the research question, but may also bias observations and research, as it is possible the researcher may have viewed interactions with the institutions included in the study through the lends of a professional, fiduciary and employee as opposed to purely that of an academic. To the extent a prior point of intersection exists with one of the institutions discussed, the researcher provided further disclosure in the summary of findings.

CHAPTER 4: FINDINGS

Introduction

This chapter presents findings of the research study. Included in this chapter are a discussion of quantitative findings, specifically defining the data set utilized, reviewing key analytical assumptions utilized, exclusions from the data set, and potential limitations to the quantitative study. A review of the qualitative component of the mixed methods approach is detailed, including the outreach process, rate of participation, description of participating institutions, and interview protocol utilized. To provide context regarding the interview results, as well as address the key questions delineated in the Methods chapter, key financial statistics are provided, as well as a review of information sourced from board documentation and strategic plans. A discussion of conclusions are summarized in the following chapter.

Quantitative Findings

The primary data utilized in the quantitative portion of the research study were statistics from Moody's Investors Service from the rating agency's review of audited financial statements prepared in accordance with Generally Accepted Accounting Principles (GAAP). This data set is available through the Moody's Financial Ratio Analysis (MFRA) portal, and was downloaded in October 2023, using screens to provide all collected data for all private, non-profit higher education institutions rated by Moody's during the period of 2004 – 20022. This resulted in a dataset of 252 higher education institutions, which were continuously rated by the rating agency during this period. A full list of the Moody's-rated higher education institutions is included as Appendix D.

Moody's Investors Service provides three data sets specific to higher education institutions. Financial Data is longitudinal and includes 69 information sets, which are categorized into eight groups: Assets, Changes in Restricted Net Assets, Liabilities, Net Assets, Operating Expenses, Cash Flow Data, Non-Operating Financial Data, and Operating Revenues. In all cases, this information is sourced from the audited financial statements of the academic institution. A full list of the Moody's-provided information sets are provided in Appendix E. Operational and Demographic Data is longitudinal and includes 11 information

sets, all of which reflect market information including enrollment by undergraduate and graduate FTE, total undergraduate costs, and first year selectivity, matriculation and retention ratios, among others. This information is directly provided by academic institutions to Moody's in response to an annual questionnaire, which is prepared by the Chief Financial Officer or Vice President for Finance of the institution. A full list of the Moody's-provided information sets are provided in Appendix E. Finally, Moody's formulaically computes 68 key financial ratios from the audited financial statements of the academic institution. The formulaic definitions of each ratio are delineated in a rating agency methodology specific to higher education; a detailed description of the methodology's changes over time is provided below. A full list of the Moody's-provided financial ratios are provided in Appendix E.

As detailed in the research study methods, the period of 2004 to 2022 was selected to provide a significantly long time period over which to view consistent trends in operating performance. The researcher viewed this period of time as sufficiently long to "smooth out" the impact of market movements (e.g. the financial crisis) and of economic disruption (e.g. COVID-19) to as to provide a measured view of financial performance.

The research study focused on one key financial ratio – Return on Net Assets – as a proxy for financial viability of an institution, and specifically reviewed the average of this key ratio over the period of 2004 to 2022. The Return on Net Assets ratio provides a measure of financial performance by measuring total economic return. The ratio compares the year over year change in net assets to total net assets. This ratio has certain advantages in allowing a comparative measure of financial performance. First, the use of a ratio allows for comparison of institutions with disparate sizes in total net assets. Second, year-over-year change in net assets incorporates both income statement activities (e.g., change in net tuition revenue, expense reductions, launch of new academic programs) with balance sheet activities (e.g. addition to and depreciation of physical assets, market swings in investment value) in a way which holistically interprets fluctuations in financial trajectory. This broad measure of financial performance has particular appeal when viewed longitudinally, as the impact of a specific event in a particular fiscal year (e.g. advance deficit spending for launch of a new academic program initiative) is assessed comprehensively over time.

The research initially focused on institutions which had achieved the greatest *growth* in return on net assets over the time period selected, rather than sustained *average* financial performance. In the review of financial data, it was difficult to identify a consistent and meaningful trend of improvement across the private university universe during the time period selected. The measure of return on net assets fluctuates year over year, influenced by market driven performance of the investment portfolio. Calculating a ratio measure which excluded investment performance – and would lead to a purely operational measure of return – would eliminate a key driver in higher education financial planning and limit the efficacy of the study. As all institutions in the study had exposure to the investment markets (in different forms based on investment portfolio allocations), reviewing the *average* return on net assets rather than *growth* in return on net assets allowed for a comparative assessment impacted, but not dictated, by investment performance.

The researcher reviewed the data for the 252 private, non-profit higher education institutions to specifically identify completeness of the calculation and reporting of the financial ratio Return on Net Assets. In the data set reviewed, 42 institutions were found to have an incomplete data set over the survey period from 2004 to 2022, meaning that at least one year's computation of this financial ratio were missing from the Moody's data set.

For the purpose of identifying ranking institutions by average return on net assets, these institutions *included* in the computation of the average of the key ratio over the research period - despite missing one mor more years – but ultimately *excluded* from the list of institutions contacted in the qualitative component of the mixed methods study. A list of these institutions which were excluded are provided as Appendix F.

The researcher computed the average Return on Net Assets for each academic institution individually, then ranked institutions in descending order (institutions with the greatest average reflecting the highest level of sustained financial performance). Institutions which had incomplete data were excluded from the list of top 20 institutions contacted in the qualitative survey. The initial ranking of institutions included seven which were ultimately excluded based on incomplete data, these being Liberty University, Massachusetts College of Pharmacy & Health Sciences, Savannah College of Art & Design, Western University of Health Sciences, Belmont University, the University of New England and University of the

Incarnate Ward. The ranked list of top 20 institutions, reflecting these exclusions, is provided in the table below. The diversity of institutions is significant, representing a diverse cross-section of geography, size, wealth and prestige.

Table 1

Private, Non-Profit Institutions Ranked by Return on Net Assets

Rank	Institution	Average Return on Net Assets, 2004 - 2022 (%)
1	Sacred Heart University, CT	16.5
2	Medical College of Wisconsin, WI	12.6
3	Embry-Riddle Aeronautical University, FL	12.0
4	Villanova University, PA	12.0
5	New York Institute of Technology, NY	11.8
6	New York Law School, NY	10.9
7	Chapman University, CA	10.8
8	Berklee College of Music, MA	10.7
9	University of Notre Dame du Lac, IN	10.6
10	Marist College, NY	9.8
11	University of Pennsylvania, PA	9.8
12	Northeastern University, MA	9.8
13	Quinnipiac University, CT	9.7
14	New York University, NY	9.4
15	Massachusetts Institute of Technology, M	9.4
16	Le Moyne College, NY	9.4
17	Claremont McKenna College, CA	9.2
18	Duke University, NC	9.2
19	Stanford University, CA	9.1
20	Abilene Christian University, TX	8.9

Source: Moody's Investors Service

Moody's periodically updates its Rating Methodology, for the purpose of reflecting more accurately evolving trends in the higher education sector. The Ratings Methodology was revised in 2021 and 2019; these methodology revisions impacted the overall credit rating score assigned to institutions, but not the calculation of key underlying financial ratios or the reporting of financial data (Moody's Investors Service, 2021). Further, accounting standards for non-profit institutions are modified over time, and certain modifications have impact on the reporting of audited financial statements, which ultimately flow through

the computation of financial ratios. In 2016, the Financial Accounting Standards Board issued a standard to improve the classification of net assets as well as notes about liquidity, financial reporting and cash flows (Financial Accounting Standards Board, n.d.). These revisions simplified net asset class classifications to two (net assets with donor restrictions and net assets without donor restrictions), expanded the functional classification of expenses on the income statement, and expanded footnote disclosures regarding liquidity. Though these revisions are significant, they are not material in the context of the research study as they are (1) reflected equally across all institutions and (2) are not directly impactful on the Return on Net Assets ratio. Further, in 2022, FASB released guidance regarding the accounting of long-term leases on institutions' balance sheets, such that the value of these leases are recorded as a liability (Financial Accounting Standards Board, n.d.). This is a significant change but was not impactful until the 2023 audit year (outside the range of this study).

There are two potential limitations of the data set worth noting, the first of which is periodicity of audited financial statements. Most private, non-profit financial institutions report annual financial information on a June 30 basis. A limited number of institutions – for example, New York University – report audited financial information on an August 31 fiscal year end, while others report on a March 31 fiscal year end. When considering the specific impact of market movements associated with the financial crisis and the COVID-19 pandemic – in particular 2021 endowment returns – change in market value was calculated from a low point (June 2020 – a market low due to the onset of the pandemic) to large market gain reflecting lower interest rates and economic recovery. For institutions with different financial reporting periodicity, the magnitude of this market impact would be differently reflected in financial results. Secondarily, institutions which were excluded for lack of reported financial information may have significantly impacted the results reviewed in the qualitative survey, if their ranking (including missing data) had remained high and they were included in the qualitative outreach, and if they had agreed to be interviewed as part of the qualitative research.

Qualitative Outreach Process

Beginning in November 2023, the researcher began outreach to the leadership of institutions which had been quantitatively assessed to be among the top 20 private, non-profit colleges and universities ranked by return on net assets.

Of the 20 institutions identified, the researcher identified four institutions with which a direct, problematic conflict of interest existed due to the nature of the researcher's professional activity in higher education investment banking. These conflicts included where the researcher / the researcher's firm had an existing, direct lending relationship with the institution in question (applicable to one institution) or where the researcher / the researcher's firm was directly involved in soliciting business from the institution (applicable to one institution), or where the researcher / the researcher's firm was directly involved in negotiating against the leadership team with an institution in question as part of a M&A process. On this basis, Villanova University, the University of Notre Dame du Lac, Northeastern University, and Stanford University were excluded from the outreach process. The researcher further excluded the University of Pennsylvania from the outreach process, given the researcher's enrollment in a doctoral program at that institution.

Of the 15 institutions identified, but not excluded from the outreach process, the research identified four institutions with which the researcher / the researcher's firm had a direct business relationship during the research period. The nature of the business relationship included serving as an underwriter on a public offering of municipal securities (applicable to three institutions) or having a direct lending relationship with the institution *during* the period of the study, but with no *current* lending relationship existing (applicable to two institutions). On this basis, New York University, Quinnipiac University, Le Moyne College and Duke University were included in the outreach process.

Among the 15 institutions with which no conflict existed, the researcher identified the administrative leadership of each institution during the study period (2004 – 2022) and reviewed the duration of engagement with the institution for each of the individuals identified. The researcher focused on identifying senior administrators (defined as the President, Provost / Chief Academic Officer, or Vice President for Finance / Chief Financial Officer), with a preference for individuals that had spent a minimum of 10 years

within the senior leadership role. This information was determined using available information in the IRS Form 990 – which is publicly accessible through resources including GuideStar and ProPublica - as well as reviewing continuing disclosure filings available through the Electronic Municipal Markets Access (EMMA) website organized by the Municipal Securities Rulemaking Board, and through a review of each institution's website.

During the month of November 2023, the researcher made outreach to the identified senior administrators of the 15 institutions electronically using a communication similar to that included as Appendix G.

After an initial email outreach, and if no response was received, the researcher sent a second follow up email within the week, calling the initial email to the attention of the recipient, and if no further response was received, the researcher sent a third email with a query if the recipient could recommend any other individual at the institution that would be appropriate to speak with as part of the research study.

Based on the outreach, at least one member of the senior administration at five of the 15 identified institutions was willing to participate in the study – a response rate of 25%. Participating individuals were sent a copy of the Informed Consent Form (included as Appendix C) as well as the interview protocol (included as Appendix A). At that time, the researcher inquired as to if a member or members of the Board of Trustees of the institution would be useful participants given the nature of the research study. In the case of all of the five institutions with senior administrators willing to participate in the study, the senior administers recommended *against* board participation in the research study, citing a number of reasons including turnover in board leadership, time constraints of board members, and the relevant knowledge of board members to the subject matter under review. Rather than "overriding" the senior administrators who were willing to participate in the study, and seeking board members participation directly, the researcher elected to focus on the segment of the interview protocol dealing with board reporting and engagement to assess the level of board involvement in setting strategy for the academic institution under review.

The academic institutions participating represent a cross section of private, non-profit educational institutions aligned with the initial objectives of the research study, which was to identify a diverse array of institutions across Carnegie Classification type, geographic location, and religious affiliation. The participating institutions are summarized in the table on the following page.

Table 2

Participating Institutions and Key Statistics

Institution (alphabetical)	*State*	*Carnegie Classification*	*Affiliation*	*2022 FTE*
Abilene Christian University	Texas	Doctoral Professional	Christian	5,415
Chapman University	California	Doctoral, High Research	n/a	9,969
Le Moyne College	New York	Master's Colleges and Universities	Jesuit	2,747
Marist College	New York	Master's Colleges and Universities	n/a	5,943
New York University	New York	Doctoral, High Research	n/a	53,495

Sources: Carnegie Classification of Institutions of Higher Education, Institution Websites, IPEDS

Interviews were conducted electronically via zoom or telephone during the months of November / December 2023 and January 2024. With the consent of the participants, the interviews were recorded and subsequently manually transcribed by the researcher. Key findings from each interview are noted in each institution's section below. To provide context for the financial condition of each institution, a short financial summary of each institution's background and strategic position, along with a summary of key ratios and financial trends as well as enrollment performance during the study period. Further discussion of balance sheet results and strategic initiatives, opportunities and challenges are provided. For each institution, summary context was derived from a careful review of financial statements, Moody's financial ratio results and ratings reports, (where applicable) additional ratings agency reports including those of Standard & Poor's and FitchRatings, as well as strategic planning materials made publicly available by the institution, IRS Form 990's, and (where applicable) initial offering memoranda utilized in the issuance of municipal securities and ongoing continuing disclosure required by the Municipal Securities Rulemaking Board.

Abilene Christian University Overview and Interview Summary

Abilene Christian University is a private, non-profit, independent., co-educational comprehensive university located in Abilene, Texas – with an additional, recently established, campus in the Dallas metropolitan area. The University was founded in 1906 with backing from the Church of Christ of Abilene, Texas – and has a mission to education students for Christian service and leadership. The University has total enrollment FTE of 5,415, including 3,863 traditional undergraduate students, and 1,868 adult and graduate students, across 79 undergraduate majors, 35 masters programs, and 3 doctoral programs. The teaching faculty of the University include 273 full-time and 123 part-time members; approximately 67% of the FTE faculty are tenured and approximately 96% hold a terminal degree in their field.

The University has been recognized (in 2022) by U.S. News & World Report as second in the west as a "Most Innovative School", 4th in the west for "Best Undergraduate Teaching" and 7th in the west as "Best Colleges for Veterans". In 2019, and again in 2022, the University was recognized as a "Top Producer of Fulbright Student Scholars". Core areas of academic focus include Business, Theology, Nursing, Education, Social Work, Nutrition, Psychology, Music and Chemistry and Biochemistry.

The College is a NCAA Division I athletics institution. The College has a competitive landscape which includes other private universities, and management has identified a competitive set of 34 institutions including the University of the Incarnate Ward, the University of Dallas, Trinity University, St. Mary's University, Saint Edward's University within Texas, and comparable institutions including Wheaton College, Valparaiso University, the University of Portland, Seattle Pacific University, Seattle University, Pacific University and Elon University, among others.

The University has a rating of "A3" from Moody's Investors Service, and a Financial Responsibility Composite score of greater than 1.5 during the study period.

A graphical representation of the University's 19-year Return on Net Assets ratio is captioned below; the average for the 19-year period was 8.94%, which ranked 20th among all private Colleges and Universities included in the research study.

Table 3

Abilene Christian University Return on Net Assets

Year	Return on Net Assets (%)
2022	8.6
2021	42.6
2020	1.9
2019	2.7
2018	8.5
2017	6.9
2016	-5.0
2015	5.6
2014	18.7
2013	9.2
2012	0.7
2011	11.0
2010	9.2
2009	-7.7
2008	5.3
2007	19.0
2006	13.2
2005	8.3
2004	11.1

Source: Moody's Investors Service

Notable changes to the ratio in this period include:

- In 2009, negative returns of (7.7%), attributable to a market driven decline in cash and investments.
- In 2016, negative returns of (5.0), attributable to operating margin pressure, market pressure on the value of investments, and elevated expenditures associated with the startup of graduate programs associated with downstream capital spend.
- In 2021, a positive return of 42.2% marking the largest positive return in the prior 18 years. This was attributable to increases in investments, as well as growth in fundraising.

Revenue and expense trends are captioned below, along with functional categories of revenue and expense and the associated operating margin for each fiscal year.

Table 4

Abilene Christian University Revenue and Expense by Category, ($000s)

Year	Net Tution Revenue	Net Auxiliary Enterprises	Grants & Contracts	Contributions	Assets Released	Investment Income	Operating Revenue	Operating Expense
2022	76,472	20,235	16,580	3,147	4,796	26,787	159,172	160,117
2021	78,731	18,958	7,997	1,785	3,713	23,182	143,905	143,831
2020	79,296	16,868	8,039	1,332	6,851	21,787	140,178	142,940
2019	78,005	19,935	5,224	1,609	7,055	20,071	137,259	140,619
2018	74,934	20,978	5,294	5,580	1,002	19,234	133,889	145,140
2017	67,657	24,593	5,669	1,266	3,487	19,108	127,897	138,908
2016	62,709	24,561	6,026	1,600	3,156	18,588	122,992	129,722
2015	57,938	23,651	6,115	1,645	2,846	17,089	115,062	121,675
2014	58,971	23,765	5,469	1,804	7,257	15,808	118,379	119,621
2013	58,033	22,339	5,508	1,692	3,529	14,933	110,550	113,646
2012	60,316	21,563	6,302	2,493	2,811	13,844	112,086	113,152
2011	55,683	21,466	6,596	2,185	4,693	13,071	110,615	110,350
2010	50,521	21,123	7,139	2,695	3,507	12,769	102,125	105,447
2009	48,425	20,939	7,364	6,227	2,153	12,217	102,394	104,087
2008	45,639	18,933	6,733	1,392	3,310	10,861	92,023	95,267
2007	43,761	18,207	2,937	3,406	4,622	9,504	90,286	90,895
2006	45,820	17,377	2,237	2,184	2,712	8,734	84,845	83,750
2005	44,015	16,688	2,230	1,235	3,258	8,327	79,200	82,289
2004	40,023	14,641	1,689	1,747	2,606	8,120	72,245	78,260

Source: Moody's Investors Service

Notable changes to revenue and expense in this period include:

- Steadily increasing total revenues from 2004 to 2022, largely driven by tuition and fee income, as well as grant revenue growth, which reflects the ability to compete for more meaningful federal and private (foundation) grants for University academic priorities, specifically in STEM programs.
- Generally profitable operating margin, though narrowly breakeven, which suggests return on net assets is influenced by underlying asset appreciation.
- University giving remains fluid and subject to fluctuations, ranging from ~$1.2 million in 2005 to ~$6.2 million in 2009. The University has made efforts in expanding giving through capital campaigns.

- Measured expense growth, with some significant expenditures and capital outlays associated with strategic initiatives (e.g. ACU Dallas).

The University operates in a highly competitive market environment, as characterized by the aforementioned competitive landscape. The University's enrollment profile is illustrated below, along with key statistics in selectivity and matriculation.

Table 5

Abilene Christian University Enrollment Trends

Year	Undergradaute FTE	Graduate FTE	Total FTE Enrollment	Selectivity (%)	Matriculation (%)
2022	3,889	1,526	5,415	66.0	13.5
2021	3,647	1,454	5,101	70.3	14.9
2020	3,600	1,438	5,038	63.4	12.9
2019	3,658	1,443	5,101	61.5	13.2
2018	3,666	1,434	5,100	57.0	14.0
2017	3,592	1,012	4,604	60.6	16.3
2016	3,669	791	4,460	50.9	20.1
2015	3,631	583	4,214	49.9	19.9
2014	3,464	571	4,035	50.5	20.6
2013	3,569	550	4,119	48.9	20.7
2012	3,469	542	4,011	45.5	24.9
2011	3,611	557	4,168	64.4	38.7
2010	3,567	718	4,285	52.5	45.5
2009	3,605	743	4,348	49.1	53.9
2008	3,653	662	4,315	46.7	53.4
2007	3,754	591	4,345	49.7	45.9
2006	4,012	471	4,483	52.3	50.4
2005	3,997	428	4,425	54.8	49.2
2004	3,954	391	4,345	53.8	51.3

Source: Moody's Investors Service, IPEDS, Researcher Calculations

The University maintained assets of $1.26 billion as of Fiscal Year 2022, of which $808.1 million were long term investments and cash, cash equivalents and accrued interest on investments. Property, Plant and Equipment, net of depreciation, totaled $351.8 million. The University's investment portfolio – the management of which is directed to Abilene Christian University Investment Management Corporation ("ACIMCO") - reflects a highly bespoke approach to investing, with high allocations to private equity (20.5%) and energy (19.1%), which is reflective of historical real estate gifts including energy trusts and natural resources. Liabilities of the University include long term debt of $263.9 million. Net Assets of the University

total $926.4 million the majority of which ($468.1 million) are without restriction (Audited Financial Statements).

The University has seen a steady and protracted increase in unrestricted net assets, as demonstrated in the table below, as well as an increase in total balance sheet strength. The University's investment fund has a target rate of return (in excess of inflation) of 5.50% over the investment horizon and targets a liquidity range of 20% to 30% of endowment assets to be liquid within 30 days and a range of 45% to 55% of endowment assets with expected liquidity of more than one year (Audited Financial Statements).

Table 6

Abilene Christian University Key Balance Sheet Metrics

Year	Cash & Investments	PP&E Net of Depreciation	Total Assets	Long Term Debt	Change in Net Assets
2022	808,058	351,802	1,255,365	263,980	73,471
2021	667,136	284,663	1,081,476	159,707	254,884
2020	477,258	245,015	807,322	149,154	11,154
2019	462,806	240,329	786,561	142,198	15,696
2018	450,862	242,047	770,392	145,710	44,574
2017	393,527	227,539	706,850	129,480	33,831
2016	359,875	180,612	629,328	84,606	(26,084)
2015	400,625	153,850	643,133	76,323	27,565
2014	386,009	142,646	614,722	81,092	77,435
2013	328,661	141,628	534,673	59,397	34,762
2012	310,674	143,752	501,061	64,028	2,695
2011	309,124	141,972	498,097	61,896	37,224
2010	276,199	130,036	453,364	59,694	28,527
2009	245,294	130,201	418,788	58,542	(25,796)
2008	262,748	120,633	448,127	49,338	17,030
2007	258,118	109,721	434,279	50,671	50,395
2006	212,129	105,014	379,650	48,841	30,877
2005	181,419	94,850	334,713	46,866	17,891
2004	176,670	91,904	319,802	52,257	21,603

Source: Moody's Investors Service

Notable events impacting the balance sheet of the organization include;

- Additions to physical plant, including significant bond financed capital expenditures in 2013 – 2016.

- Material growth in cash and investments, which when combined with the expansion in physical plant, has resulted in net asset growth to over ~$1.2 billion in 2022.

In reviewing the University's financial statements, ratings reports, continuing disclosure associated with public bond offerings, and prior strategic plans, several key strategic initiatives undertaken by the University emerged as impactful from a financial perspective.

- *Endowment Development.* The University's endowment has undertaken a development (Allen Ridge), which is mixed-use area with retail, dining, entertainment, medical, hotel, multifamily residential, and senior living facilities. The University has created two Limited Liability Corporations through which it has developed the projects to date; the development is occurring on 50 acres of University-owned land, and no University or endowment debt is contemplated.
- *Accreditation Sanction.* In 2017, the University was placed on warning for six months by its accrediting body for insufficiency of faculty for the Doctor of Education online program.
- *ACU Dallas Campus.* In 2015, the University created ACU Dallas, which occupies a 51,000 square foot in Addison Texas – the University is the only university located in Addison. Evening, weekend and short courses are taught on site, the facility is also used for university and community events.
- *Vision in Action Capital Plan.* Beginning in 2014, the University undertook a series of five consequential capital projects with the objective of transforming the campus in several areas linked to the University's overall enrollment strategy. This included the construction of the Onstead Science Center in 2018, which replated outdated facilities and provided 85,000 square feet for STEM initiatives and associated academic programs. The construction of the Halbert-Walling Research Center was developed as home to the biology, chemistry and biochemistry departments, as well as pre-health programs. This structure was completed in 2016. The construction of Engineering and Physical Laboratories was directly linked to investments in engineering a physics programs, and was completed in 2015. Athletics investments were completed through the construction of a new 1,000 seat track and field and soccer stadium /

fieldhouse as well as the completion of a 12,000 person football stadium, in support of the University's Division I athletic program.

- *Broad Strategic Planning Considerations.* The University successfully completed a 2016 – 2021 strategic plan which focused on program innovation and delivery, mission focused spiritual formation, and growth in the population and type of students served (e.g. adult, online and transfer students). The development of ACU Dallas (detailed above) figured significantly into this strategic strategy. The University had – in 2022 (the end of the study period) initiated a new strategic plan, focused on six major pillars, those being:
    1. Elevating the University's brand;
    2. Provide a vibrant student experience, with significant investment in student services;
    3. Promote a culture of success;
    4. Achieve athletic success;
    5. Strengthen the University's financial foundation, and;
    6. Develop the University's physical campus.

Specific stated components of the fifth objective including endowment growth through fundraising, and management of graduate program tuition revenue and expense to align with market demand.

The interview took place with the President of the institution, who has served in this role since June 2010. The President waived the terms of confidentiality offered in the Consent Form. The President has had 28 years of experience in higher education, all of it at the University, and (prior to the presidency) held roles as Executive Vice President, Vice President for Finance, Chief Financial Officer, Director of Financial Operations, Director of Student Financial Services and Development Officer. Prior to joining the University, the President held a role in accounting. The President has an undergraduate degree from the University, an MBA from Duke University, and an Ed.D. from the University of Pennsylvania.

After framing the nature of the dissertation and the data, the researcher and the President discussed the initial rationale for why the University appeared as a top ranked institution for financial performance. The President self-identified as a "data guy" and requested the opportunity to view the data

reviewed (researcher committed to provide as a follow up item). The President clearly understood the focus of the study and noted three things that contribute heavily to the ranking, in his view:

1. Success of the investment portfolio and allocation of endowment, noted as the largest and most significant factor in the President's view.
2. Strong gift performance. The President cited over $500 million in total giving during has 14-year tenure and commented on this giving relative to the size of the institution's asset base.
3. Generating a cash surplus from operations. The University budgets for a 2% contingency relative to budget and has well established reserve funds. The University functions with a corporate mindset and has specific policies for approaching strategic initiatives.

The discussion focused on each of these areas in detail.

Digging deeper on the endowment allocation, the University recently transitioned CIO's, but had a long-standing CIO who had modernized the University's asset allocation (the President having worked for the CIO in prior roles at the University. The President described the CIO as a student of the "David Swensen Yale Model", which reflects an outsized commitment to private equity and private investments, this beginning when ACU had a $75 million endowment. The University, at the $100 million level, undertook significant allocations to alternative asset classes. Secondarily, the University had overexposure to oil and gas, and was in several private equity energy funds. The University had exposure to EnCap, one of the largest private equity energy players, and participated in early funds in the early 2000's. The University also owns significant donations of real estate which have mineral interests. The University has benefited from selling the land but leasing the mineral rights (but has not monetized the revenue stream). The University has also maintained a low level of fixed income, and did not have requirements for liquidity, so was willing to consider longer duration investments. Given the outperformance of the energy sector over the study period, the return impact was significant. The University also had a ready base of investment committee members who had specialized knowledge of this type of investment, which led to greater efficiency in investment (in the President's view). The President did not view this knowledge base as a challenge in the context of university governance, in part because the University had engaged a qualified, in-house CIO, to which the institution was willing to pay an above market salary. The University

strategically viewed this hire as a key priority, inasmuch as the CIO crafted an investment policy with real strategic thought and the ability to take more risk. The President viewed having "good people" in the CIO role as essential – and thought that part of what institutions need to realize is that this is one of the top hires an institution can make.

With respect to fundraising, the President articulated that 40% of his time was spent fundraising (Monday Tuesday in office, Wednesday Thursday fundraising, Friday a flex day); the fact the President is dedicating 2 days a week to fundraising drives several strategies. The President also relentlessly pushes the fundraising "algorithm" to be able to generate a list of potential donors and their interests and has developed it into a "routinized discipline". Initially, fundraising was $10-12 million annually, and this has increased materially, with a 10-year average of $38 - $40 million – this has been a major shift in the culture of the institution's operations. The President also pushes donors to listen and dream about the "future" of higher education with what is needed in the market and sees direct correlation with success in fundraising and capex. Capital expenditures must be 100% funded with gifts as per board policy, and programmatic initiative funding comes from university margin. The President uses fundraising strategically to fund startup initiatives.

The "base business" of running the institution to generate margin follows a very specific formula – an excess 3% contingency of allocated expense below revenue to ensure that a margin of 1-2% is achieved annually. The University had tried certain budget initiatives over time but avoided "ground up" budgeting in favor of a more centrally controlled administrative effort. Forward plans / initiatives / requests are submitted annually, but it is typical that these requests vastly exceed available revenue and are materially cut back. This period of cutting back from an initial projected budget deficit is helpful in focusing on core priorities of the institution and takes place in a matrix / scenario analysis context led by the finance department. "Of course, we begin with a large deficit, but progressively work towards a balanced scenario with margin included". Metrics utilized throughout the year are strongly focused on the operating budget – and the operating budget has been isolated to the performance of the base business. There are separate metrics that are used to manage the fundraising and investment components of the University's business; these are separately managed to eliminate any confusion in incentives for expense management. Ratios are

reported routinely quarterly to the board, which look at balance sheet measures, return on net assets, debt to equity (and these are measured in Board authorized ranges) – but the operating budget is the core measure of financial performance.

Broader strategic initiatives are reviewed in a separate context from the base business; the President runs these initiatives *independent* of the operating budget and seeks fundraising or other external funds as "bridge financing" - which is applied over a 3–5-year period during which strategic initiatives reach "breakeven" or are then shut down. The Dallas campus buildout was an example of this type of strategic initiative, with the objective of diversifying revenue away from undergraduate residential revenue streams (though the President relayed that the length of the initiative to reach the breakeven goal took longer than initially conceptualized 3 years). Athletics – in particular the push to Division I athletics – is a similar example of a strategic initiative that was funded by donor gifts to cover initial operating deficits. When a strategic initiative reaches breakeven, it is folded into the base business and managed to the same margin expectations as other businesses.

In identifying the impetus for broader strategic initiatives, the President has a routinized process for an evergreen assessment of new programs – leadership should be able to describe at any given point what the top 5 programs are that are *not* being offered in any given academic discipline. The President also undertakes regular program evaluations to pare back nonperforming programs and initiatives. This enables the institution to "lean in" to new subject matter areas and consider avenues to gain market share.

Chapman University Overview and Interview Summary

Chapman University is a nonprofit coeducational institution founded in 1861 as Hesperian College, and subsequently merged in 1921 with California Christian College and was named Chapman University in 1934 in recognition of C.C. Chapman – an Orange County real estate investor and benefactor. The University is nondenominational and independent of church control. In 1958, the University offered adult education courses through the University College division – in 2007, these operations were transferred into a new nonprofit corporation wholly controlled by the University, and subsequently branded as Brandman University. Chapman University is organized into eleven schools and colleges and had total fall semester

2020 enrollment of 9,281 FTE's (7,404 undergraduates and 2,357 graduate students). At that time, the University had 545 full time faculty, 86% of which hold terminal degrees in their field.

In December 2018, the University's growth in research, scholarships and doctoral studies resulted in its elevation to R2: Doctoral Universities – High Research Activity status by the Carnegie Classification of Institutions of Higher Education and was ranked #124 in the National Universities group by U.S. News and World Report in 2020. The University offers a broad spectrum of credential, undergraduate, graduate and certification programs, as well as continuing education programs. Core areas of academic focus include Business & Economics, Film & Media Arts, Educational Studies, Law, Performing Arts, Humanities & Social Sciences, Science & Technology, Health & Behavioral Sciences, Pharmacy, Communication, and Engineering. The University also houses several independent research centers engaged in cross-disciplinary work, as well as foreign study and exchange programs.

The University requires undergraduate students to live on campus for the first two years and is a NCAA Division III athletics (a non-scholarship division); approximately 25% of the student body participates in athletic activities. The University has a competitive landscape which includes other private universities in western states, and management has identified Pepperdine, Santa Clara, Loyola Marymount and Seattle Universities as competitors as well as the University of San Diego, of the Pacific and of San Francisco.

The University has a rating of "A2" from Moody's Investors Service, and a Financial Responsibility Composite score of greater than 1.5 during the study period.

A graphical representation of the University's 19-year Return on Net Assets ratio is captioned on the following page; the average for the 19-year period was 10.82%, which ranked 7th among all private Colleges and Universities included in the research study.

Table 7

Chapman University Return on Net Assets

Year	Return on Net Assets (%)
2022	7.5
2021	18.9
2020	8.0
2019	6.7
2018	9.4
2017	8.6
2016	3.6
2015	6.3
2014	10.7
2013	12.1
2012	7.4
2011	13.1
2010	11.4
2009	-2.7
2008	9.0
2007	18.8
2006	19.8
2005	13.8
2004	23.2

Source: Moody's Investors Service

Notable changes to the ratio in this period include:

- In 2009, a negative return of (2.7%), marking the only year where Chapman had a negative return in this ratio, which is attributable to a decline in undergraduate and graduate headcount, a market driven decline in cash and investments and an increase in PP&E and the associated accumulated depreciation from the completion of a major capital project.
- In 2019, a positive return of 18.9%, which reflects in part the initiation of a strategic partnership between Chapman University-owned Brandman University, which resulted in a subsequent sale of Brandman University by Chapman University

Revenue and expense trends are captioned on the following page, along with functional categories of revenue and expense and the associated operating margin for each fiscal year.

Table 8

Chapman University Revenue and Expense by Category, ($000s)

Year	Net Tution Revenue	Net Auxiliary Enterprises	Grants & Contracts	Contributions	Assets Released	Investment Income	Operating Revenue	Operating Expense
2022	340,297	49,441	27,291	12,411	7,768	31,048	474,357	406,924
2021	332,375	18,788	32,713	9,308	7,276	26,904	429,661	358,330
2020	334,009	45,100	-	10,866	5,902	25,090	443,674	374,359
2019	412,955	49,171	-	9,905	5,623	22,538	520,434	458,870
2018	379,406	44,642	-	10,891	3,636	20,661	478,048	413,612
2017	345,375	38,617	-	8,575	1,820	19,162	429,563	384,447
2016	330,054	36,862	-	8,709	3,409	18,292	411,503	369,195
2015	315,874	35,007	-	8,227	1,988	16,791	390,490	344,140
2014	296,887	31,551	-	8,407	1,953	15,290	368,138	329,675
2013	272,177	29,110	-	10,324	2,390	13,426	341,671	307,584
2012	249,243	28,742	-	9,024	1,412	11,490	312,689	282,190
2011	231,069	28,026	-	8,433	856	11,175	292,420	261,075
2010	207,771	25,919	-	10,049	6,874	11,007	275,084	237,811
2009	187,300	20,590	-	10,531	3,964	10,854	244,073	215,351
2008	174,506	20,268	-	10,557	885	9,063	223,837	191,665
2007	160,384	19,880	-	9,526	1,284	7,607	206,882	172,016
2006	147,517	16,226	-	6,280	302	6,973	184,167	152,976
2005	134,222	15,055	-	6,219	1,302	6,677	169,426	145,457
2004	118,780	12,235	-	5,581	1,678	6,408	151,474	135,200

Source: Moody's Investors Service

Notable changes to revenue and expense in this period include:

- Steadily increasing total revenues from 2004 to 2019, largely driven by tuition and fee income. The University experienced stable growth in giving during this same period.
- The impact of the Covid-19 pandemic, which is reflected in revenue pressures in both Fiscal Year 2020 and 2021 and is further reflected in the receipt of government aid.
- Pursuit of grant revenue, beginning in 2021.

The University operates in a highly competitive market environment, as characterized by the aforementioned competitive landscape. The University's enrollment profile is illustrated on the following page, along with key statistics in selectivity and matriculation.

Table 9

Chapman University Enrollment Trends

Year	Undergradaute FTE	Graduate FTE	Total FTE Enrollment	Selectivity (%)	Matriculation (%)
2022	7,720	1,976	9,696	68.8	21.0
2021	7,426	2,099	9,525	60.4	18.2
2020	7,123	2,158	9,281	58.3	19.1
2019	10,476	6,362	16,838	55.9	22.7
2018	9,891	6,032	15,923	53.8	22.5
2017	9,186	5,630	14,816	57.2	22.9
2016	8,791	5,167	13,958	54.1	21.9
2015	8,849	5,064	13,913	47.6	22.0
2014	9,033	4,860	13,893	47.0	24.2
2013	9,225	4,542	13,767	44.7	24.5
2012	8,228	4,581	12,809	43.4	28.3
2011	7,652	4,092	11,744	44.9	29.5
2010	7,109	4,504	11,613	49.6	29.4
2009	6,244	4,518	10,762	56.3	29.8
2008	5,758	4,376	10,134	50.1	36.0
2007	5,739	4,485	10,224	49.4	39.1
2006	5,623	4,220	9,843	51.6	43.4
2005	5,724	4,201	9,926	52.2	41.7
2004	5,528	4,172	9,700	57.9	41.4

Source: Moody's Investors Service, IPEDS, Researcher Calculations

The University maintained assets of $2.1 billion as of Fiscal Year 2022, of which $780.9 million were long term investments and cash, cash equivalents and accrued interest on investments. Property, Plant and Equipment net of depreciation totaled $963.4 million. The University's investment portfolio reflects an aggressive approach to alternative investments, with allocations of 15% to venture capital, 19.1% to private equity, and 52.6% to hedge funds. Liabilities of the University include long term debt of $481.5 million. Net Assets of the College total $1.56 billion the majority of which ($1.19 billion) are without restriction.

The University has seen a material and protracted increase in unrestricted net assets, as demonstrated in the table below, as well as a protracted increase in total balance sheet strength. The University uses a moving average of market values to calculate its annual draw from the Endowment, which has historically been 3.75% of the moving average of the Endowment's market value for the previous 20-quarter end portfolio market valuations.

Table 10

Chapman University Key Balance Sheet Metrics

Year	Cash & Investments	PP&E Net of Depreciation	Total Assets	Long Term Debt	Change in Net Assets
2022	780,893	963,393	2,132,826	481,517	108,898
2021	749,962	989,761	1,916,594	335,174	230,697
2020	563,293	978,714	1,697,089	349,848	90,675
2019	549,650	983,343	1,613,424	369,586	70,861
2018	501,324	931,188	1,546,219	380,932	90,790
2017	454,396	729,181	1,313,512	246,418	76,830
2016	396,588	646,441	1,223,260	236,540	31,260
2015	388,686	591,819	1,086,374	114,360	50,787
2014	364,469	533,560	1,012,498	119,140	78,350
2013	344,381	455,887	935,100	123,956	78,745
2012	298,613	414,645	938,936	205,327	45,179
2011	274,386	390,343	791,392	104,235	70,119
2010	232,575	380,360	706,716	99,905	55,087
2009	182,432	372,632	644,236	103,229	(13,352)
2008	255,464	298,088	654,081	106,588	40,787
2007	222,541	256,786	619,094	110,251	71,858
2006	173,257	234,256	547,635	112,578	63,123
2005	142,638	189,798	424,024	59,895	38,716
2004	133,868	169,196	390,134	62,180	52,535

Source: Moody's Investors Service

Notable events impacting the balance sheet of the organization include;

- Additions to physical plant
- The sale of Brandman University to the University of Massachusetts
- Measured issuance of long-term debt, with each issuance associated with strategic investments in academic programming correlated with enrollment growth.

In reviewing the University's financial statements, ratings reports, continuing disclosure associated with public bond offerings, and prior strategic plans, several key strategic initiatives undertaken by the University emerged as impactful from a financial perspective. These included:

- *Strategic Planning Capabilities*. The University demonstrated a significant focus on strategic planning, with a series of successive plans, and a rigorous process of evaluation relative to plan goals. The most recent completed strategic plan reflected investments in academic

program growth which were match by spend on physical infrastructure, most notably in Engineering and Dance. Enrollment goals in engineering, specifically, saw material increases (62% in enrollment from 2019 to 2022) which reflects a strategy of investment correlated to enrollment growth. Prior strategic plans' areas of focus included:

- 2018 – 2023 "Engineering the Future". Focus on the establishment of the School of Engineering; continuous development of the Rinker campus, Pharmacy and Graduate Health Science programs; launching of the Institute for Interdisciplinary Brain and Behavioral Sciences.
- 2013 – 2018 "Movement in the Health Sciences'. Emphasis on growth in graduate health science programs and establishing a school of pharmacy.
- 2008 – 2013 "A Path to National Stature". Recruiting faculty with national and international visibility: Economic Science Institute, Institute for Quantum Studies, Institute for the Study of Religion, Economics, and Society; expanding programs in the sciences.
- 2003 to 2008 "Enhancement of Physical Facilities' which resulted in material investments to campus infrastructure.
- 1998 to 2003; Establishment of the Fowler School of Law and the Dodge College of Film and Media Arts; growing existing professional programs.

- *Development of and Sale of Brandman University*. Brandman University is a nonprofit corporation that was created by and controlled by Chapman University. In 2021, Chapman University and the University of Massachusetts consummated a transaction by which the control of Brandman University was conveyed to the University of Massachusetts. Following the transaction date, Brandman University will be obligated to pay to Chapman University a stream of fixed payment installments, through 2030, with consideration totaling $133 million. Liabilities associated with Brandman University were subsequently assigned to Chapman Bond Guarantor LLC. Net assets of Brandman University at the time of the transaction were

conveyed to the University of Massachusetts. As detailed above, Brandman University provided adult education courses in 28 academic centers located in California and Washington

- *Significant Fundraising Activity*. While the University has had a moderate level of giving for operations (an average of $9.1 million over the survey period), the University has demonstrated significant fundraising capacity, as demonstrated by an average of $46 million annually (over the survey period) in release of temporarily restricted net assets for investment in plant. The University has generally leveraged contributions for the purpose of defraying the cost of large capital expenditures, a strategy which was reviewed in detail in the interview.

The interview took place with the current Executive Vice President and Chief Operating Officer (the "EVP") of the institution, who has served in that capacity from 2007 to 2022. The EVP waived the terms of confidentiality offered in the Consent Form. The EVP has had extensive experience in higher education management at several institutions prior to the University, including similar roles at Whittier College and Occidental College, where he was Chief Financial Officer. The EVP has an MBA from Claremont Graduate University.

After an introductory discussion, the EVP shared career context. Chapman has been the EVP's longest higher education appointment, and the EVP rejoined higher education after a period at the Los Angeles Philharmonic as CFO. The EVP's career began at the Claremont College system, and then joined Whittier, where the CFO departed, and the EVP was instilled as CFO. The EVP descried Whittier as a "fix it", and "training by fire in a crucible", and that there were similar challenges at Occidental. The EVP had a defined view and career objective of becoming a CFO and had pursued an MBA with finance designation as a direct tool in pursuing that pathway – and pursued other coursework to be able to gain a specialization in nonprofit finance.

The EVP observed that "Whittier was in full blown financial crisis – the finance and audit committee were combined, and the institution had faced a going concern opinion, and the institution's bank had withdrawn its line of credit – the result was the institution could not make payroll in two weeks." The EVP stated that this was a deep formative experience. Within the first 6 weeks at Whittier, the EVP was

responsible for the termination of tenured faculty, and the EVP made a vow that he would not have any institution he was involved with experience financial distress.

At Chapman, the EVP noted the strong role of the president, who had "invented a business model that the EVP inherited". The business model was to use faculty to develop market analysis of new programs to encourage tuition generating enrollment (an example of this was the film school, which evolved from a single professor with a video camera to a leader in the space ranked 4th internationally), to develop new programs in a way that were market sensitive and *better* than existing, competitive programs, and deployed a state of the art facility to support the program. This was deployed in performing arts, in sciences, and in film, among others.

The EVP described the centralized administration function as a material benefit in conducting analysis quickly (the review of a new program takes 30-45 days, by example). This central administration was empowered by a high level of trust in the president, who came from the faculty. The senior administration uses models established over time which are "suitably intricate" and on occasion will engage a market-based consultant to conduct further analysis of opportunities. Faculty are encouraged to submit ideas for new programs through the provost, but the majority of new ideas are centrally directed. The EVP noted that not everything initiated worked – pointing specifically to a pharmacy school effort which was not successful given the overbuilt nature of the market – which is now struggling. The EVP also noted a high level of accountability, including identified funding that would be required before providing any proposal to the board, and showing that startup capital must be repaid over time. Further, the current academic program portfolio is rigorously assessed – finance committee material includes a contribution analysis for every program which is currently operated. The finance committee meets 5 times a year, with agenda material in the range of 150 to 200 pages – this is produced from a fully resourced budget office, which uses Synario (a planning software) to prepare financing forecasts. This forecasting is also tied into a comprehensive forward-looking view of ratings agency ratios. The EVP does not use peer comparisons for cost structure analysis, as the University's operating performance is not comparable, in the EVP's view.

The substantial operating margin created annually is transferred to quasi endowment and also used to fund capital expenditures. In the EVP's view – relative to the University's donor base – fundraising for buildings is challenging, and fundraising dollars are better dedicated to program creation. Building projects are therefore internally funded, and fundraising is cause related. The current campaign ($500 million) has a $300 million component which is endowment associated.

The EVP noted that the city of Orange has pushed for major additions to the University's housing stock, which the University has undertaken. In doing so, the University has built financial structures which would allow for the monetization of these assets if desirable in the future – purchasing apartment complexes from REITS and has used debt to do so. The Board has a very defined view of market risk / debt capital markets conditions. The cost of the borrowing to fund the acquisition was 2.88% ("effectively free money"). The University has an internal ratio that measures debt capacity and will not use leverage unless financially feasible.

The EVP views the endowment as a form of revenue diversification, noting that while the university had "made a virtue out of being tuition dependent", the endowment (in his tenure) had grown from $130 million to over $700 million, and that endowment growth was a core area of strategic focus. The University is *not* run to be dependent on the endowment, the endowment spending ratio is 3%, and the investment committee has a material exposure to alternative investments (the policy target is 47% exposure). This is justifiable as the University does not need the endowment, the objective is to reach a $2 billion endowment by 2038, and there is a detailed plan to do so.

With respect to the Brandman University transaction, the sale has resulted in a stream of payments, and those are dedicated specifically to the endowment. The University did not securitize the payments from the sale of Brandman but negotiated a long-term payment structure from UMass. Further, it was clear to the University that to be successful in online education required spending 25% of topline revenue on marketing, which was not something that the University was willing to do.

The EVP did believe that a portion of the University's success was attributable to leadership – specifically the leadership of the President, and that the University's approach may be scalable in a way where the case study of Chapman may be helpful to others. The EVP also believed that the locational endowment of the University was significant, and attributable to success of Chapman. Finally, Board development is a significant ongoing process – the Board looks for and pursues a culture of contribution of both talent and giving.

Le Moyne College Overview and Interview Summary

Le Moyne College is a private, non-profit, independent., co-educational institution located near Syracuse, New York. The College was founded in 1946; and – according to its mission statement – is a diverse learning community striving for academic excellent in the Catholic and Jesuit tradition. The College offers baccalaureate degrees, as well as Master of Science, Masters of Science in Education, Masters of Science for Teachers, and a Doctor of Education. The College has total enrollment FTE of 2,989, including 2,410 traditional undergraduate students, and 328 graduate and doctoral students. Primary areas of academic study at the undergraduate level include business administration, psychology, biology, accounting, English, history, communications, sociology, criminology, and political science. The faculty of the College number approximately 172 full-time members, and 135 adjunct members; of the full-time faculty, 108 are tenured.

Through 2022, the College competed as a NCAA Division II athletics institution; in 2023, the College transitioned to Division I athletics as part of a broader strategic initiative around regional competitiveness. The College has a competitive landscape which includes other private universities, and management has identified a competitive set of institutions including Syracuse University, St. John Fisher College, Nazareth College, Siena College, Canisius College, St. Bonaventure University and Ithaca College, among others.

The College has a rating of "Baa2" from Moody's Investors Service, and a Financial Responsibility Composite score of greater than 1.5 during the study period.

A graphical representation of the College's 19-year Return on Net Assets ratio is captioned below; the average for the 19-year period was 9.40%, which ranked 16th among all private Colleges and Universities included in the research study.

Table 11

Le Moyne College Return on Net Assets

Year	Return on Net Assets (%)
2022	-3.1
2021	25.9
2020	-1.9
2019	-0.6
2018	6.7
2017	8.3
2016	-1.7
2015	4.5
2014	9.5
2013	16.3
2012	-2.1
2011	20.8
2010	15.6
2009	46.8
2008	-3.1
2007	15.6
2006	5.2
2005	8.6
2004	7.3

Source: Moody's Investors Service

Notable changes to the ratio in this period include:

- In 2009, positive returns of 46.8%, attributable to a market driven increase in cash and investments, which was magnified by a significant gift to the endowment, which was invested at the low point of the market and resulted in outsize returns in 2010 and 2011.
- In 2021, a positive return of 25.9% attributable to increases in investments, as well as growth in fundraising.

Revenue and expense trends are captioned on the following page, along with functional categories of revenue and expense and the associated operating margin for each fiscal year.

Table 12

Le Moyne College Revenue and Expense by Category, ($000s)

Year	Net Tution Revenue	Net Auxiliary Enterprises	Grants & Contracts	Contributions	Assets Released	Investment Income	Operating Revenue	Operating Expense
2022	50,673	16,616	15,465	2,720	3,196	12,169	102,607	95,538
2021	51,027	14,587	4,833	3,697	2,343	11,081	88,788	82,307
2020	50,918	13,928	5,117	2,752	855	10,887	86,276	86,395
2019	51,000	18,605	3,315	3,097	612	10,166	89,726	85,722
2018	52,369	19,399	3,132	3,218	449	9,522	90,311	85,067
2017	53,201	19,561	2,493	2,715	503	8,973	89,230	84,519
2016	49,915	19,014	2,738	2,716	707	8,591	85,559	80,704
2015	48,048	19,118	2,424	2,356	665	7,718	81,589	76,168
2014	46,914	17,713	2,352	2,169	192	7,135	77,771	73,470
2013	46,440	16,322	2,403	2,129	103	6,384	75,062	70,673
2012	47,332	15,772	2,092	1,745	154	5,882	74,210	68,822
2011	45,887	14,477	1,783	2,009	121	4,571	70,022	64,118
2010	42,347	14,161	2,408	1,759	222	3,769	65,901	61,146
2009	40,912	13,147	1,979	2,042	128	2,957	62,368	60,640
2008	38,737	13,019	2,429	2,393	239	2,959	60,998	59,020
2007	37,378	12,047	2,410	2,048	232	2,554	57,779	56,978
2006	36,670	11,575	2,176	2,769	196	2,215	56,633	53,958
2005	33,724	10,845	2,304	1,971	198	2,031	52,175	49,727
2004	31,089	10,141	2,329	2,119	233	1,940	49,099	48,095

Source: Moody's Investors Service

Notable changes to revenue and expense in this period include:

- Steadily increasing total revenues from 2004 to 2018, largely driven by tuition and fee income, which increased from $31.1 million in 2004 to ~$53.4 million in 2018; and was stable to slightly declining thereafter.
- University giving remains stable around the average of ~$2.4 million annually. The University has successfully conducted six capital campaigns since 1978, each of which has exceeded the stated fundraising goal. In 2004 through 2010, a capital campaign raised over $91 million relative to a $50 million goal; in 2012 – 2015 a $15 million capital campaign was achieved for the purpose of funding a new business school; in 2022 a $100 million campaign was successfully concluded. (Audited Financial Statements)

The College operates in a highly competitive regional market environment, New York being one of the most competitive nationally. The College's enrollment profile is illustrated below, along with key statistics in selectivity and matriculation.

Table 13

Le Moyne College Enrollment Trends

Year	Undergradaute FTE	Graduate FTE	Total FTE Enrollment	Selectivity (%)	Matriculation (%)
2022	2,328	419	2,747	78.3	10.9
2021	2,432	446	2,878	73.4	11.4
2020	2,508	442	2,950	74.7	11.8
2019	2,513	406	2,919	73.6	12.1
2018	2,543	519	3,062	68.8	13.4
2017	2,595	542	3,137	64.0	11.5
2016	2,719	543	3,262	65.3	14.1
2015	2,611	339	2,950	79.3	11.6
2014	2,618	281	2,899	64.9	16.4
2013	2,531	282	2,813	61.9	17.1
2012	2,469	315	2,784	69.9	17.5
2011	2,566	362	2,928	61.7	18.2
2010	2,579	442	3,021	63.9	20.2
2009	2,559	447	3,006	66.8	20.2
2008	2,519	424	2,943	61.2	21.1
2007	2,514	412	2,926	69.0	21.1
2006	2,461	448	2,909	69.5	21.7
2005	2,525	461	2,986	72.4	24.4
2004	2,488	343	2,831	73.9	23.0

Source: Moody's Investors Service, IPEDS, Researcher Calculations

The College maintained assets of $407.7 million as of Fiscal Year 2022, of which $279.6 million were long term investments or cash, cash equivalents and accrued interest on investments. Property, Plant and Equipment, net of depreciation, totaled $101.1 million. The College's investment portfolio reflects a growth approach, with significant allocations to domestic and international equities. A minority of the investment portfolio is invested in hedge funds and private equity. Liabilities of the College include long term debt of $85 million. Net Assets of the College total $295.1 million $103.3 million of which are without donor restrictions.

The University has seen a steady and protracted increase in total assets, as demonstrated in the table on the following page, as well as an increase in total balance sheet strength. The College uses a

total return spending policy which pegs spending for annual operating expenses at 70% of actual spending from the prior year. This is increased by the August-to-August CPI Urban Inflation Index plus 1%, plus the moving average of the prior four quarters endowment performance multiplied by 30%. This in total is multiplied by 4.5% (the long-term spending rate). The College uses an external consultant (Prime Buckholtz) for investment advice.

Table 14

Le Moyne College Key Balance Sheet Metrics

Year	Cash & Investments	PP&E Net of Depreciation	Total Assets	Long Term Debt	Change in Ne Assets
2022	279,625	101,154	407,704	85,131	(9,364
2021	288,131	103,247	403,094	68,302	62,552
2020	217,871	108,048	340,454	69,134	(4,652
2019	224,132	106,648	345,570	71,437	(1,508
2018	222,881	107,030	346,802	71,748	15,560
2017	206,193	106,355	332,540	72,102	17,762
2016	180,862	108,235	310,731	72,785	(3,786
2015	184,279	103,674	301,859	58,145	9,372
2014	173,232	99,976	293,828	60,841	18,189
2013	157,960	95,209	275,966	61,894	26,699
2012	131,913	87,765	237,576	47,508	(3,486
2011	138,230	72,181	240,371	47,932	28,848
2010	112,874	53,763	187,449	23,968	18,704
2009	101,791	50,857	167,652	25,523	38,306
2008	59,581	48,423	119,673	15,045	(2,652
2007	64,747	47,372	123,202	16,393	11,422
2006	53,068	47,426	110,986	17,712	3,644
2005	47,180	46,959	105,729	18,987	5,495
2004	40,710	48,323	99,886	20,202	4,365

Source: Moody's Investors Service

The College maintains, as a committee of the Board, a "Strategic Alliance Ad Hoc Committee" and has considered a number of alliance and affiliation opportunities. The College maintains a number of partnerships with regional hospitals related to academic programs with concentrations in healthcare.

In 2022, Le Moyne established a shared services organization ("SSO") with Hobart & William Smith Colleges; this SSO is modeled in part on existing consortium models including the Claremont model, as well as the Green Mountain College association. The SSO is not merger but allows for sharing of administrative functions to reduce expense. Subsequent to the study period, in 2023, Cazenovia College

announced its closure; Le Moyne was positioned to acquire certain academic programs of Cazenovia as well as serve as a repository of Cazenovia's records.

Certain prior strategic initiatives which were actualized during the study period include development of a writing center, launching of a business school, establishment of a quantitative reasoning center, and streamlining professional development for faculty. The movement from Division II to Division I athletics, though achieved outside of the study period, represents the conclusion of a strategic initiative undertaken during the study period.

The College faces a challenging enrollment environment, as evidenced by recent declines in FTE enrollment, as well as by pressures on net tuition revenue specific to the New York Excelsior Program, which provides for free tuition to New York State institutions for families with under $125,000 in household income. This affordable option provides an increasingly competitive and affordable option to the College's offering.

The interview took place with the former Senior Vice President for Finance and Administration, and Treasurer (the "SVP") of the institution served in that capacity from 2006 to 2022. The SVP waived the terms of confidentiality offered in the Consent Form. The SVP has had extensive experience in higher education management at a number of institutions prior to the College, including Rochester Institute of Technology, Colgate University, Hobart & William Smith Colleges and Colgate University. Prior to joining the College, the SVP held a role in accounting. The SVP has an undergraduate degree from the University, and an MBA from Georgetown University.

The interview, which was wide ranging across a number of topics, focused on four areas: the development of a strong financial modeling capability, the leadership team's role in market awareness, institutional culture and – finally – the SVP's view of the "human dimension" in leadership.

With respect to the development of strong financial modeling capacity, the SVP noted that people in academic leadership focused when engaged in a discussion of cash (relative to other ratios) – focused on operating income and loss with the budget converted to cash. For the SVP, that was an "ah ha"

moment – administrators could understand that revenues came in in cash and went out (in the form of expense) in cash. This also oriented the Board - in that the focus was on liquidity and cash flows – and allowed for a focus on growing quasi endowment and allowed for the buildup of cash reserves.

The SVP, when queried, acknowledged that there was a strong financial projection system which was implemented to help assess strategic decisions. There was an in house developed 5-year modeling tool that had been built, this was not dissimilar from Future Perfect (otherwise known as Synario or WhiteBirch – a professional planning software) which was constructed by the Controller of the institution (who had been at the institution for 44 years). The SVP provided context that this individual spent time working with faculty, and how (on a granular level) to plan for resource allocation with the provost. Every revenue line by component, every program, and every revenue was delineated in the model, which was used to determine future strategic moves.

Total debt service as a percentage of operations was a key management focus; external ratios (including those from Moody's and financial advisors) were also integrated into the financial model. Financial modeling was focused on bond rating and debt capacity, as the model's architecture was integrated from the program level, to consolidated financial statements, flowing through to ratings agency data and key ratios.

When considering external drivers and external positioning, market competitiveness and overall landscaping, the SVP relayed that the full team of senior cabinet / administrators were equally responsible for strategic thinking – and that continuity was helpful in building the trust necessary to set strategic planning. A part of the strategic planning was preventative – for example, the College considered looking at establishing a Physical Therapy program – but in interviewing candidates to establish / grow the program, could not identify a business thesis that was sustainable. This translated, over time, into looking at market research data regarding potential program expansion from external providers. Further, the senior administrators were brought to meetings with the leadership of local corporations to help determine needs in the workplace, and also installed "advisory boards" as a way to solicit market feedback from what was necessary in crafting academic programs that were market responsive.

Institutional culture was a key dimension to financial success, in the SVP's view. The single thing that was needed to shift institutional culture were "honest, clear, forthright conversations about the fiscal reality of the college and where it was projected to go". When queried if a visionary leader was a requirement of advancing strategy and forming a dynamic institution, the SVP provided a thoughtful response – that it was a team effort, not the responsibility of any single individual. "Sometimes I think we over-emphasize the CEO". If the leader knows their gaps, that is as important (in trusting the senior leadership team) to be able to ensure that strategy can be executed.

Finally, the SVP reflected on the significance of the "human dimension", both with respect to necessity in a shared governance model, as well as a requirement for interactions with faculty and other stakeholders. "I would emphasize the human dimension… it is the only way we can support all stakeholders to be excited about being on this new trajectory or path… how do we support, all of us in our role, the campus community on an ongoing basis… the real accomplishments are happening through the human dimensions, through real leadership and energy, and sticking with it, even when difficult conversations have to be had".

Marist College Overview and Interview Summary

Marist College is a nonprofit coeducational institution founded in 1929 by the Marist Brothers, and with its main campus in Poughkeepsie, New York. The College is nondenominational and independent of church control. Marist educations more than 5,000 traditional undergraduate students, and 1,600 adult and graduate students, across 47 undergraduate majors, 15 graduate programs, and graduate and certificate programs. The teaching faculty of the College include 225 full-time and 329 part-time members; approximately 41% of the FTE faculty are tenured and approximately 81% hold a terminal degree in their field.

The College is externally recognized for excellent in annual rankings conducted by U.S. News & World Report, and The Princeton Review. The College offers a broad spectrum of credential, undergraduate, graduate and certification programs, as well as continuing education programs. Core areas

of academic focus are concentrated across seven schools; Communication & Arts, Computer Science & Math, Liberal Arts, Management, Professional Programs, Sciences, and Social & Behavioral Sciences. The College also houses the Marist College Institute for Public Opinion, had has a branch campus in Florence Italy – which offers the only four-year U.S. bachelor's degree program in Florence, and also offers a Masters of Arts in Museum Studies.

The College is a NCAA Division I athletics institution, with 11 women's and 10 men's sports, as well as an expansive club sports and intramural sports program. The College has a competitive landscape which includes other private universities, and management has identified Fairfield, Fordham, Quinnipiac, Loyola (Maryland), Syracuse, and Villanova Universities as well as Providence College, the University of Connecticut, the University of Delaware, and SUNY Binghamton as competitors.

The College has a rating of "A2" from Moody's Investors Service, and a Financial Responsibility Composite score of greater than 1.5 during the study period.

A graphical representation of the College's 20-year Return on Net Assets ratio is captioned on the following page; the average for the 20-year period was 9.8%, which ranked 10th among all private Colleges and Universities included in the research study.

Table 15

Marist College Return on Net Assets

Year	Return on Net Assets (%)
2022	-3.2
2021	20.2
2020	4.4
2019	6.5
2018	9.5
2017	12.8
2016	0.7
2015	2.9
2014	14.5
2013	14.1
2012	7.2
2011	12.8
2010	23.0
2009	-0.1
2008	-1.0
2007	18.7
2006	16.3
2005	11.8
2004	15.1

Source: Moody's Investors Service

Notable changes to the ratio in this period include:

- In 2008 and 2009, negative returns of (1.0%) and (0.1%), respectively, marking a two-year period where the College had a negative return in this ratio, which is attributable to a market driven decline in cash and investments and (specific to 2009), a decline in contributions for operations.
- In 2022, a negative return of (3.2%) marking the largest negative return in the prior 18 years. This was attributable to declines in investments.
- In 2010, a positive return of 23%, which is reflective of both operating gain as well as investment gain.

Revenue and expense trends are captioned on the following page, along with functional categories of revenue and expense and the associated operating margin for each fiscal year.

Table 16

Marist College Revenue and Expense by Category, ($000s)

Year	Net Tution Revenue	Net Auxiliary Enterprises	Grants & Contracts	Contributions	Assets Released	Investment Income	Operating Revenue	Operating Expense
2022	142,379	51,479	14,289	2,720	2,424	20,252	237,513	202,740
2021	141,163	43,888	10,271	2,275	2,380	16,959	219,724	183,967
2020	154,360	41,434	6,444	2,093	2,322	16,109	228,175	198,988
2019	149,534	51,795	7,093	4,432	2,551	15,250	236,762	203,673
2018	143,827	51,486	4,478	3,563	2,784	14,942	225,492	195,292
2017	137,134	48,584	4,719	1,388	2,740	14,168	212,823	183,462
2016	130,634	46,405	4,186	1,831	2,187	13,203	202,248	177,473
2015	125,691	43,664	5,387	1,795	1,561	11,734	192,973	168,609
2014	120,767	42,530	7,719	1,948	1,403	10,470	188,770	159,917
2013	113,911	41,141	4,126	4,218	785	9,379	176,266	151,899
2012	106,958	36,462	5,030	2,463	427	8,334	162,895	140,617
2011	104,090	35,375	4,643	2,075	-	7,377	156,438	138,053
2010	99,640	33,894	9,154	1,893	193	7,220	154,943	129,009
2009	94,941	32,509	11,706	1,855	179	6,946	151,028	123,509
2008	89,255	28,992	4,359	5,630	193	6,422	137,611	119,265
2007	83,536	27,348	4,867	3,030	126	5,130	126,770	108,415
2006	76,493	25,847	5,012	2,811	50	4,219	117,711	101,470
2005	71,308	22,338	4,497	2,912	96	3,643	107,228	93,036
2004	67,540	21,476	4,024	1,854	-	3,298	100,738	91,789

Source: Moody's Investors Service

Notable changes to revenue and expense in this period include:

- Steadily increasing total revenues from 2004 to 2022, largely driven by tuition and fee income, as well as auxiliary revenue growth. The University experienced stable growth in giving during this same period.
- Measured expense growth, with expense management initiatives reflected in operating expense reductions from 2019 to 2020 and 2021.

The University operates in a highly competitive market environment, as characterized by the aforementioned competitive landscape. The University's enrollment profile is illustrated on the following page, along with key statistics in selectivity and matriculation.

Table 17

Marist College Enrollment Trends

Year	Undergradaute FTE	Graduate FTE	Total FTE Enrollment	Selectivity (%)	Matriculation (%)
2022	5,123	820	5,943	62.8	18.5
2021	5,128	685	5,813	59.9	18.3
2020	5,237	697	5,934	55.0	17.1
2019	5,455	671	6,126	49.2	24.5
2018	5,372	694	6,066	46.2	25.1
2017	5,290	525	5,815	42.6	26.5
2016	5,260	681	5,941	41.0	27.0
2015	5,173	667	5,840	45.0	29.2
2014	5,089	443	5,532	38.5	30.0
2013	5,138	398	5,536	37.4	29.6
2012	5,032	407	5,439	31.4	30.7
2011	4,930	451	5,381	33.7	30.5
2010	4,751	482	5,233	unreported	unreported
2009	4,805	414	5,219	36.0	29.1
2008	4,685	382	5,067	37.5	29.6
2007	4,604	420	5,024	41.9	29.2
2006	4,660	397	5,057	48.9	29.1
2005	4,574	394	4,968	49.6	28.9
2004	4,438	544	4,982	48.9	27.8

Source: Moody's Investors Service, IPEDS, Researcher Calculations

The College maintained assets of $2.1 billion as of Fiscal Year 2022, of which $780 million were cash and investments. The College's investment portfolio is managed by an outside advisor (OCIO), which is responsible for fund manager selection – the Board of the College selects asset allocation targets and policy ranges. A core focus of the investment portfolio is liquidity; management estimates that 86.5% of the portfolio could be liquidated within 120 days. Liabilities of the College include long term debt of $237.8 million. Net Assets of the College total $718.1 million the majority of which ($614.4 million) are without restriction.

The College has seen a steady and protracted increase in unrestricted net assets, as demonstrated in the table on the following page, as well as an increase in total balance sheet strength. The College's endowment spending policy allows for an annual distribution of up to 5% of the rolling average of the preceding 12 quarters market value; in practice the College's actual endowment distribution has been less than 1% of eligible assets.

Table 18

Marist College Key Balance Sheet Metrics

Year	Cash & Investments	PP&E Net of Depreciation	Total Assets	Long Term Debt	Change in Net Assets
2022	484,430	423,217	998,775	237,898	(23,908)
2021	503,174	440,105	984,298	185,611	124,604
2020	370,540	453,793	871,936	193,152	26,153
2019	341,394	474,412	855,692	200,822	36,319
2018	305,586	448,697	778,824	166,415	48,157
2017	319,550	398,332	737,123	171,329	57,566
2016	289,863	355,252	686,183	175,935	3,308
2015	287,112	299,722	687,118	183,134	12,409
2014	273,075	281,499	576,370	96,429	54,824
2013	231,975	266,380	526,285	99,342	46,921
2012	199,007	248,531	466,740	86,851	22,418
2011	197,242	238,995	465,821	93,318	35,193
2010	166,512	221,517	416,945	92,374	51,190
2009	136,286	195,568	359,825	96,803	(314)
2008	139,819	157,617	362,274	101,050	(2,177)
2007	157,114	148,444	342,302	84,776	35,430
2006	119,817	146,997	304,008	88,380	26,554
2005	99,186	129,329	277,962	91,864	17,233
2004	83,537	136,774	244,595	74,876	19,284

Source: Moody's Investors Service

Notable events impacting the balance sheet of the organization include;

- Additions to physical plant
- Measured issuance of long-term debt, for the purposes of expansion and refurbishment of campus infrastructure
- Pension considerations. The College has a defined contribution pension plan for all eligible employees, through TIAA. As a result of this plan, the College carries both accrued pension and post-employment health liabilities on the balance sheet. From time to time, based on the benefits owed and the funding status of the pension plan, the liabilities may increase on the College's balance sheet.

In reviewing the College's financial statements, ratings reports, continuing disclosure associated with public bond offerings, and prior strategic plans, several key strategic initiatives undertaken by the College emerged as impactful from a financial perspective. These included:

- *Development of Campus Infrastructure.* The College's 210-acre campus has 47 buildings and 17 student housing facilities, and the College has made capital expenditures of more than $170 million from 2016 – 2021. This included opening four new student housing facilities capable of housing 789 students. Other notable recent facilities investments include the renovation of the Steel Plant building (which houses the Fashion Department as well as Department of Art & Digital Media) and the McCann Center – which houses athletic and recreational facilities. The College has a regular schedule of maintenance to existing facilities, adherence to which has resulted in minimal deferred maintenance.
- *Manhattan Expansion*. In 2018, the College purchased a 18,000 commercial office condominium on Fifth Avenue in Manhattan, which was intended to serve as a location for graduate students, corporate programs, and adult continuing education. Due to Covid-19, the College determined to cease using the space and engaged a broker to market the asset for sale (Bond Offering Continuing Disclosure).
- *Strategic Planning Capabilities*. The University demonstrated a significant focus on strategic planning, with a series of successive plans, and a rigorous process of evaluation relative to plan goals, including publicly posted reviews of plan progress accompanied by explanatory videos prepared by the strategic planning co-chairs, which are publicly accessible online. Select highlights from prior strategic plans include:

    - A focus on freshman to sophomore undergraduate retention, which increased to 91%, as well as an 83% six-year graduation rate.
    - A focus on enrollment growth while preserving academic qualifications of enrolled students. This was achieved at the undergraduate level, but the review of prior strategic plans transparently disclosed the challenges associated with adult enrollment growth. This was partially explained by a focus on the launch of graduate health sciences programs (and associated expenditure on physical facilities).
    - The launch of graduate programs was anticipated to gain further market share, which did materialize.

- Expanding the network with external organizations to facilitate academic innovation.

The interview took place with the current Executive Vice President, Chief Strategy and Innovation Officer (the "EVP") of the institution, who has served in that capacity from 2010 to 2022. The EVP waived the terms of confidentiality offered in the Consent Form. The EVP has had extensive experience in higher education management at several institutions prior to the College, including similar roles at Pace University, where he was Provost and Executive Vice President for Academic Affairs. The EVP has an undergraduate degree from DePauw University, and an DPhil from Oxford University.

The EVP was familiar with the ratio under review, and with other institutions that were participating in the study, particularly Chapman University. The EVP characterized his work experience as "a series of bad decisions" – coming up through the faculty at Pace University, as an Assistant Professor in the English Department. One of the first things undertaken was an effort to generate more enrollment for majors (the University was undertaking an effort to expand enrollment) and the EVP started a summer college experience for high school students, which drew on the locational endowment of the University in New York City. It was notable that these were students outside of the University's' normal draw and illustrated the business proposition of a department like English in a place like Manhattan, as students began enrolling in Pace.

The EVP further had experience as the University took over the World Trade Institute without consulting the faculty; the provost approached the EVP and requested the EVP put together a college level internship program with an appropriate academic scaffolding. This second experience designing a program was successful in generation of revenue and enrollment. This elevated the profile of the EVP, who became something of a problem solver within the institution, taking responsibility for programs did not work (e.g. due to customer service elements not working) and turning them around. By being a persistent advocate for program improvement, the EVP rose within the administrative ranks (department chair, to associate provost). Pace was undergoing significant financial pressure (the EVP characterized a tuition guarantee program as "financial suicide"), and within 12 months, the EVP was asked to step up as provost. Within 3 months, the president was removed, and the Dean of Pace's Law School was installed as president and a

massive financial turnaround effort was required – a $24 million operating loss on a $350 million operating budget in 2007.

This early experience in financial turnaround was significant – pausing adjunct positions, initiating a faculty retirement plan, delaying an accreditation visit, instituting a 3-year interim turnaround plan – the EVP noted that engendering a passion and a common goal was necessary to be able to achieve under duress. By 2010 the turnaround plan had worked – generating a $7 million net operating margin. Part of this was luck – the University was ahead of the financial crisis of 2008 – and so during the crisis, the University was able to hire (and advertised this ability in the Chronicle, with a full-page ad, during a period of time when Harvard was illiquid).

In a granular way, at both Pace and Marist, the EVP focused first on financial stability – achieving moderate growth and reducing cost – to achieve margin. The mission of the institution was critically defined, as was picking defined spots for academic reputation, and redefining management culture. The EVP was also relentlessly creative in linking elements of the institution to fundraising.

Upon joining Marist – though fundamentally differently positioned in the market – the EVP adopted a similar approach to challenges as utilized during his time at Pace. This began with planning and operations. At Marist, the EVP implemented a distributed model of institutional research and planning, with 3 core FTEs dedicated to planning, as well as cross functional operational areas dedicating time and support to the effort. Everyone at the institution has responsibility for the planning process. An annual operating plan document – which is standard across all departments – is used and has been designed in such a way that operations, assessment, retooling are all consolidated, such that any department can understand what another department is doing. This was an early implementation decision by the EVP – instituting a standard planning document that all areas used for cross functional planning.

The institution focuses on financial ratios as part of regular management, but this analysis always begins with an understanding of true margin across programs and efforts, and a “bottom line” focus on net assets. This focus on cash has allowed for the buildup of the endowment and of total assets over time.

Understanding the operational relationship to margin is required – a zero based budgeting approach is one version of this, as is RCM – the EVP uses a modified version of this budgeting to instill discipline. Position vacancies are not backfilled – fungible dollars are allocated towards their highest and best purpose. This flexibility and fungibility allows creativity for managers.

In considering strategic positioning, aligning with industry trends, and understanding the ecosystem within which an institution operates, allows for understanding the narrative of the mission where the institution fits, in the EVP's view. Starting with the long view is essential – having a good strategic plan, and a fulsome progress of engagement in creating a strategic plan, doing the extra work to ensure that people feel heard – all are required in orienting an institution towards a vision. This requires constant commitment to strategy; it has to be incorporated into everyday thinking. "Being sensitive to the complexities of the world and responding to them is very strategic… it has to be like a thread in the sweater, day to day, but you also have to pull back and see the bigger picture".

Finally, the EVP reflected that Marist is a luxury good in the market. "If people don't show up here, we close the doors, compared to our competition (e.g. SUNY New Paltz) which is 60% taxpayer funded. To quote directly "It used to be like buying 3 cars, now it's like buying 3 homes – shame on us. We [higher education] deserve everything we are getting, we have been fat and happy for so long, apart from Paul LeBlanc, John Sexton, Michael Crow, Joseph Aon – those are the outliers in the business. We have been subsidized through student loans – you must take responsibility for that – that sheepskin at my institution has value – that is not enough. It must be a cultural commitment to the College experience, from every employee at the institution."

New York University Overview and Interview Summary

New York University is a private, non-profit institution of higher education which was founded in 1831 by private citizens and is recognized as a leader in scholarship and education. The University is the largest private university in the United States as measured by operating revenue and educates approximately 30,000 undergraduate and 25,000 graduate and professional students across 20 schools,

colleges, institutes and programs. The University is accredited by the Middle States Commission on Higher Education and is a member of the Association of American Universities.

NYU was ranked as a top 30 global university by both U.S. News & World Report, and the Times Higher Education in 2020. The full-time teaching faculty of the University exceeds 6,000, including recipients of top honors such as the Nobel Prize, Abel Prizes, Pulitzer Prizes and other honors.

A distinguishing factor of the University is its Global Network, which offers exchange programs and study away options to students. Portal Campuses – which are fully staffed, degree granting campuses capable of completing an entire course of study are located in Shanghai and Abu Dhabi. Additionally, the University has academic centers in (alphabetically) Accra, Berlin, Buenos Aries, Florence, London, Madrid, Paris Prague, Sydney, Tel Aviv and Washington DC. The Portal Campuses receive financial support from their host countries, which were entered into in 2007 (Abu Dhabi) and 2011 (Shanghai), respectively. The operations of these campuses and their financial support are included in the consolidated financial statements of the University.

A second distinguishing factor of the University is NYU Langone Health, an academic medical center which is comprised of both the Grossman School of Medicine, the Long Island School of Medicine, and NYU Langone Hospitals. Though Langone Hospitals is a separate 501(c)3 legal entity, the University is the sole corporate member of the nonprofit corporation, and NYU Langone Health is included on the University's consolidated financial statements. The treatment of NYU Langone's assets, liabilities and net position is described in detail in the research study.

The University has a competitive landscape which it identifies - through IPEDS reporting – as 33 institutions including, but not limited to, Brown University, California Institute of Technology, Carnegie Mellon University, Cornell University, Duke University, Emory University, Johns Hopkins University, Northwestern University, Rice University, Stanford University, the University of Chicago, the University of Pennsylvania, Vanderbilt University, and Washington University in St. Louis, among others.

The University has a rating of “Aa2” from Moody’s Investors Service, and a Financial Responsibility Composite score of greater than 1.5 during the study period.

A graphical representation of the University’s 19-year Return on Net Assets ratio is captioned below; the average for the 19-year period was 9.45%, which ranked 14th among all private Colleges and Universities included in the research study.

Table 19

New York University Return on Net Assets

Year	Return on Net Assets (%)
2022	1.5
2021	25.5
2020	5.9
2019	0.2
2018	6.3
2017	16.7
2016	2.5
2015	4.5
2014	20.8
2013	13.0
2012	3.5
2011	13.2
2010	7.6
2009	-8.9
2008	2.7
2007	36.1
2006	11.1
2005	8.3
2004	9.0

Source: Moody’s Investors Service

Notable changes to the ratio in this period include:

- In 2009, NYU reported a return on net assets of (8.9%), this is reflective broadly of financial pressure stemming from the great recession, as well as associated declines in the University’s investment portfolio.

- In 2014, NYU reported a return on net assets of 20.8%, this is reflective of a change in net assets of over ~$1.1 billion and is reflective of gains in net auxiliary revenues and patient care revenue.

Revenue and expense trends are captioned below, along with functional categories of revenue and expense and the associated operating margin for each fiscal year.

Table 20

New York University Revenue and Expense by Category, ($000s)

Year	Net Tution Revenue	Net Auxiliary Enterprises	Grants & Contracts	Contributions	Assets Released	Investment Income	Operating Revenue	Operating Expense
2022	2,452,721	382,105	1,393,732	74,415	173,496	438,104	15,114,569	14,123,985
2021	2,107,670	238,627	1,253,526	105,084	134,916	367,126	13,630,843	13,015,603
2020	2,108,565	326,808	1,654,183	151,394	160,624	324,402	12,845,143	12,617,629
2019	2,022,105	455,581	1,059,018	124,804	199,616	299,660	12,843,529	12,364,946
2018	1,851,954	505,317	1,011,575	168,192	121,469	284,243	11,700,424	11,544,958
2017	1,753,726	513,259	875,965	183,505	123,365	269,343	9,997,184	9,667,933
2016	1,662,920	470,001	802,333	157,128	125,140	257,353	8,595,895	8,275,246
2015	1,648,776	434,404	713,480	142,593	91,987	240,115	7,391,541	7,189,375
2014	1,613,505	408,108	662,580	143,293	109,115	221,207	6,512,284	6,333,145
2013	1,562,821	386,577	606,635	136,166	117,124	204,878	6,056,990	5,954,952
2012	1,507,168	383,362	564,482	130,281	129,217	188,502	5,726,134	5,333,611
2011	1,435,226	369,339	513,247	114,911	114,752	182,613	5,229,855	4,952,180
2010	1,326,479	363,294	490,963	135,008	115,810	177,322	4,910,933	4,568,766
2009	1,267,065	363,502	364,830	110,626	82,860	160,890	4,372,583	4,234,326
2008	1,219,094	352,922	320,786	139,138	163,489	133,953	4,210,627	4,096,737
2007	1,077,675	331,935	290,036	87,697	85,862	108,491	2,573,592	2,558,621
2006	985,803	326,914	273,215	86,003	86,907	96,540	2,459,255	2,336,281
2005	910,115	313,811	277,311	79,877	98,117	87,481	2,334,643	2,217,422
2004	847,788	292,986	260,736	62,196	83,950	81,868	2,159,828	2,046,009

Source: Moody's Investors Service

Notable changes to revenue and expense in this period include:

- Material growth in operating revenue, driven by both net tuition revenue as well as patient service revenue. Patient care revenue from the operations of NYU Langone contributed significantly to growth in operating revenue, from $349.1 million in fiscal year 2004 to over $9.4 billion in fiscal year 2022.

- Operating expense saw similar growth due to expenditures in real estate, increases in patient care expense, and growth in research expense, in particular reflecting expenditures made for the purpose of increasing the eminence of faculty.

The University operates in a highly competitive market environment, as characterized by the aforementioned competitive landscape. The University's enrollment profile is illustrated below, along with key statistics in selectivity and matriculation. Note that Moody's aggregated graduate and undergraduate enrollment in 2004.

Table 21

New York University Enrollment Trends

Year	Undergradaute FTE	Graduate FTE	Total FTE Enrollment	Selectivity (%)	Matriculatior (%
2022	28,703	24,792	53,495	12.5	49.3
2021	28,041	24,300	52,341	13.0	49.2
2020	26,384	20,569	46,953	21.1	39.6
2019	26,241	21,630	47,871	16.2	44.7
2018	26,061	19,981	46,042	20.0	43.0
2017	25,704	19,554	45,258	27.7	33.1
2016	25,303	19,129	44,432	32.2	31.4
2015	25,206	20,282	45,488	32.1	32.0
2014	24,431	20,145	44,576	35.2	33.2
2013	22,099	17,942	40,041	32.4	34.9
2012	22,004	17,929	39,933	35.0	34.3
2011	21,785	17,421	39,206	32.7	36.2
2010	21,597	17,404	39,001	N/A	N/A
2009	21,065	17,233	38,298	N/A	N/A
2008	20,180	15,100	35,280	25.3	35.8
2007	20,228	14,680	34,908	29.2	37.1
2006	20,014	14,296	34,310	28.4	34.9
2005	19,751	13,796	33,547	29.6	35.1
2004	32,213	N/A	32,213	28.5	35.5

Source: Moody's Investors Service, IPEDS, Researcher Calculations

The University maintained assets of $30.6 billion as of Fiscal Year 2022, of which $9.5 billion were cash and investments. The University's investment portfolio is managed by an in-house Investment Office, which is responsible for the management of endowment and investment proceeds in accordance with the Board's investment mandates. The endowment and investment portfolio provide approximately 4% of the University's operating budget. A core focus of the investment portfolio are alternative investments, which

accounted for approximately $3.5 billion of the investment portfolio. Liabilities of the University include long term debt of $9.5 billion. Net Assets of the University total $12.2 billion, the majority of which ($7.5 billion) are without restriction.

The University has seen a steady and protracted increase in unrestricted net assets, as demonstrated in the table below, as well as an increase in total balance sheet strength. The University's endowment spending policy allows for distributions of approximately 4.5%, which is based on a fixed percentage of a moving 12-quarter historical average market value peg. This distribution may be capped depending on investment performance, i.e., distributions may not increase by more than 10% YoY, and a four / eight quarter lookback may be applied to limit downward movement in payout ratio (Audited Financial Statements).

Table 22

New York University Key Balance Sheet Metrics

Year	Cash & Investments	PP&E Net of Depreciation	Total Assets	Long Term Debt	Change in Ne Assets
2022	9,671,065	15,678,309	30,682,174	11,840,362	177,272
2021	10,628,935	15,055,692	30,995,441	9,596,511	2,450,778
2020	8,710,061	11,870,956	27,840,535	8,746,026	538,296
2019	6,947,227	11,523,879	23,149,159	7,581,542	15,645
2018	6,370,282	10,931,180	21,328,102	6,628,689	534,257
2017	6,146,634	9,962,531	19,847,810	6,308,820	1,216,236
2016	5,462,671	8,276,486	16,875,874	5,291,765	177,456
2015	5,445,285	7,310,180	15,392,183	4,656,546	309,063
2014	5,252,596	6,153,963	14,038,585	4,012,360	1,169,889
2013	4,743,318	5,481,727	12,258,579	3,694,604	648,401
2012	4,410,970	4,891,939	11,215,767	3,191,772	169,029
2011	4,118,126	4,445,318	10,396,054	2,881,201	563,695
2010	3,763,599	3,936,813	9,399,548	2,714,227	301,009
2009	3,428,399	3,402,295	8,441,101	2,215,539	(385,417
2008	3,764,777	2,864,089	8,662,416	2,239,789	106,567
2007	3,446,148	1,898,556	6,483,460	1,156,442	1,029,136
2006	2,442,489	1,848,709	5,237,266	1,063,377	284,950
2005	2,148,569	1,782,256	4,820,880	1,105,447	195,549
2004	1,918,424	1,702,755	4,448,049	983,190	195,642

Source: Moody's Investors Service

Notable events impacting the balance sheet of the organization include;

- Robust fundraising, including the completion of the “Campaign for NYU” in 2008, resulting in over $3 billion of funds raised;
- The merger (acquisition) of the Tandon School in Brooklyn resulted in balance sheet accretion;
- Growth in leverage ($11.8 billion in fiscal year 2022) reflects significant borrowing for capital expenditures, as well as arbitrage of debt capital markets with related growth in cash and investments.

In reviewing the University’s financial statements, ratings reports, continuing disclosure associated with public bond offerings, and prior strategic plans, several key strategic initiatives undertaken by the University emerged as impactful from a financial perspective. The University developed a strategic plan in 2010 (*A University as Great as it’s City; NYU’s Strategy for Future Growth*) which framed objectives through 2031, a core focus of the planning at that time was noted diversification from educating students for employment in financial services (page 10) and noting the need for reinvention to serve artists, teachers, researchers and health professionals. It is also notable that in 2006, the University established a new office (the Office of Strategic Assessment, Planning and Design) that had not existed previously and was focused specifically on long range planning efforts across finance, real estate, and academic strategy. This figured significantly into the specific initiatives delineated below.

- *Founding of Schools, Colleges and Institutes.* During the survey period, the University established the Institute for the Study of the Ancient World, completed the affiliation (acquisition) of Brooklyn Polytechnic as the Polytechnic Institute of NYU, established an institute of Global Liberal Studies (2009) and completed the opening of the NYU Abu Dhabi campus (2010) as well as the Shanghai campus (2012).
- *Acquisition of Polytechnic University*. Approved in 2008 by the New York Board of Regents, NYU initially affiliated with and then eventually merged (acquired) Polytechnic University in Brooklyn into the University. This provided a material engineering program to the University, and a substantial campus footprint in Brooklyn.

- *Expansion of Arts & Sciences Faculty.* In 2004, the University commenced an initiative to expand the size of the Arts and Science faculty by 20%, which included strategic expansions such as establishing the Molecular Design Institute, the expansion of the Courant Institute of Mathematical Sciences, and growth in the Institute of Fine Arts.
- *Expansion of Space*. The constraints of constructing a university in one of the most expensive real estate markets in the world were impactful on the overall priorities of the institution; specific strategic plan initiatives included expanding workforce (faculty and administrative) housing, as well as expanding the physical resources and square footage available to students and faculty.

The Strategic Plan noted a number of challenges, including special constraints specific to New York City, and in particular zoning and preservation restrictions (page 17). While projecting only modest increases in student enrollment, the University noted that special constraints from the significant growth occurring from the prior 20 years of expansion had placed special restrictions on serving the existing student body. For this reason, the 2031 plan articulated a need for as much as 6 million in incremental square footage. The objective of purchasing this space was financially driven, as reducing demand on leased space would provide an economic benefit to the University.

The interview took place with the Vice President and University Treasurer (the "VP") of the institution, who currently services in that capacity, and joined NYU in 2014. The VP waived the terms of confidentiality offered in the Consent Form. The VP has had extensive experience in higher education management; prior to joining NYU, the VP held a role in investment banking. The VP has an undergraduate degree from Carnegie Mellon University, and an MBA from New York University.

After defining the focus of the study, the researcher discussed the nature of the research and the nature of the key ratio being reviewed. The Treasurer – who has an academic background in statistics and a professional background in investment banking – also has a strong knowledge of peer institutions, their strategies, and competitive institutions. The Treasurer also pushed on the core question in the research – questioning if there is an "absolute scale" which made it more difficult for an academic institution to progressively create margin and noting – with some surprise – that NYU "made the list".

In reflecting on NYU's approach to strategy, the VP shared that "the University uses a model which produces a 42-page slide deck… capable of assessing – for example – real estate acquisitions with as little as a $50 million impact … and though it takes 16 people 3 days to run it, it produces a 10-year projection of the full financial statements." This level of financial modeling and discipline is utilized for any decision that is being brought to the Board of Trustees. Forecasting is material at NYU, and a material component of the management culture. According to VP, an initial driver of this approach to forecasting was that - from a ratings agency view – the administration was aware that NYU would receive a ratings benefit from having a credible forecast. To quote the VP; "good forecasting receives credit (in duration intervals); 3 / 5 / 7+ years … NYU was the only institution that checked the box (according to the ratings agencies) for 10-year forecasting."

Further, the VP reflected that "the majority of institutions do budgeting one year at a time…when we built the 10-year model – the point was not to keep the forecasting in a vault, it was to update (quarterly) and run sensitivities and run stress tests. Initially you must make 8,000 of those choices… it's constant… but what it spits out is meaningful… you use it to stress test any project you want to do. And there's no reason to go to the board with anything other than "this is what will happen".

In the VP's view, revenue diversity – and specifically scale - is an extremely important component of the University's success. She reflected that NYU was in a tuition driven revenue bucket, if you remove healthcare revenue and look at just University financials – with research being a very small percentage of the University revenue. With respect to budgeting, the VP commented that "if tuition paying students are your primary market, setting tuition above expense growth works." The VP reflected that NYU also takes a bundled approach – on average – with respect to academic programs, placing "bets" on academic program growth that – because of the scale of the enterprise – are risk protected as none of the best are so material or significant that if multiple bets fail, the entire University fails. The other way the University creates diversity is to leverage undergraduate and graduate degrees across the entire market NYU services (domestically and internationally); "by having so many revenue opportunities and resource buckets you can always find a way to get (financially) healthy". When pushed regarding viewing margin contribution in the context of university operations, the VP pointed to the fact that many academic programs do *not* create

margin – and that if these programs stop generating donations, or don't have an acceptance rate that tracks the overall strategy of the institution, then it's difficult to pair back (given the restrictions of accreditation). This reflects the overall importance of scale in NYU's financial health. Further, the VP's view was that this scale put NYU in a "different category… we'd have to try really hard to screw up" and because of this scale, a bad decision would only unfold over a very long period of time ("there's a really long tail… it won't show up until much later.")

With respect to the University's strategy around international expansion – in the VP's view – the strategy is very much reflective of a "tuition offense" approach. Rather than sending interested students to another school (overseas) and losing the difference between domestic and international tuition, NYU has put actual campuses and learning sites on the ground. The strategy has been "putting flags on the ground in places with lots of people". From a revenue perspective, rotating students to international campuses does not generate revenue, however, the University is able to arbitrage New York tuition relative to operating expense in international locations (e.g. a student pays New York Tuition prices in a semester spent in – for example – Madrid, which has a much lower cost basis). The strategy also provides a benefit in recruiting international students. Beyond the initial recruitment component, it's an effective form of "spend" to advertise who NYU is (relative to other forms of advertising) by branding as a global university. Further, the University structures study abroad so there is no impediment to completing a student's major, and structures real estate holdings internationally as rentals (vs. buying real estate) to ensure that an exit / winddown can occur if needed.

In considering institutional culture, the VP reflected that "from a management perspective, a "maybe" is better than a "no" as it encourages dialogue and building of consensus." She further reflected that "the staff members that you rely on to make calls – check the math – and be themselves charismatic, to persuade faculty members to "stay in the game", you need to facilitate a culture of brining solutions forward. The individual responsible for the budget has to foster a culture of innovation. It also all starts with the Board, you have to start with talented people, who are able to push back (if a poor decision is brought forward for consideration). The VP also affirmed that the EVP – who had previously worked at

Temple University – had a formative experience in financial distress. This correlates with other academic leaders who had similar experiences.

CHAPTER 5: DISCUSSION & CONCLUSIONS

Introduction

The study aimed to address three questions in the context of private, non-profit higher education institutions, which are summarized below.

1. What private, non-profit higher education institutions demonstrated the greatest improvement in financial condition over an eighteen-year period (from Fall 2003 to Fall 2021, or fiscal year 2004 to fiscal year 2022) as measured by the highest, average performance of the financial ratio *Return on Net Assets* as defined and reported by Moody's Investors Service.

2. For institutions which demonstrated a high level of financial performance over this period, to what degree was that improvement correlated with specific key business measures, including:

    a. Growth in *Operating Revenue* as reported to Moody's Investors Service
    b. Growth in Enrollment, as measured by Full Time Enrollment (FTE) growth, as reported to Moody's Investors Service
    c. Change in Revenue Diversity, as measured by Tuition and Auxiliaries as a % of Total Revenue as reported to Moody's Investors Service
    d. Improvements in Profitability, as measured by Operating Margin as reported to Moody's Investors Service.
    e. Investment Growth, as measured by Total Cash & Investments as reported to Moody's Investors. Service

3. Of the institutions identified as demonstrating a high level of financial performance over the eighteen-year period, was there an intentional financial / business strategy employed?

With respect to the first question, the researcher identified and screened an independent data set which allowed for comprehensive measurement of private, nonprofit academic institutions rated by Moody's

Investors Service, delivering a ranking of all institutions, but focusing on the top 20 ranked institutions to explore research questions 2 and 3. This ranked list is provided below.

Table 23

Private, Non-Profit Institutions Ranked by Return on Net Assets

Rank	Institution	Average Return on Net Assets, 2004 - 2022 (%)
1	Sacred Heart University, CT	16.5
2	Medical College of Wisconsin, WI	12.6
3	Embry-Riddle Aeronautical University, FL	12.0
4	Villanova University, PA	12.0
5	New York Institute of Technology, NY	11.8
6	New York Law School, NY	10.9
7	Chapman University, CA	10.8
8	Berklee College of Music, MA	10.7
9	University of Notre Dame du Lac, IN	10.6
10	Marist College, NY	9.8
11	University of Pennsylvania, PA	9.8
12	Northeastern University, MA	9.8
13	Quinnipiac University, CT	9.7
14	New York University, NY	9.4
15	Massachusetts Institute of Technology, M	9.4
16	Le Moyne College, NY	9.4
17	Claremont McKenna College, CA	9.2
18	Duke University, NC	9.2
19	Stanford University, CA	9.1
20	Abilene Christian University, TX	8.9

Source: Moody's Investors Service

The conclusions derived from this further review are provided below in *Discussion of Major Findings*.

Discussion of Major Findings

In reviewing the quantitative trends of key financial metrics and ratios, as well as qualitative components of the research study, key findings emerged with respect to institution's individual and aggregate strategy to maintain financial sustainability and achieve Return on Net Asset growth. All institutions in the research study demonstrated a material level of revenue growth during the survey period,

which was partially attributable to enrollment growth, as detailed in summary tables 2(a) and 2(b) below. When compared to the Moody's median level of enrollment growth for all private institutions, however, it is clear that the significance of enrollment growth to revenue growth is a contributing factor, but not the sole factor for financial performance.

Institutions' pursuit of revenue diversity, as reflected and discussed in 2(c) below, is a material contributor to financial sustainability and growth in Return on Net Assets. This demonstrates "a more balanced reliance between income from teaching, research, third-stream activity, public funding and investment" which prior research has illustrated results in increased financial viability (Irvine and Ryan, 2019). The intentionality of revenue diversification – in particular as detailed by New York University of adopting a "broad basket" approach to academic program offerings and non-academic revenue streams – demonstrates a form of portfolio management theory, as all sources of income are not likely to be challenged at once (Besana and Esposito, 2015).

In pursuing financial sustainability, the embrace of revenue diversity is further aided by a strong focus on generating net margin, as detailed in 2(d) below. As discussed by Chapman University, measuring the margin contribution of individual academic programs is a core management practice, and discontinuance of programs which do not demonstrate profitability was a common theme for Marist College, Abilene Christian University and Le Moyne College as well. All institutions demonstrated in discussion that they were acutely aware of the importance of margin contribution, in particular as financial leaders had prior experience with "distressed" institutions in prior career stages. These findings affirm research by James Martin and James Samels in that most private institutions operate very close to the margin, and that (when excluding investment returns) small institutions had operating deficits for three of five years in a survey of financial performance from 2000 to 2004 (Martin and Samels, 2013).

A detailed review of the Cash & Investment trends in 2(e) reflects both a strategy of revenue diversification discussed in 2(c) and the investment of margin generated in 2(d). Each of the institutions participating in the research study had a similar approach of enrollment growth, profitability, and reinvestment of that profitability in increasing investment balances which (over time) increased investment income, lessening the dependence on tuition revenue growth. The development of investment income as

a revenue source and resulting revenue diversification is a further example of a corporate portfolio management approach to developing new revenue generating alternatives (Lundy & Haven, 2003)

Institutionalizing this approach requires both management practices as well as management strategies, which are discussed in answers to research questions 3(a) – 3(d) below. In speaking with each institution, clear management *practices* – such as rigorous measurement of margin contribution, preparation of long-term financial projections and scenario analysis, and financial reporting which include measurement of key financial ratios – emerged as common themes. Each institution also demonstrated differentiated financial *strategies* which were bespoke to their specific situation, e.g. Abilene Christian University's endowment concentration in energy investments reflected a market knowledge of this sector, bequests provided by donors, and the knowledge base of specific board members. The presence of such distinct financial strategies at each institution was a common theme across institutions.

Research Question 2

The researcher provided financial context, including a detailed review of financial trends, for each of the 5 institutions reviewed in the qualitative study. The shifts in these key financial trends are summarized below, addressing each of the sub-questions of the second research question.

Table 24

Research Question 2(a)

2(a). To what degree was growth in financial improvement – as measured by average Return on Net Assets over the study period – associated with growth in *Operating Revenue* as reported to Moody's Investors Service?				
Abilene Christian University	Chapman University	Le Moyne College	Marist College	New York University
Operating Revenue increased from $72.2 million (2004) to $159.7 million (2022), an increase of 120.3% during the study period.	Operating Revenue increased from $151.4 million (2004) to $474.3 million (2022), an increase of 213.2% during the study period.	Operating Revenue increased from $49.1 million (2004) to $102.6 million (2022), an increase of 108.9% during the study period.	Operating Revenue increased from $100.7 million (2004) to $237.5 million (2022), an increase of 135.7% during the study period.	Operating Revenue increased from $2.1 billion (2004) to $15.1 billion (2022), an increase of 599% during the study period.

When compared to the median rate of growth for all Moody's-rated private nonprofit institutions, (a median increase of 99% over the period of 2004 to 2022) each of the institutions have outperformed financially. This suggests that strategies to increase revenue growth are a significant component of achieving financial sustainability. As discussed in the introduction, and detailed in the interviews with participating institutions, the viability of this strategy has limitations, in particular as (large) institutions achieve scale, and as smaller institutions particularly in the Northeast and Midwest face declining demographics and pressure on enrollment growth in the future.

Table 25

Research Question 2(b)

2(b). To what degree was growth in financial improvement – as measured by average Return on Net Assets over the study period – associated with growth in *Full Time Enrollment* as reported to Moody's Investors Service and IPEDS?				
Abilene Christian University	Chapman University	Le Moyne College	Marist College	New York University
FTE Enrollment increased from 4,353 (2004) to 5,415 (2022), an increase of 1,070 or 24.6%, with stable increasing enrollment.	FTE Enrollment was net unchanged from 9,700 (2004) to 9,696 (2002), though this reflects the spinoff of Grantham University in 2020, which resulted in a decline from enrollment of 16,838 to 9.281.	FTE Enrollment saw a slight decline from 2,831 (2004) to 2,747 (2002), a decline of 84 students or (2.9%); enrollment peaked in 2016 at 3.262 and steadily declined thereafter.	FTE Enrollment increased from 4,982 (2004) to 5,943 (2022), an increase of 961 or 19.3%, with stable increasing enrollment.	FTE Enrollment increased from 32,213 (2004) to 53,495 (2022), an increase of 21,282 or 66%, with increasing enrollment.

When compared to the median rate of growth for all Moody's-rated private nonprofit institutions (a median increase of 4.5%), the institutions illustrate differentiated performance. This suggests that enrollment growth may be a component of achieving financial sustainability but is not the sole determinant of a successful financial strategy.

Table 26

Research Question 2(c)

2(c). To what degree was growth in financial improvement – as measured by average Return on Net Assets over the study period – associated with a change in Revenue Diversity, as measured by *Tuition and Auxiliaries as a % of Total Revenue as* reported to Moody's Investors Service?				
Abilene Christian University	Chapman University	Le Moyne College	Marist College	New York University
The percentage of total revenue derived from tuition and auxiliary declined 14.9% from 2004 (75.6%) to 2022 (60.7%), reflecting a diversification of revenue	The percentage of total revenue derived from tuition and auxiliary declined 4.3% from 2004 (86.5%) to 2022 (82.1%), reflecting a diversification of revenue	The percentage of total revenue derived from tuition and auxiliary declined 18.4% from 2004 (83.9%) to 2022 (65.8%), reflecting a diversification of revenue	The percentage of total revenue derived from tuition and auxiliary declined 6.7% from 2004 (88.4%) to 2022 (81.6%), reflecting a diversification of revenue	The percentage of total revenue from tuition and auxiliary declined 34% from 2004 (52.8%) to 2022 (18.7%), reflecting a diversification of revenue

All of the institutions surveyed in the qualitative component of the study demonstrated a trend towards revenue diversification away from net tuition revenue and auxiliary revenue, which suggests that revenue diversification is a key component of financial sustainability.

Table 27

Research Question 2(d)

2(d). To what degree was growth in financial improvement – as measured by average Return on Net Assets over the study period – associated with improvements in Profitability, as measured by *Operating Margin* reported to Moody's Investors Service?				
Abilene Christian University	Chapman University	Le Moyne College	Marist College	New York University
The University reported an average operating margin of (3.04%) during the study period	The University reported an average operating margin of 12.82% during the study period	The College reported an average operating margin of 5.00% during the study period	The College reported an average operating margin of 13.84% during the study period	The College reported an average operating margin of 3.84% during the study period

The average operating margin for the period of 2004 to 2022 for all Moody's rated private non-profit institutions was 4.3%. The institutions surveyed in the qualitative component of the study demonstrated operating margins that exceeded this median, with the exception of Abilene Christian University, which showed an average operating margin of (3.04%). However, it should be noted that Abilene Christian

University had pursued a “startup” strategy to achieve rapidly increasing enrollment growth and pursued a strategy of utilizing operating funds for the purpose of capital investment (as opposed to debt financing), which resulted in overall higher expenses. It can be concluded that operating margin is a significant driver of financial sustainability.

Table 28

Research Question 2(e)

2(e). To what degree was growth in financial improvement – as measured by average Return on Net Assets over the study period – associated with a change Investment Growth, as measured by *Total Cash & Investments* reported to Moody’s Investors Service?				
Abilene Christian University	Chapman University	Le Moyne College	Marist College	New York University
357% growth in Cash & Investments from 2004 to 2022, increasing by $631 million	483% growth in Cash & Investments from 2004 to 2022, increasing by $647 million	586% growth in Cash & Investments from 2004 to 2022, increasing by $238 million	479% growth in Cash & Investments from 2004 to 2022, increasing by $401 million	404% growth in Cash & Investments from 2004 to 2022, increasing by $7.7 billion

Growth in Cash & Investments is directly related to the financial sustainability of institutions and is attributable to a number of factors including investment portfolio allocation and endowment spend rate, institutional policies of investing net gain, and significant fundraising endeavors. Further, the rate of growth has exceeded the median rate of growth (126%) for all Moody’s rated private non-profit institutions, illustrating the significance of this factor.

Research Question 3

When exploring the third research question “of the institutions identified as demonstrating improvement in financial condition over the fifteen-year period, was there an intentional financial / business strategy employed?” the answer was a clear and unequivocal “yes” across the five institutions participating in the qualitative survey component of the research study.

The literature review provided a summary of elements of financial and business strategy in four components, which are restated below.

a. The use of ratios and metrics to quantify an institution's financial position,

b. The use of ratios, rankings, and metrics to quantify an institution's position relative to competition,

c. Management strategies to improve an institution's financial position, for example, the use of planning models to optimize resource allocation; and,

d. Management strategies to improve an institution's market position relative to competition.

This component of the discussion will focus on how each of the five institutions' experience in crafting financial and business practices and strategies related to the four elements identified in the literature review. Further, common themes across institutions financial strategies are identified.

Table 29

Research Question 3(a)

3(a). To what degree did the Institution utilize ratios and metrics to quantify financial position, in the context of constructing finance and business strategy				
Abilene Christian University	Chapman University	Le Moyne College	Marist College	New York University
Ratios are reported quarterly to the board, which look at balance sheet measures, return on net assets, debt to equity (and these are measured in Board authorized ranges) – but the operating budget is the core measure of financial performance.	A central budget office, which uses Synario (a planning software) prepares financing forecasts, which are tied into a comprehensive forward-looking view of ratings agency ratios.	A strong financial projection system was implemented to help assess strategic decisions. There was an in house developed 5-year modeling tool that had been built, described as not dissimilar from Synario.	The institution focuses on financial ratios as part of regular management, but this analysis always begins with an understanding of true margin across programs and efforts, and a "bottom line" focus on net assets.	The University uses extensive analytics and forecasting to inform financial and strategic decision in the context of a multi-year projection of operations, which is regularly updated and reviewed by the Board and Administration.

With respect to the use of financial ratios and metrics to quantify financial position, there was a robust use of scenario planning, projection analysis and financial analysis across all institutions, which was discussed as a 'best practice' and essential in the forward planning of financial strategy.

Table 30

Research Question 3(b)

3(b). To what degree did the Institution utilize ratios and metrics to quantify financial position relative to competitors?				
Abilene Christian University	Chapman University	Le Moyne College	Marist College	New York University
Competition is assessed from a market standpoint (discussed further), but comparative ratios to peer institutions are not a part of regular financial reporting.	EVP actively dismissed the use of ratios to formulate a peer comparison, given the unique nature of the University and the University's programs.	Comparison to peer institutions ratios is not undertaken.	Comparison to peer institutions ratios is undertaken, but is not a core area of strategic planning or focus from an operating comparison.	The University regularly benchmarks to peer institutions across a range of data and actively utilizes information regarding peers strategies

The use of financial ratios to assess competitive position was less common, and in the case of Chapman University, viewed as irrelevant as an operating data set. When interrogated, institutions described a range of factors which contributed to the rationale for not constructing a comparison of financial ratios relative to peers, including difficulty in identifying a relevant peer group, challenges in obtaining accurate comparative data, the information lag of comparative data availability, and the relevancy of ratios for understanding competitive position. The one factor which fell outside this approach was the use of pricing data, specifically focusing on both "sticker" price as well as the discount rate and relative application of financial aid; all universities surveyed rigorously quantify the "pricing" strategy of their competition and are market aware.

Table 31

Research Question 3(c)

3(c). To what degree did the Institution utilize management strategies to improve an institution's financial position, for example, the use of planning models to optimize resource allocation?				
Abilene Christian University	Chapman University	Le Moyne College	Marist College	New York University
In-house CIO, defined budgeting, and fundraising for new program initiatives, and regular review of academic programs, as well as geographic diversification	Numerous management strategies, including spinoff of online division and sale, capital markets arbitrage, and real estate divestiture strategies	Long range planning models with a focus on academic program prioritization and innovative partnerships and acquisitions with a focus on regional M&A	Long range planning models, a focus on academic program prioritization, acquisition strategies and expansion in a second campus in Manhattan	Long range planning models with a focus on academic program prioritization and innovative partnerships and acquisitions

All institutions surveyed in the qualitative component of the research study demonstrated sophisticated financial management *practices* across several categories. While each institution had a distinctive approach to budget management and business planning, all had extensive financial projection models which were utilized on a regular basis to inform financial strategy and strategic decision making. Further, these models were frequently updated, considering changes in financial markets, revenues, enrollment outlook and inflationary assumptions. This allowed for adjustment to the operating plan and greater periodicity of planning during the fiscal year. This also allowed for consistent board reporting and management of financial *strategy*.

Financial *strategy* varied across each institution and were bespoke to the specific situation and landscape of each entity. Abilene Christian University, for example, had a core financial strategy centered around investment of endowment funds, which was reflected in an approach towards engaging a university employed Chief Investment Officer and managing a significant investment in energy private equity assets. This related to monetizing land bequests with mineral rights and drawing on the specific investment competency of certain board members. Chapman University had a defined financial strategy towards monetization and investment – viewing real estate, debt capital markets, and even the online teaching business as assets to be arbitraged during periods of time where the applicable market for each offered a

high valuation. This was reflected – for example – in the University's decision to "land bank" certain real estate acquisitions, or to issue debt during periods of low interest rates while setting aside the borrowed capital to fund future campus expansion opportunities. Le Moyne College had a defined approach towards the broader New York higher education landscape and was acutely aware of the ability to take market share from competitors – and to consider growth through acquisition and partnership. Similarly, Marist College looked to deploy the power of the Marist "brand' to expand in Manhattan, and periodically reviewed acquisition opportunities for the opportunity to grow in markets outside of the "upstate" geography of the core campus. Lastly, New York University deployed a sophisticated approach to debt capital markets and debt portfolio management – borrowing at market lows and working to maintain a low cost of capital relative to peer institutions – while also arbitraging the power of New York City tuition payments relative to lower international campus cost structures. These were further detailed in the institutions approach to the competitive landscape.

Table 32

Research Question 3(d)

3(d). To what degree did the Institution utilize management strategies to improve an institution's market position relative to competition.?				
Abilene Christian University	Chapman University	Le Moyne College	Marist College	New York University
Movement to Division I athletics with a focus on elevating rankings position.	Detailed assessment of program competitiveness relative to other institutions prior to program launch.	Ongoing assessment of acquisition opportunities in the market, given challenging market in upstate New York.	High awareness of the value of the College's product and price point relative to public alternatives.	Expansion of business lines including international location, healthcare and research.

To a lesser extent, each institution demonstrated an awareness of their competitive market, in particular the necessity for detailed research and market sounding analyses prior to new academic program launches. Strategies for improving market position ranged from focusing on branch campus expansion, to differentiated strategies in athletics, to acquisition strategies.

Common Themes

In discussion with each of the institutions, several common themes emerged. First, interestingly, several of the current leaders reflected on prior career experience with institutions that were in financial distress as a formative experience in their leadership style and approach. This prior experience with financial distress forced these professionals – at an early stage of their career – to confront the necessity of financial sustainability and the potential for disruption were good business practices abandoned. This informed their approach to management and keeping a clear focus on institutional budget (in the words of one participant "behind every successful institution, there is a hard ass"). Secondly, the individuals who were currently in leadership positions had a long experience with their institution and spoke to the long tenure of the administrative cabinet of their institutions as a component of the success of the institution. Further, there were differentiating views regarding the role of charismatic or visionary presidents in the overall success of the institution; the leaders interviewed were evenly split regarding the impact of such an individual on the overall strategy of the institution.

All interviewed emphasized the need for communication with faculty and other constituent groups, with a strong view that coalition building was necessity in achieving change in a shared governance structure. Different from the detailed and sophisticated projections presented to their respective Boards, these individuals emphasized *simplicity*, *consistency* and *transparency* as key elements in communicating both the financial position of the institution and the institution's strategy. In particular, those interviewed believed that communicating with broader audiences using the cash position of the institution as a key metric was a useful strategy to explain the overall financial strategy of the institution in a way that was simple to understand and easy to communicate.

Limitations of the Study and Areas for Further Study

The study has a certain number of limitations, and the preliminary conclusions present the opportunity for further research. With respect to the availability of data, it is noted that Moody's Investor Service – while providing the broadest consistent measure of computation of key financial ratios – only rates a limited number of institutions, typically those with a financial position significant enough to support

incurring bank or long term (bond) indebtedness in the debt capital markets. A different set of qualitative study participants may have been identified if all private non-profit institutions had been reviewed. While further limitations are noted in the methods and finding sections, notably specific limitations with respect to institutions consistently being rated by Moody's during the period identified, and given the limitations of reported data, a major area for future study are the specific statistical correlations between the Return on Net Assets ratio and other key measures of financial sustainability.

Further, a significant area for additional research is the potential to construct forward looking measures and ratios of financial performance, which open the possibility for assessing the flexibility of an institution's financial profile under adverse circumstances (including the demographic pressure that is projected). The potential to interview a broader universe of individuals associated with the institutions identified and develop a broader case study theory is also an intriguing area for future study.

Finally, it is interesting to note that – among the top-20 private institutions when ranked by average return on net assets – there are a number of sizeable institutions (both by enrollment and by endowment) absent from the ranking. These include Johns Hopkins (ranked 26), Brown (35), Princeton (38), Yale (39) and Harvard (94). There are a number of reasons for their respective rankings, including the absence of significant healthcare operations, a high concentration in private investments, academic prestige and the limitation that places on enrollment growth, and geographic location, among others. A further potential contributing factor is that, when an institution reaches a certain large scale of wealth, enrollment and operations, achieving sustained ongoing growth in resources becomes more difficult; in other words, it is more likely that a 1,000 FTE institution is able to double its scale in a five-year period than a 10,000 or 40,000 FTE institution. The limitations that institutional scale above a certain level may place on the potential for growth is an area for further research and study.

Recommendations

The study recommends the following for practitioners running private non-profit institutions seeking to achieve greater financial sustainability and operating performance for their college or university.

1. *Focus on the academic program portfolio as the product and instill a process to regularly refine academic programs offered in consultation with external entities* (e.g. leading employers in the institution's market). Each institution surveyed had an acute understanding of the academic portfolio as being essential to the institution's success, and that rigorous management of programs offered, the need to discontinue academic programs which were not financially preforming (discussed further below) and fostering a culture of academic innovation to create new programmatic offerings was a requirement for financial sustainability. This was a common theme regardless of the size of the institution (e.g. Le Moyne College – with a relatively small scale of academic operations – ascribed the same importance to this endeavor as New York University).
2. Institute, if not already in place, a *regular system of review of net margin contribution from academic programs*, with clear expectations related to the appropriate level of margin each program would ideally generate, and guidelines for the discontinuance of academic programs which have, over time, failed to contribute net margin to the overall enterprise. This practice was clearly articulated by Marist College as well as Chapman University, which undertook activity-based costing (Anguiano, 2013) and resource allocation budgeting (Massy, 2017 and 2020) whereby the administrative and operational expense "overhead" was allocated to academic programs to identify their true margin contribution. Measuring this margin contribution on an annual basis was detailed as a management best practice.
3. *Run the "base business" of the institution as an enterprise dependent upon two revenue streams – net tuition revenue and auxiliary revenue* (which should produce margin to supplement net tuition revenue), and budget to a 2% to 3% operating margin for the "base business". Endowment and investment income should be treated at the lowest level of spend – 4% of the trailing 3-year average of earnings and may be dedicated to defray ongoing depreciation and deferred maintenance cost. Abilene Christian University articulated this approach to budgeting as being particularly impactful in the context of constructing the architecture of a financially sustainable budgeting framework, with the benefit that endowment and investment income was perpetually being reinvested to achieve greater net asset growth over time. Chapman University also articulated that dependency on

endowment revenue and investment was antithetical to the core strategy of preserving those resources for future institutional development and as a safeguard against potential enrollment downturns.

4. *When launching new academic programs, analyze thoroughly the demand for the program* using a data driven approach considering competitive position. In so doing, interview faculty and students of competing programs to understand the market in detail. If entering the market, do so under a risk adjusted forward projection of operating performance for a period no less than five years, with profitability achieved within this period. Allocate fundraising dollars to cover the initial upfront expenditures and establish in the forward projection a plan to achieve a positive program return inclusive of repayment of the upfront fundraising dollars utilized. If a program is unable to achieve a positive margin contribution, discontinue the program. These strategies were instrumental in the development of academic programs for both Le Moyne College and Marist College, which function in a highly competitive operating environment in New York, with numerous private competitors as well as low-cost public options.
5. Consider engagement of an in-house Chief Investment Officer, while *encouraging minimal reliance on investment income during periods of time where rapid endowment and investment growth is desired*. Further, align investment strategy with risk parameters and – to the extent possible – with the knowledge base of the investment committee of the Board. Abilene Christian University and New York University both reflected this approach to investment management as did (to a lesser extent) the other institutions which participated in the research study. Given the levels of financial resource growth achieved by the institutions during the study period, and the relative outperformance of the institution's endowments over the study period, a focus on investment allocation was key. Institutions attributed this outperformance, in part, to expertise at the Board level (for Abilene Christian University, a knowledge base around energy investment specific to Texas oil was discussed). All institutions described a strategy of reinvestment of endowment gains with a focus on achieving growth in resources.

6. *Focus on revenue diversification*. Each of the institutions participating in the research study reflected a keen effort to diversify revenue streams *away* from net tuition, whether through expanding annual donative fund revenues, investment income, growth in the auxiliary enterprise, or other forms income (e.g. divestiture of assets, or acquisition of competition). Beyond different categories of revenue diversity, institutions also focused on diversifying revenues across academic programs – New York University, for example, detailed a broad portfolio approach with the desire to participate in every academic program or subject area, under the theory that declines in interest in a particular academic program would be offset by gains in another. This is reflective of portfolio management theory and is applicable regardless of institutions' size.
7. *Lower the cost of the product*. Each institution acknowledged that there was a pervasive cost problem in higher education (Marist most directly, equating the cost of sending three children to college with buying three homes today, compared to three cars 20 year ago). Each also acknowledge efforts to make the academic product more widely available in manners outside a traditional four-year residential model (e.g. through certificates, part time study, adult degree completion, study abroad). Each institution also discussed the need to focus on time to completion (e.g., four year graduation rate) as a management metric, so as to prevent the overleveraging of students and families in achieving their education.

In conclusion, these specific recommendations - when coupled with a strong focus on rigorous analysis and a quantitative management culture - provide prospective pathways to financial sustainability which may be adopted more broadly. While their attributes were clear in all successful academic institutions which participated in the research study, so was a culture of collaboration, which was achieved through a common understanding of the institutions financial situation facilitated by long range planning models. Using quantitative measures in long range planning to facilitate strategic decision making is an advisable strategy for all institutions as the sector confronts the operational challenges of the future.

Appendix A: Interview Protocol

Introductory Protocol

To facilitate our note-taking, we would like to audio tape our conversations today. Please sign the release form. For your information, only researchers on the project will be privy to the recordings which will be eventually destroyed after they are transcribed. In addition, you must sign a form devised to meet our human subject requirements. Essentially, this document states that: (1) all information will be held confidential, (2) your participation is voluntary, and you may stop at any time if you feel uncomfortable, and (3) we do not intend to inflict any harm. Thank you for your agreeing to participate.

We have planned this interview to last no longer than one hour. During this time, we have several questions that we would like to cover. If time begins to run short, it may be necessary to interrupt you to push ahead and complete this line of questioning.

Introduction

You have been selected to speak with us today because you have been identified as someone who has a great deal to share about the financial planning and business strategy at ____ institution. Our research project focuses on the importance of long range strategic financial planning, with particular interest in understanding how faculty, administrators and boards are engaged in this activity, how institutions are managed in challenging operating environments, and whether institutions can replicate strategies leading to growth in financial resources. Our study does not aim to critique your techniques or experiences. Rather, we are trying to learn more about the intersection of finance and strategy, and hopefully learn about best practices that help improve financial sustainability for academic institutions.

A. Interviewee Background

How long have you been …

_____ in your present position?

_____ at this institution?

Interesting background information on interviewee:

What is your highest degree? _____

What is your field of study or professional background? _____

1. Briefly describe your role (administrator, board member) as it relates to financial strategy and strategic planning.

Probes: How are you involved in strategic planning and financial management at the institution?

2. What is the institution's strategic position and financial plan?

Probes: How has the strategic position and financial plan evolved and developed from 2000 to 2020?

B. Financial Ratio Analysis

1. What is the budgeting and financial planning process at the institution?

Probes: To what extent are financial ratios used in regular board and management reporting? Who is involved in the process?

2. Does the administration / board regularly utilize ratings agency metrics in assessing financial position?

Probe: To what extent does the institution's credit rating figure into strategic planning?

3. Does the use of a Compositive Financial Indicator (CFI) score or assessment figure into assessing financial position?

4. Does the institution regularly review or assess the Department of Education's measures of financial responsibility?

5. How are measures or ratios of cost incorporated in the budgeting process?

Probes: Does the institution have a long-term view on cost growth (e.g., inflation)? Does the institution use comparative measures / ratios of cost structure?

C. Assessment and Scenario Modeling

1. Do you use scenario modeling in the context of forward-looking financial forecasts?

2. Is the primary use of the scenario modeling for internal budgeting, contingency planning, or other reasons?

Probe: What are the key variables utilized in scenario modeling?

3. What system is used for modeling (finance system; spreadsheets; off-the-shelf forecasting/ planning tool; bespoke forecasting/planning tool; dedicated specialist software)?

Probe: Is the modeling system integrated with other institutional software / budgeting tools?

4. How are revenue streams measured and assessed over time?

D. Strategic Planning Process

1. Describe the strategic planning process utilized from 2000 to 2020.

2. Was an environmental audit conducted (internal, market, public, competitive, macroeconomic)?

Probe: If so, how specifically was the competitive environment measured?

3. When assessing opportunities / threats; was a resource analysis conducted, and were distinctive competencies identified, or any differentiated advantages uncovered? Did the institution utilize or develop an image study?

Probe: Did the process of strategy formulation include an analysis of the academic portfolio?

4. Are there instances of domain defense, domain offense, and domain creation?

5. How is forecasting of enrollment and net tuition revenue incorporated into the long-term strategic plan?

6. How often and with what process are strategic alternatives (e.g., joint ventures, acquisitions, program transfer, partnerships) assessed?

E. Institution-Specific Questions

1. What specific strategy precipitated the enrollment growth which occurred beginning in ___?

2. How did the Board and administration approach campus communication regarding the strategic approach?

3. What specific management metrics or ratios were utilized to measure the strategy's performance?

F. Conclusions

Post Interview Comments and/or Observations:

Appendix B: University of Pennsylvania IRB Approval

Penn
University of Pennsylvania
Institutional Review Board
3600 Civic Center Blvd., 9th Floor
Philadelphia, PA 19104
Phone: 215-573-2540
(Federalwide Assurance # 00004028)

DATE: 05-Sep-2023
TO: Jason A Presley
CC:

RE:
IRB PROTOCOL#: 854200
PROTOCOL TITLE: Review Of Strategic Financial Initiatives to Ensure Sustainability in Academic Institutions

SPONSOR: NO SPONSOR NUMBER
REVIEW BOARD: IRB #8

IRB SUBMISSION: NOTICE OF EXEMPTION

Dear Dr. Presley,

The above referenced protocol was reviewed by the Institutional Review Board on 01-Sep-2023. It has been determined that the proposal meets eligibility criteria for IRB review exemption authorized by 45 CFR 46.104, category 2.

ONGOING REVIEW:

- The IRB must be kept apprised of any and all changes in the research that may have an impact on the IRB review mechanism needed for a specific proposal. You are required to submit modifications to the IRB if any changes are proposed in the study that might alter the exemption determination, or any applicable HIPAA waiver determination. New procedures that may have an impact on the exemption determination, or HIPAA waiver determination cannot be initiated until Committee approval has been given.
- Consistent with the federal regulations, IRB approval of this protocol will not expire and no continuing reviews will be required for this protocol. The IRB may occasionally contact you to confirm that the trial is still ongoing and that you are adhering the previously stated requirement to submit modifications.

COMMITTEE APPROVALS: You are responsible for assuring and maintaining other relevant committee approvals. This human subjects research protocol should not commence until all relevant committee approvals have been obtained.

If your study is funded by an external agency, please retain this letter as documentation of the IRB's determination regarding your proposal.

If you have any questions about the information in this letter, please contact the IRB administrative staff. A full listing of staff members and contact information can be found on our website: http://www.irb.upenn.edu

***This letter constitutes official University of Pennsylvania IRB correspondence. ***

Appendix C: Informed Consent Form

UNIVERSITY OF PENNSYLVANIA
RESEARCH PARTICIPANT
INFORMED CONSENT FORM

Protocol Title:	Review Of Strategic Financial Initiatives to Ensure Sustainability in Academic Institutions
Principal Investigator:	Dr. Jason Presley 3700 Walnut Street Philadelphia, PA 19104 (215) 898-1161

Research Study Summary for Potential Participants

You are being invited to participate in a research study. Your participation is voluntary, and you should only participate if you completely understand what the study requires and what the risks of participation are. You should ask the study team any questions you have related to participating before agreeing to join the study. If you have any questions about your rights as a human research participant at any time before, during or after participation, please contact the Institutional Review Board (IRB) at (215) 898-2614 for assistance.

The research study focuses on the importance of long range strategic financial planning, with particular interest in understanding how faculty, administrators and boards are engaged in this activity, how institutions are managed in challenging operating environments, and whether institutions can replicate strategies leading to growth in financial resources. Our study does not aim to critique techniques or experiences. Rather, the study aims to learn more about the intersection of finance and strategy, and hopefully learn about best practices that help improve financial sustainability for academic institutions.

If you agree to join the study, you will be asked to participate in an interview reviewing strategic financial initiatives undertaken by the academic institutions with which you are associated in an effort to ensure financial sustainability and long-term viability. The study will use an interview protocol to examine the quantitative and qualitative decision-making processes of executive administration and board members of select academic institutions.

Your participation will last for approximately 90 minutes; the study will be approximately 6 months in duration, beginning in October 2023 and ending in March 2024.

The benefits of participation are the opportunity to share management best practices and strategies for financial sustainability in a research study, the results of which will be shared

with other academic institution, thereby improving the higher education sectors understanding of strategies to confront financial challenges. The most common risks of participation are limited to the tangential business risk of disclosing management best practices and strategies which may be viewed as confidential or proprietary.

Please note that there are other factors to consider before agreeing to participate such as additional procedures, use of your personal information, costs, and other possible risks not discussed here. If you are interested in participating, a member of the study team will review the full information with you. You are free to decline or stop participation at any time during or after the initial consenting process.

Why am I being asked to volunteer?

You are being asked to take part in a research study because you have been identified as someone who has a great deal to share about the financial planning and business strategy at ____ institution. Your participation is voluntary which means you can choose whether or not to participate.

If you do not understand what you are reading, do not sign it. Please ask the researcher to explain anything you do not understand, including any language contained in this form. If you decide to participate, you will be asked to sign this form. A copy will of the form will be given to you so that you can find contact information and answers to questions about the study. You may ask to have this form read to you.

What is the purpose of the study?

The study's objectives are to explore the quantitative and qualitative elements of strategic planning in higher education finance, with a focus on how institutions may pivot towards positions of greater financial sustainability. This study is being conducted in conjunction with the dissertation of a doctoral candidate in the higher education division of the Graduate School of Education at the University of Pennsylvania.

How long will I be in the study?

Your participation will last for approximately 90 minutes, which is the duration of the interview; the study will be approximately 6 months in duration, beginning in October 2023 and ending in March 2024. The study seeks to interview the leadership of approximately 4 - 6 private colleges and universities, with the total number of participants anticipated to be no more than 24 individuals.

What am I being asked to do?

You are being asked to participate in a 90-minute interview regarding the financial strategy of ___ institution.

What are possible risks or discomforts?

Interview topics are included in the attached interview protocol. Were you uncomfortable with the nature of questions posed during the interview, you could elect to not continue with the interview or withdraw from the study. Your responses may be quoted directly or otherwise incorporated into a dissertation. A breach of confidentiality is a risk of participation.

How will I benefit from the study?

You may not get any benefit from being in this research study.

Will I be paid for being in this study?

There is no compensation for participation in this study.

Will I have to pay for anything?

As interviews may be conducted by phone or zoom, the use of cellular data or Wi-Fi is a potential expense that will not be covered in the study.

When is the Study over? Can I leave the Study before it ends?

This study is expected to end after all participants have completed all interviews, and all information has been collected, in approximately March 2024. This study may also be stopped at any time because:

- The Primary Investigator feels it is necessary for the welfare, rights, or safety of participants. Such an action would not require your consent, but you will be informed if such a decision is made and the reason for this decision.
- The Principal Investigator has decided to stop the study.

If you decide to participate, you are free to leave the study at any time. You may do this by contacting the investigator noted on page one of this form. Withdrawal will have no impact on you, and any data you have provided will be destroyed.

Could I be withdrawn from the study?

Were information to emerge that you were not in a position to observe or comment knowledgably on the financial strategy of the institution, you could be withdrawn from the study.

How will my personal information be protected during the study?

We will do our best to make sure that the personal information obtained during the course of this research study will be kept private. However, we cannot guarantee total privacy. Your personal information may be given out if required by law. If information from this study is published or presented at scientific meetings, your name and other personal information will not be used. The Institutional Review Board (IRB) at the University of Pennsylvania will have access to your records.

What may happen, in the future, to my information collected on this study?

Your information will not be stored or shared for future research purposes upon completion of the study. During the study, interviews will be recorded and stored on file sharing services at the University of Pennsylvania. Upon completion of the study, these files will be deleted. Data will be de-identified; institutions will be described only using high level classification statistics (e.g., a private non-profit institution with the Carnegie classification of doctoral / research university and a Moody's credit rating of A3). Your role within the institution will be described where relevant, but only by your employment title. These data identifiers will be stored on the same file sharing services at the University of Pennsylvania and will be deleted upon completion of the study.

Who can I call with questions, complaints or if I'm concerned about my rights as a research participant?

If you have questions, concerns or complaints regarding your participation in this research study or if you have any questions about your rights as a research participant, you should speak with the Principal Investigator listed on page one of this form. If a member of the research team cannot be reached or you want to talk to someone other than those working on the study, you may contact the IRB at the number on page one of this form.

When you sign this form, you are agreeing to take part in this research study. This means that you have read the consent form, your questions have been answered, and you have decided to volunteer. Your signature also means that you are permitting the University of Pennsylvania to use your personal information collected about you for research purposes within our institution. You are also allowing the University of Pennsylvania to disclose that personal information to outside organizations or people involved with the operations of this study.

A copy of this consent form will be given to you.

_____	_____	_____
Name of Participant **[print]**	Signature of Participant	Date
_____	_____	_____
Name of Person Obtaining Consent **[print]**	Signature	Date

Appendix D: Moody's Investors Service Rated Non-Profit Higher Education Institutions; 2004 – 2022

Abilene Christian University, TX
Allegheny College, PA
American University, DC
Amherst College, MA
Art Center College of Design, CA
AT Still University, MO
Augsburg University, MN
Augustana College, IL
Azusa Pacific University, CA
Babson College, MA
Barnard College, NY
Bates College, ME
Bellarmine University, KY
Belmont University, TN
Beloit College, WI
Bentley University, MA
Berea College, KY
Berklee College of Music, MA
Biola University, CA
Birmingham-Southern College, AL
Boston College, MA
Boston University, MA
Bowdoin College, ME
Brandeis University, MA
Brooklyn Law School, NY
Brown University, RI
Bryant University, RI
Bryn Mawr College, PA
Bucknell University, PA
California Institute of Technology, CA
California Institute of the Arts, CA
California Lutheran University, CA
Campbell University, NC
Carleton College, MN
Case Western Reserve University, OH
Catholic University of America, DC
Centre College of Kentucky, KY
Chaminade University of Honolulu, HI
Chapman University, CA
Claremont McKenna College, CA
Claremont University Consortium, CA
Clark Atlanta University, GA
Clark University, MA
Clarkson University, NY
Colby College, ME
Colgate University, NY
College of Saint Benedict, MN
College of St. Scholastica, MN
College of the Holy Cross, M
College of Wooster, OH
Colorado College, CO
Columbia University, NY
Concordia College, MN
Connecticut College, CT
Cornell University, NY
Creighton University, NE
Culinary Institute of America, NY
Dartmouth College, NH
Delaware Valley College of Science & Agriculture, PA
Denison University, OH
DePaul University, IL
DePauw University, IN
Des Moines University Osteopathic Medical Center, IA
Drexel University, PA
Duke University, NC
Duquesne University of the Holy Spirit, PA
Embry-Riddle Aeronautical University, FL
Emerson College, MA
Emmanuel College, MA
Emory University, GA
Fairfield University, CT
Fordham University, NY
Franklin W. Olin College of Engineering, MA
Furman University, SC
Gallaudet University, DC
Gannon University, PA
Gardner-Webb University, NC
George Washington University, DC
Georgetown University, DC
Georgian Court University, NJ

Gettysburg College, PA
Gonzaga University, WA
Grand Canyon University, AZ
Grinnell College, IA
Gustavus Adolphus College, MN
Hamilton College, NY
Hamline University, MN
Hanover College, IN
Hartwick College, NY
Harvard University, MA
Harvey Mudd College, CA
Hofstra University, NY
Howard University, DC
Icahn School of Medicine at Mount Sinai, NY
Illinois Institute of Technology, IL
Illinois Wesleyan University, IL
Iona College, NY
Ithaca College, NY
John Carroll University, OH
Johns Hopkins University, MD
Johnson & Wales University, RI
Juilliard School (The), NY
Kalamazoo College, MI
Kansas City University, MO
Kenyon College, OH
Lafayette College, PA
Lawrence University, WI
Le Moyne College, NY
Lehigh University, PA
Lewis & Clark College, OR
Liberty University, VA
Life University, GA
Linfield University
Loma Linda University, CA
Long Island University, NY
Loyola Marymount University, CA
Loyola University of Chicago, IL
Loyola University, LA
Loyola University, MD
Macalester College, MN
Marist College, NY
Marquette University, WI
Maryland Institute, College of Art, MD
Marymount University, VA
Maryville University of St. Louis, MO
Massachusetts College of Pharmacy & Health Sciences, MA
Massachusetts Institute of Technology, MA
Medical College of Wisconsin, WI
Mercer University, GA
Merrimack College, MA
Middlebury College, VT
Minneapolis College of Art and Design, MN
Misericordia University, PA
Mount Holyoke College, MA
Muhlenberg College, PA
National University, CA
Nazareth College of Rochester, NY
New York Institute of Technology, NY
New York Law School, NY
New York University, NY
Northeastern University, MA
Northwest Nazarene University, ID
Northwestern University, IL
Nova Southeastern University, FL
Oberlin College, OH
Occidental College, CA
Otterbein University, OH
Pacific University, OR
Pepperdine University, CA
Pomona College, CA
Princeton Theological Seminary, NJ
Pratt Institute, NY
Princeton University, NJ
Providence College, RI
Quinnipiac University, CT
Ranken Technical College, MO
Reed College, OR
Regent University, VA
Regis University, CO
Rhode Island School of Design, RI
Rensselaer Polytechnic Institute, NY
Rhodes College, TN
Rice University, TX
Robert Morris University, PA
Rochester Institute of Technology, NY
Rider University, NJ

Rollins College, FL
Roosevelt University, IL
Rose-Hulman Institute of Technology, IN
Russell Sage College
Sacred Heart University, CT
Saint Louis University, MO
Saint Michael's College, VT
Samford University, AL
Samuel Merritt University, CA
Santa Clara University, CA
Savannah College of Art and Design, GA
Seton Hall University, NJ
Simmons College, MA
Skidmore College, NY
Smith College, MA
Southern Methodist University, TX
Southwestern Law School, CA
Southwestern University, TX
Spelman College, GA
St. Anselm College, NH
St. Catherine University, MN
St. Edward's University, TX
St. John's University, MN
St. John's University, NY
St. Lawrence University, NY
St. Mary's College of California, CA
St. Olaf College, MN
St. Vincent College, PA
Stanford University, CA
Stetson University, FL
Stonehill College, MA
Suffolk University, MA
Susquehanna University, PA
Swarthmore College, PA
Syracuse University, NY
Taylor University, IN
Teachers College of Columbia University, NY
Texas Christian University, TX
The New School, NY
Trinity College, CT
Tufts University, MA
Tulane University, LA
Union College, NY
University of Chicago, IL
University of Dayton, OH
University of Denver, CO
University of La Verne, CA
University of Miami, FL
University of New England, ME
University of Notre Dame du Lac, IN
University of Pennsylvania, PP
University of Puget Sound, WA
University of Redlands, CA
University of Richmond, VA
University of Rochester, NY
University of San Diego, CA
University of San Francisco, CA
University of Southern California, CA
University of St. Thomas, MN
University of the Incarnate Word, TX
University of the Pacific, CA
University of the Sacred Heart, PR
University of the Sciences in Philadelphia, PA
University of Tulsa, OK
Valparaiso University, IN
Vanderbilt University, TN
Vassar College, NY
Villanova University, PA
Wake Forest University, NC
Washington and Lee University, VA
Washington University, MO
Webster University, MO
Wellesley College, MA
Wentworth Institute of Technology, MA
Wesleyan University, CT
Western University of Health Sciences, CA
Wheaton College, IL
Wheaton College, MA
Whitman College, WA
Whitworth University, WA
Willamette University, OR
Williams College, MA
Worcester Polytechnic Institute, MA
Xavier University, OH
Yale University, CT
Yeshiva University

Appendix E: Moody's Investors Service Financial / Operating Data and Key Ratios

Financial Data

Cash & Investments ($000)
Pledges Receivable ($000)
Bond Trustee Held Construction Funds/Unspent Proceeds ($000)
Bond Trustee Held DSRF or Debt Service Funds ($000)
Funds Held in Trust by Others (Included as Investment Income) ($000)
Funds Held in Trust by Others (Income Included as Contributions in Audit) ($000)
Deferred Financing Costs ($000)
Pension Asset ($000)
Property, Plant and Equipment (Gross) ($000)
Accumulated Depreciation ($000)
Property, Plant and Equipment (Net) ($000)
Other Assets ($000)
Total Assets ($000)
Capital Contributions and Grants ($000)
Temp and Perm Restricted Investment Income ($000)
Temp and Perm Restricted Contributions (Contributions for Endowment in Publics) ($000)
Other Changes in Restricted Net Assets ($000)
Total Change in Restricted Net Assets ($000)
Change in Net Assets ($000)
Deferred Revenue ($000)
Short-Term/Operating Debt (Operating Lines, etc.) ($000)
Plant Debt or Long-Term Debt ($000)
Accrued Pension Liability ($000)
Post Employment Health Liability ($000)
Other Liabilities ($000)
Total Liabilities ($000)
Unrestricted Net Investment in Plant ($000)
Total Unrestricted Net Assets ($000)
Temporarily Restricted Net Investment in Plant ($000)
Total Temporarily Restricted Net Assets ($000)
Total Permanently Restricted Net Assets ($000)
Total Net Assets ($000)
Total Liabilities and Net Assets ($000)
Interest Expense ($000)
Pension Expense ($000)
Post Employment Health Expense ($000)
Research Expenses ($000)
Auxiliary Enterprises ($000)
Patient Care Expenses ($000)
Other Expenditures ($000)
Operating Expenses ($000)

Operating Income ($000)
Operating Cash Flow ($000)
Principal Payments on Debt (Regularly Scheduled) ($000)
Interest Paid ($000)
Purchases of Capital or PP&E (From Cash Flow) ($000)
Additional, Unusually Large Non-Cash Expenses ($000)
Depreciation Expense ($000)
Change in Swap Valuation ($000)
Losses or Gains on Non-Recurring (Refinancing, Sale of Asset etc.) ($000)
Net Assets Released from Restrictions-Investment Income ($000)
Net Assets Released from Restrictions-Capital ($000)
Change in Minimum Pension Liability ($000)
Reported Unrestricted Investment Income ($000)
Other Contributions ($000)
Other Non-Operating ($000)
Total Non-Operating Revenues/Expenses ($000)
Change in Unrestricted Net Assets ($000)
Scholarship Aid ($000)
Total Net Tuition & Fees (($000)
Net Auxiliary Enterprises ($000)
Patient Care Revenue ($000)
Grants and Contracts ($000)
Contributions for Operations ($000)
Endowment Spending/Investment Income ($000)
Net Assets Released from Restrictions (Operating Contributions) ($000)
Other Revenue ($000)
Other Investment Income ($000)
Operating Revenue ($000)

Operating Data

Total Undergraduate FTE
Total Undergraduate Headcount
Total Graduate FTE
Total Graduate Headcount
Total Enrollment FTE
Total Head Count
Total Undergraduate Costs
First Year Student Selectivity Ratio (%)
First Year Student Matriculation Ratio (%)
Transfer Selectivity Ratio (%)
Transfer Matriculation Ratio (%)

Financial Ratios

Projected Benefit Obligation ($000)
FV of Plan Assets ($000)
Employer Contribution ($000)
Discount Rate (as reported) (%)
Funded Ratio (%) Per GAAP
(Overfunded) underfunded (as reported) ($000)
Net Pension Costs
Service Cost Component (As Reported)
Spendable Cash & Investments to Operating Expenses (x)
Total Cash & Investments to Operating Expenses (x)
Monthly Days Cash on Hand (x)
Annual Days Cash on Hand (x)
Total Cash & Investments per Student ($)
Spendable Cash & Investments to Total Debt (x)
Spendable Cash & Investments to Total Adjusted Debt (x)
Total Cash & Investments to Total Adjusted Debt (x)
Total Cash & Investments-to-Total Debt (x)
Total Debt-to-Cash Flow (x)
Total Debt to Operating Revenue (x)
Total Debt-to-Total Capitalization (x)
Total Adjusted Debt to Operating Revenue (x)
Debt Service to Operating Expenses (%)
Variable Rate Exposure (%) (Prior to Swaps)
Monthly Liquidity to Demand Debt (%)
Annual Liquidity to Demand Debt (%)
Capital Spending (x)
Capital Expenses to Operating Expenses (%)
Age of Plant (#, in Years)
Total Debt ($, in Millions)
Other Debt Like Obligations ($, in Millions)
Total Adjusted Debt ($, in Millions)
Change in Total Adjusted Debt (%)
Spendable Cash & Investments ($, in Millions)
Total Cash & Investments ($, in Millions)
Monthly Liquidity ($, in Millions)
Annual Liquidity ($, in Millions)
Annual Change in Operating Revenue (%)
Operating Revenue ($, in Millions)
Operating Expenses ($, in Millions)
Total Gift Revenue ($, in Millions)
Three-Year Average Gift Revenue ($, in Millions)
Unrestricted Financial Resources ($, in Millions)
Expendable Financial Resources ($, in Millions)

Total Financial Resources ($, in Millions)
Total FTE Enrollment (#, May be Estimated)
Primary Selectivity (%)
Primary Matriculation (%)
Net Tuition per Student ($)
Change in Net Tuition per Student (%)
Educational Expenses per Student ($)
Total Tuition Discount (%)
Operating Margin (%)
Three-Year Average Operating Margin (%)
Operating Margin Excluding Gifts (%)
Operating Cash Flow Margin (%)
Change in Net Tuition Revenue (%)
Annual Debt Service Coverage (x)
MADS Coverage (x)
Three-Year Average Debt Service Coverage (x)
Three-Year Average Gifts per Student ($)
Return on Net Assets (%)
Return on Cash & Investments (%)
Tuition & Auxiliaries (%, of Total Revenue)
Investment Income (%, of Total Revenue)
Gifts (%, of Total Revenue)
Grants & Contracts (%, of Total Revenue)
Patient Care (%, of Total Revenue)
Other (%, of Total Revenue)

Appendix F: Excluded Institutions

1. Liberty University, VA
2. Massachusetts College of Pharmacy & Health Sciences, MA
3. Savannah College of Art and Design, GA
4. Western University of Health Sciences, CA
5. Belmont University, TN
6. University of New England, ME
7. University of the Incarnate Word, TX
8. Barnard College, NY
9. Misericordia University, PA
10. Delaware Valley College of Science & Agriculture, PA
11. AT Still University, MO
12. Icahn School of Medicine at Mount Sinai, NY
13. Colby College, ME
14. National University, CA
15. Des Moines University Osteopathic Medical Center, IA
16. Merrimack College, MA
17. Art Center College of Design, CA
18. Northwest Nazarene University, ID
19. California Institute of the Arts, CA
20. Samuel Merritt University, CA
21. Chaminade University of Honolulu, HI
22. Grand Canyon University, AZ
23. Pacific University, OR
24. Ranken Technical College, MO
25. Loma Linda University, CA
26. St. John's University, MN
27. Marymount University, VA
28. Nazareth College of Rochester, NY
29. Campbell University, NC
30. Taylor University, IN
31. University of the Sciences in Philadelphia, PA
32. Regis University, CO
33. Willamette University, OR
34. Beloit College, WI
35. Rhodes College, TN
36. Johnson & Wales University, RI
37. Gardner-Webb University, NC
38. Azusa Pacific University, CA
39. Gallaudet University, DC
40. Birmingham-Southern College, AL
41. Yeshiva University, NY
42. Regent University, VA

Appendix G: Example Outreach

[NAME] University │ UPenn Higher Education Research │ Meeting Request w/ [Administrator]

[Name], I hope you're well.

This is an atypical request, but I'm hoping you may be willing to be interviewed as part of a research study regarding financial sustainability in higher education. By way of introduction, I'm a doctoral candidate at the University of Pennsylvania – and also work in higher education finance (co-head of education investment banking at RBC) as well as serve on the board of a non-profit doctoral NCAA D1 university.

The study is being conducted through Penn and is focused on institutions which have significantly outperformed financially, delivering a high level of return on net assets over a 15-year period. Interestingly, [NAME] University is one of the strongest institutions by this measure, outperforming Stanford, Harvard, Yale and Princeton among others.

Your participation would be confidential, and the total time commitment would be ~90 minutes over two sessions (a 30-minute explanation of the study and protocols, and an hour interview). The objective is to summarize elements of financial policy and strategy utilized by [NAME].

As the study is instrumental in completing my dissertation, I'd be personally grateful for your participation. I can also appreciate the constraints on your time, so if unworkable, understand.

Best regards –

Researcher

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