Management of Financial Performance Measures: Evidence from Private Colleges and Universities

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ABSTRACT: This study examines the incentives for private colleges and universities (PCUs) related to financial reporting choices for net appreciation on endowments. Under current accounting standards, in the absence of explicit donor restrictions, PCUs are permitted to classify net appreciation as either unrestricted, which increases measures of operating performance, or as restricted, which constrains future actions but may also improve perceptions of various stakeholders. We analyze incentives related to four stakeholder groups (lending institutions, faculty/staff, students/parents, and donors) and find that incentives are significant determinants of the net appreciation reporting choice for PCUs.

Keywords: reporting incentives; not-for-profit; earnings management.

JEL Classifications: M4; I21; I22.

INTRODUCTION

Incentives influence choices from among a set of acceptable financial reporting alternatives. There is an extensive literature on earnings management through reporting choices by for-profit entities (Watts and Zimmerman 1986, 1990) and an emerging and growing body of literature on management of measures of operating performance by not-for-profit (NFP) entities (Yetman 2001; Krishnan, M. Yetman, and R. Yetman 2006; Jones and Roberts 2006; Hofmann 2007; Keating, Parsons, and Roberts 2008; Tinkelman 2009; Eldenburg, Gunny, Hee, and Soderstrom 2011; Kitching, Roberts, and Smith 2012). In the FASB (2015) Exposure Draft for Not-
For-Profit Entities, the Board addressed the complexity and inconsistencies in reporting measures of operations and the resulting difficulties in assessing NFP entities’ financial performance. While the related FASB (2016) Accounting Standards Update 2016-14 for Not-for-Profit Entities was issued August 2016, the determination of a reporting measure for operations was postponed to the second phase of its project and remains an open topic of concern. This study complements the earning management literature and contributes to the issues raised in the FASB (2015) exposure draft but left unanswered in the FASB (2016) update by examining reporting choices of private colleges and universities (PCUs) with respect to measures of operating performance. Specifically, we examine the reporting policy choice required by SFAS 124 (FASB 1995) related to net appreciation on endowment assets.

Changes in the net appreciation recognition requirements were enacted in 1993 and became effective in 1996. Under these standards, net appreciation (realized and unrealized gains or losses) on endowment assets is reported on the Statement of Activities as an increase to net assets in one of three categories corresponding to the (1) unrestricted, (2) temporarily restricted, or (3) permanently restricted classes of assets. The classification of net appreciation is important because the amount classified as unrestricted is recognized as the change in unrestricted net assets (analogous to net income), which is commonly viewed as a measure of operating performance. While the amount of net appreciation classified as unrestricted could increase the measure of operating performance and potentially be interpreted as funds available for use, net appreciation classified as restricted may constrain future expenditure decisions. Because classification of net appreciation as anything other than unrestricted effectively increases the perception that there are constraints on future expenditures, the question arises: Why would a PCU voluntarily choose to constrain its future actions? More specifically, what incentives exist for PCUs to report net appreciation on endowment assets as restricted in cases where financial reporting standards allow it to instead be reported as unrestricted?

The implementation period for SFASs 116, 117, and 124 represents a unique opportunity to examine reporting choices of PCUs. During implementation, PCUs made decisions for each of their existing endowments regarding the classification of net appreciation that effectively determined future reporting policy for each endowment. We hypothesize a relation between reporting choices of PCUs and incentives related to four stakeholder groups (lending institutions, faculty/staff, students/parents, and donors) and find significant evidence of a relation between three of the four groups (faculty/staff, students/parents, and donors). These results contribute to the literature by providing empirical evidence that not-for-profit reporting choices, with respect to reporting of net appreciation, are influenced by incentives related to multiple stakeholder groups. Further, our evidence is relevant to a number of the issues raised in the FASB (2015) exposure draft that remain unanswered in the FASB (2016) update. The FASB (2016) Accounting Standards Update 2016-14 did address the complexity of the use of three net

1 The net appreciation classification may impact the perceptions of stakeholders as to the availability of net appreciation for operational use. In the FASB’s (2015) Exposure Draft for Not-For-Profit Entities, in the Basis for Conclusion (¶25), the Board reported that stakeholders often misunderstand the term unrestricted net assets as if it implies that the funds are without any type of restriction and make incorrect conclusions about an entity’s financial performance and position.

2 At the date of implementation, PCUs made an inaugural accounting method choice. As with any accounting method choice, subsequent changes require disclosure of the change, impact on financial reporting, and rationale for the change. As a result, for most PCUs, the inaugural choice represents a long-term choice.
asset classifications, moving from three net asset classifications to two net asset classifications—net assets with donor restrictions and net assets without donor restrictions (unrestricted). However, the update did not address the concerns regarding the measure used to evaluate operational performance, and the resulting difficulties in assessing financial performance. Further, while the update does provide greater guidance on reporting net appreciation, it still leaves room for judgement. Finally, the update does not resolve the concerns expressed in the exposure draft regarding how net appreciation reporting impacts stakeholder understanding of operating performance.

This paper is uniquely positioned to speak to these current issues. Our findings support the notion that PCUs are concerned with stakeholder perceptions of the change in unrestricted net assets, which appears to be used as a measure of operating performance, and those concerns, in turn, can influence financial reporting choices, specifically the net appreciation reporting choice.

The remainder of the paper is organized as follows. The next section provides institutional background on college and university financial reporting. The third section develops hypotheses regarding stakeholder interests and concerns. Sample selection criteria and descriptive statistics are presented in section four. The fifth section reports the empirical tests and results. Conclusions and discussion are offered in the sixth section.

**INSTITUTIONAL BACKGROUND**

In 1993, the FASB enacted a number of changes affecting financial reporting for PCUs, including changes related to endowment funds. In broad terms, SFAS 116 (FASB 1993a) outlines net asset classifications (unrestricted, temporarily restricted, and permanently restricted), SFAS 117 (FASB 1993b) establishes financial reporting requirements and addresses reporting of net appreciation, and SFAS 124 (FASB 1995) requires recognition of net appreciation on the Statement of Activities. Prior to SFASs 116, 117, and 124, net appreciation was not reported on the financial statements and did not impact any measure of operating income. Instead, if the PCU chose to report it at all, net appreciation was reported along with all other endowment activity in the Endowment Fund in a separate report. Thus, the changes contained in SFASs 116, 117, and 124 impacted both what was to be reported (adding a requirement for net appreciation) and how the information was reported (net asset classifications and new statements).

Specifically, endowments were split among the three net asset classifications along with the related endowment activity. Reporting is specified for three classes of endowment assets in ¶16 of SFAS 117 (FASB 1993b), where quasi- (board-designated) endowment assets are classified as unrestricted, term endowment assets (where the assets are restricted for a limited term) are classified as temporarily restricted, and true endowment assets (where the assets are restricted by the donor indefinitely) are classified as permanently restricted. Thus, endowment activity was split over the three net asset classifications. Financial reporting requirements for net appreciation are specified in ¶22 of SFAS 117 (FASB 1993b), which states that net appreciation shall be recorded

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3 The provisions of SFASs 116, 117, and 124 are now found primarily in Codification Topic 958-205-45 (FASB 2016). However, the discussion here refers to the original standards to emphasize the choices the PCUs faced at the time the standards were adopted.
as “increases or decreases in unrestricted net assets unless their use is temporarily or permanently restricted by explicit donor stipulations or by law.”

The Basis for Conclusions (FASB 2015, ¶125) clarifies that classification can also depend on implicit donor intent, and judgment is required to evaluate implicit intent. The relevant issue is:

Do donor-imposed restrictions exist that preclude the use of gains and losses (net appreciation) on permanent endowments, either as a result of explicit or clear implicit donor stipulation or by law? The Board believes that . . . not-for-profit organizations must assess the relevant facts and circumstances . . . to determine if net appreciation on endowments is available for spending or is permanently restricted.

Thus, in the absence of explicit restrictions on net appreciation in existing endowment agreements, PCUs effectively have discretion on reporting net appreciation. When there are no explicit restrictions, PCUs may report all net appreciation as unrestricted or, alternatively, may more conservatively report some net appreciation as restricted based on judgments about implicit donor intent.

Discretion implied by the new standards was a topic of considerable discussion among business officers of PCUs. For example, prior to implementation of SFASs 116, 117 and 124, the Western Association of College and University Business Officers (WACUBO) convened a number of round table discussions concerning the implications of the new standards. In particular, the business officers were concerned with (1) the appropriate interpretation of the reporting of net appreciation and the apparent judgment involved, (2) the amount of net appreciation that would appear as unrestricted, inflating the change in unrestricted net assets if the SFASs were taken literally, (3) the resulting impressions/response from stakeholders if the unrestricted change in net assets were inflated, and (4) how to interpret the true intent of donors in the absence of explicit language directing the use of net appreciation in the historic endowment agreements. Our discussions with business officers shortly after implementation were consistent with the assertion that SFASs 116, 117, and 124 allowed for judgment and that business officers were concerned about stakeholder responses to the changes. The effect of reporting net appreciation as unrestricted on the change in unrestricted net assets is still a concern today, as outlined in the FASB (2015) exposure draft. The Basis for Conclusion (FASB (2015, ¶11 and ¶12) discusses the continued confusion and misinterpretation of the current measure of operating performance—change in unrestricted net assets—and the need for development of a better measure.

Endowment agreements are not typically available for public inspection, so it is impossible to directly determine for individual endowment agreements whether there is an explicit donor

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4 One potential law that may be applicable is the Uniform Management of Institutional Funds Act (Uniform Law Commission 1972), which has been adopted by 47 states (see http://www.nacubo.org/Business_and_Policy_Areas/Endowment_Management/UPMIFA_Resources/UPMIFA_Summary.html). The UMIFA outlines guidelines for the management of investments held by eleemosynary institutions. The UMIFA proposed standards for the prudent use of appreciated funds by specifying the sources of authority to invest and to delegate authority to invest, and by holding investors to a standard of business care and prudence in transactions undertaken on behalf of the institution. While the UMIFA provides investment and spending guidance, its general provisions are not the same as a law that extends a donor-imposed restriction. As a result, the UMIFA would not lead to the classification of net appreciation as donor restricted. The Uniform Prudent Management of Institutional Funds Act (UPMIFA) of 2006 (available at: http://www.uniformlaws.org/shared/docs/prudent%20mgt%20of%20institutional%20funds/upmifa_final_06.pdf) subsequently provided additional guidance related to endowment asset reporting classifications. The new FASB (2015) exposure draft specifically makes reference to the stronger link between the UPMIFA and endowment asset financial reporting.
restriction. However, many endowment agreements explicitly avoid restrictions. For example, based on survey responses from the current study, 99 percent of endowment agreements explicitly grant PCUs discretion over investing policies and 78 percent explicitly grant PCUs discretion with respect to spending policies. Finally, only 43 percent of the PCUs followed a policy of reporting net appreciation as unrestricted unless specified by the donor (Table 2, Panel C). These data suggest that PCUs frequently adopt reporting choices more restrictive than required by their endowment agreement and SFAS 117.

Thus, at the implementation of SFASs 116, 117, and 124, PCUs had to make decisions regarding the reporting of net appreciation that henceforth affect the measure of the change in unrestricted net assets, a measure similar to net income. Specifically, for each endowment, PCUs were required to make inaugural judgments as to the implicit intent of the donors regarding classification of net appreciation. Because the original endowment agreements almost certainly did not anticipate the issue of classification of net appreciation as introduced by SFASs 116, 117, and 124, the agreements did not provide explicit guidance, resulting in substantial discretion with respect to the reporting choice.5

Reporting choices for net appreciation are nontrivial in terms of the dollar amounts of endowments and net appreciation. The National Association of College and University Business Officers 1999 Endowment Study (NACUBO 2000), which corresponds roughly to the implementation period of SFASs 116, 117, and 124, reported a total of $142 billion in endowment assets for the 346 private institutions they surveyed. For the sample of 375 PCUs examined below, endowment funds totaled $102 billion in 1998, with net appreciation for that year in excess of $13 billion. By 2013, the NACUBO reported a total of $309 billion in endowment assets for the 533 private institutions they surveyed, and reported an average of 11.7 percent annual investment return (NACUBO 2013b). Thus, the dollar amount of appreciation potentially subject to discretion is large, and this dollar amount continues to grow.

Classification of net appreciation is an important reporting choice because it can influence stakeholder perceptions of operating performance. For example, the change in unrestricted net assets on the Statement of Activities, the not-for-profit analog to the Income Statement, is often interpreted as a measure of current operating performance, despite the common inclusion of nonoperating items, such as net appreciation. As a result, any net appreciation classified as unrestricted directly impacts the change in unrestricted net assets. In fact, this possible effect was recognized at the time of adoption by the FASB (SFAS 117, FASB 1993b, ¶23 and ¶111–115) and in the popular press, with worries that this mere reporting change would make universities look much richer than they really were (Santoro 1995). Further, inclusion of net appreciation in the calculus of the change in unrestricted net assets influences the net income ratio (change in unrestricted net income/total unrestricted revenue), which is a commonly used measure of PCU financial performance (Prager, McCarthy & Sealy 1995; Keating and Frumkin 2001; Klumpp 2011; Standard & Poor’s 2014) and widely used in not-for-profit research (Ballou and Weisbrod 2003; Brickley and Van Horn 2002). Thus, the net appreciation reporting choice could directly influence stakeholder perceptions of a NFP entity’s financial performance and impact their interpretation of the availability of funds for current operating use.

Most of the discussion to this point has focused on how SFASs 116, 117, and 124 impact the statement of activities, which is the focus of this paper. SFASs 116, 117, and 124 also impact the

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5 The inaugural reporting choice for net appreciation is similar to other accounting method choices and, similarly, subsequent changes can be made at a later time, but will require additional disclosures of the effect of, and rationale for, the change.
balance sheet (statement of position). Specifically, instead of providing a balance sheet for each fund type, SFASs 116, 117, and 124 require (1) a consolidated balance sheet where all of the assets and liabilities are reported in one column, regardless of net asset classification or fund type, (2) that all investments be reported at fair market value (net appreciation), and (3) that fund balances be replaced by net assets. While the requirement to report net appreciation did impact the total amount of investments reported and the total balance in endowment net assets reported on the balance sheet, the reporting choice of where to report net appreciation (which endowment type) only showed up in the statement of activity (income statement).

THEORY AND DEVELOPMENT OF HYPOTHESES

The net appreciation reporting choice can be characterized as a continuum ranging from unrestrictive to restrictive. At the unrestrictive end of the continuum, all net appreciation is reported as an increase to unrestricted net assets. At the restrictive end of the continuum, all net appreciation is reported as an increase to the restricted net asset group. Between the endpoints of the continuum, PCUs exercise discretion and report some, but not all, of net appreciation generated by restricted endowment assets as increases to a less-restricted category of assets (e.g., appreciation generated from permanently restricted endowment assets is reported as an increase to unrestricted net assets).

Our research question investigates why PCUs choose a reporting policy that is more restrictive than allowed under SFAS 117 and that typically results in a lower measure of financial performance. In order to focus on a time period when a large number of classification decisions were subject to discretion for most PCUs, we examine data from the 1997–1998 fiscal year, which allows enough time for almost all PCUs to have adopted SFASs 116, 117, and 124, yet closely follows their effective dates.6

In this study, we consider incentives for PCUs to report net appreciation as more restricted than required under SFAS 117 (FASB 1993b).7 Because it is impossible to access details of the endowment agreements for a PCU, we cannot directly observe the extent to which the PCU reporting choice is on the restrictive versus the unrestrictive end of the continuum. However, we can observe the proportion of total appreciation classified as unrestricted and the proportion of total endowment assets classified as unrestricted. The portion of the endowment identified as unrestricted provides a benchmark for the portion of net appreciation treated as unrestricted. Thus, the correspondence between the classification of net appreciation and the classification of endowment assets provides an indirect measure of the reporting choice made by the PCU. When the reporting choice is at or near the unrestrictive end of the continuum, some or all of the net appreciation on restricted endowment assets will be reported as unrestricted, and therefore the proportion of endowment assets classified as unrestricted will be smaller than the proportion of net

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6 The effective dates for SFASs 116, 117, and 124 are years beginning after December 31, 1994 and December 31, 1995. For most PCUs, the first fiscal year-end after implementation would have been December 31, 1996 or June 30, 1997. While we collect data from the 1997–1998 fiscal year—one full fiscal year after the effective date—we received a few financial statements still not fully in compliance with the new reporting requirements. Because these observations do not necessarily reflect the inaugural choice of the PCU, they are not included in our sample.

7 As explained further below, this study examines reporting incentives at one point in time, but PCUs’ choices should be based on long-run incentives. Thus, we assume that the current values of our proxies are reasonable measures of expected long-run values. This assumption is obviously justified if proxies for the sample year are representative of the long-run values. However, the assumption is also justified if the proxies change from year to year but maintain their relative position in the cross section of PCUs.
appreciation classified as unrestricted. This end of the reporting continuum represents a strict interpretation of SFAS 117 (FASB 1993b). When the reporting choice is in the middle of the continuum, the proportion of endowment assets classified as unrestricted will be approximately equal to the proportion of net appreciation classified as unrestricted. Finally, when the reporting choice is at or near the restrictive end of the continuum, even appreciation on unrestricted assets will be reported as restricted, and therefore the proportion of endowment assets classified as unrestricted will be larger than the proportion of net appreciation classified as unrestricted. This end of the reporting continuum represents a more restrictive reporting choice than required in SFAS 117 (FASB 1993b).

For reasons outlined in the preceding paragraph, we examine the ratio of the proportion of endowment assets that are unrestricted to the proportion of net appreciation that is reported as unrestricted as a proxy for the reporting choice made by the PCU.\(^8\) This proxy, referred to as degree of restricted reporting (DRR), is defined as:

\[\text{DRR} = \frac{\text{UEA}}{\text{TEA}}/\frac{\text{UNAPP}}{\text{TAPP}},\]

where:

- \(\text{UEA}\) = unrestricted endowment assets;
- \(\text{TEA}\) = total endowment assets;
- \(\text{UNAPP}\) = unrestricted net appreciation; and
- \(\text{TAPP}\) = total appreciation.

Appendix A illustrates \(\text{DRR}\) calculations. Panel A illustrates endowment assets for a fictitious PCU. In this example, 20 percent of the endowment assets are classified as unrestricted, 10 percent are classified as temporarily restricted, and 70 percent are classified as restricted. Panel B illustrates the case where only appreciation on unrestricted net assets is reported as unrestricted. In this case, the proportion of unrestricted assets in the numerator (20 percent) will be approximately equal to the proportion of unrestricted net appreciation in the denominator (20 percent), and \(\text{DRR}\) will be approximately 1. Panel C illustrates the case where the PCU adopts a more restrictive reporting policy where only part of the appreciation on unrestricted assets is reported as unrestricted (and none of the appreciation on restricted assets is reported as unrestricted). In this case, the proportion in the denominator will be smaller than the proportion in the numerator, and \(\text{DRR}\) will be greater than 1. For example, if only 10 percent of net appreciation is reported as unrestricted when unrestricted endowments are 20 percent of total endowment assets, then the \(\text{DRR}\) would be 2 (20 percent/10 percent). Finally, Panel D illustrates the case at the other end of the continuum, where the PCU adopts an unrestrictive reporting policy where the appreciation on unrestricted assets and the appreciation on some restricted assets is reported as unrestricted.

\(^8\) Using only the numerator of the ratio, the proportion of net appreciation reported as unrestricted, would not provide a complete picture because it does not account for the different proportions of unrestricted endowment assets for different PCUs.

\(^9\) We examined a number of alternative dependent variables at the request of reviewers. For example, using the portion of net appreciation reported as unrestricted as the dependent variable and using the portion of unrestricted endowment assets as an independent variable. When we examined this model, we found a strong relationship between the portion of unrestricted net appreciation and the portion of unrestricted endowment assets, indicating that stakeholder incentives and the share of endowment assets influence restricted reporting. This is conceptually similar to our use of \(\text{DRR}\) and the results were qualitatively similar to using \(\text{DRR}\). We chose to use \(\text{DRR}\) because it provides a cleaner illustration of the influence of stockholder incentives on reporting because the share of endowment assets is accounted for directly in the dependent variable.
unrestricted (consistent with a literal interpretation of the statement in SFAS 117 [FASB 1993b] that net appreciation can be reported as unrestricted in the absence of explicit donor restrictions). In this case, DRR will be less than 1. In the extreme case where all appreciation is reported as unrestricted, DRR can be substantially less than 1—the denominator of the ratio becomes 1 and the ratio becomes equal to its numerator, i.e., the percentage of net assets that is unrestricted. For example, if close to 100 percent of net appreciation is reported as unrestricted while unrestricted endowment assets are only 20 percent of total endowment assets, then DRR would be 0.20 (20 percent/100 percent). In summary, a larger value of our proxy, DRR, indicates a more restrictive reporting policy.

Hypotheses

For-profit organizations face a variety of incentives that influence accounting choices, including incentives created by compensation plans, debt covenants, analyst forecasts, stakeholders’ implicit claims, and other factors (Watts and Zimmerman 1986, 1990; Bowen, DuCharme, and Shores 1995).10 The net change in unrestricted net assets is commonly interpreted as a NFP measure of operating performance (Keating and Frumkin 2001; Prager, McCarthy & Sealy 1995; Klumpp 2011; Standard & Poor’s 2014). As a result, PCUs may have incentives to maximize the net change in unrestricted net assets. Prior research on not-for-profit (NFP) organizations has revealed that managers respond to a variety of incentives related to compensation, performance evaluation, and peer reputation. These incentives have been shown to influence choices that impact financial measures (Lambert and Larcker 1995; Brickley and Van Horn 2002; Eldenburg and Krishnan 2003; Ballou and Weisbrod 2003; Carroll, Hughes, and Luksetich 2005) and cost allocations or cost shifting between program services and fundraising (Hallock 2002; Baber, Daniel, and Roberts 2002; Krishnan et al. 2006; Krishnan and Yetman 2011) and resource acquisition (Padanyi and Gainer 2003).

At the same time, complex, and often countervailing, incentives for PCUs influence the reported change in unrestricted net assets. For example, administrators concerned with performance evaluations, debt covenants, or stakeholder perceptions of the financial performance and condition of the organization may have incentives to maximize the increase in unrestricted net assets. On the other hand, administrators concerned with (1) student and parent demands for lower tuition rates and more financial aid, (2) faculty and staff demands for increased wages and benefits, or (3) donor perceptions of excessive increases in the net change in unrestricted net assets may have incentives to minimize the increase in unrestricted net assets and report net appreciation as more restricted.

This section develops hypotheses about the choice between unrestrictive and restrictive reporting of net appreciation on endowment assets (as reflected in DRR) and incentives with respect to four specific groups of PCU stakeholders: lending institutions, faculty and staff, students and parents, and donors.11 The inaugural judgments made for each endowment determine future

10 Consistent with accounting method choice studies, we examine the incentives in place during the year of the accounting method choice, assuming managers believe these incentives will persist in future periods.

11 In the course of the analysis, we also considered a fifth stakeholder group, governmental granting agencies. We examined the hypothesis that PCUs have incentives to classify net appreciation as unrestricted to meet requirements of governmental granting agencies. However, these incentives seem to be relatively unimportant in our sample. Only four PCUs were plausibly in danger of failing to meet the explicit requirements of granting agencies in effect at that time. Unreported empirical tests provided no evidence that granting-agency requirements are significant determinants of the reporting choice for net appreciation.
reporting policy for that endowment so incentives are related to both current and expected future stakeholder perceptions. However, the tests discussed below are operationalized using proxies based on current measures so they represent joint tests of (1) the hypothesized incentive and (2) the assumption that current measures provide reasonable proxies for current and future stakeholder perceptions. To the extent that current measures do not result in reasonable proxies, we would not expect a significant relation between the degree of restrictive reporting and the proxy.\textsuperscript{12}

**Lending Institutions**

PCUs frequently seek debt financing, particularly to fund maintenance and renovation projects of aging college and university plants and other projects that are relatively less attractive to donors than new construction. Lending institutions use measures of institutional performance similar to those used to evaluate for-profit organizations, such as the ratios of debt-to-assets, debt-to-total expenses, expendable funds to cover debt payments, and leverage \citep{Keating2001,Prager1995,Klumpp2011}. Of all the available measures, the debt-to-asset ratio is the most cited in the NFP literature related to assessing debt capacity, risk, and repayment ability \citep{Keating2001,Prager1995,Klumpp2011}.\textsuperscript{13} Further, debt-to-asset ratios tend to be relatively stable over time, so the current value is a reasonable proxy for expected future values. Higher ratios are associated with higher risk and lower probabilities that a PCU will be able to meet debt service payments. In the for-profit arena, lenders are likely to charge higher interest rates, or even refuse to lend, to companies with a higher debt-to-asset ratio. We argue that lenders treat NFP organizations similarly. We define the debt-to-asset ratio (\(\text{DEBTTA}\)) as:

\[
\text{DEBTTA} = \frac{\text{Total long-term debt}}{\text{Total assets}},
\]

where:

- \(\text{Total long-term debt}\) = notes, bonds, and capital leases; and
- \(\text{Total assets}\) = the sum of unrestricted, temporarily restricted, and permanently restricted assets.

As the debt-to-asset ratio increases, the incentive to classify net appreciation as unrestricted in order to reduce lender concerns about an institution’s ability to meet its debt burden increases. Thus, the degree of restricted reporting is predicted to be negatively related to \(\text{DEBTTA}\).

**H1:** The degree of restricted reporting (\(\text{DRR}\)) is negatively related to the debt-to-asset ratio (\(\text{DEBTTA}\)).

**Faculty and Staff**

While managers may have incentives to increase financial performance measures, countervailing forces may dampen these incentives. On the one hand, faculty and staff depend on the financial viability of the institution (which affects job security and long-term prospects for salary and benefits), providing incentives to maximize unrestricted net appreciation.\textsuperscript{14} On the other

\textsuperscript{12} Studies of accounting method choices frequently rely on proxies based on current measures \citep[e.g.,][]{Bowen1995}.

\textsuperscript{13} \cite{Standard2014} used 19 different financial reporting measures plus a number of nonfinancial measures to determine bond ratings.

\textsuperscript{14} Salaries are a highly significant expenditure for PCUs. In private institutions, faculty salaries (including benefits) sometimes constitute as much as 65–70 percent of unrestricted expenditures.
hand, faculty and staff also have short-term interests tied to salaries, benefits, and support for research and/or teaching, providing incentives to report net appreciation as restricted in order to diminish perceptions that funds are available to increase faculty and staff salaries and benefits. Thus, there are countervailing incentives to report net appreciation as unrestricted or as restricted.

The relative importance of these opposing incentives likely depends on the level of other major determinants of the change in unrestricted net assets. In particular, when the net change in unrestricted net assets due to operations (e.g., tuition and fees minus operating expenses) and other factors (e.g., large unrestricted donations or public service revenues) are already high, reporting incentives with respect to net appreciation shift toward minimizing perceptions of the availability of funds for faculty and staff salary and benefit increases. When the net change in unrestricted net assets due to operations and other factors are already low (or negative), reporting incentives shift toward minimizing faculty and staff concerns about financial viability. This is consistent with Eldenburg et al.’s (2011) findings that hospital managers engage in asymmetrical real earnings management activity to meet earnings benchmarks.

We use a financial viability measure similar to the for-profit measure of profit margin. This measure, the unrestricted net income ratio (UNIR), measures the net change in unrestricted net assets as a percent of total unrestricted revenue adjusted for net appreciation (where both the numerator and denominator abstract from the net appreciation reporting choice) and is defined as:

\[
UNIR = \frac{ACUNA}{UNRev},
\]

where:

\[
ACUNA = \text{change in unrestricted net assets} - \text{net appreciation reported as unrestricted}; \quad \text{and}
\]

\[
UNRev = \text{total unrestricted revenue} - \text{net appreciation reported as unrestricted}.\]

UNIR may vary over time, so the current value of UNIR is an imperfect proxy for expected future UNIR. However, empirically UNIR is relatively persistent so we hypothesize that the propensity to report appreciation as restricted is positively related to the unrestricted net income ratio—the larger the ratio, the less important the incentive to report net appreciation as unrestricted and the more important the incentive to report net appreciation as restricted. Again, this argument is analogous to a for-profit situation where a high profit margin may increase staff or union demands for higher salaries (Liberty and Zimmerman 1986). As a result, management may have an incentive to make accounting or reporting choices that minimize profit margin in order to reduce or avoid excessive salary demands, i.e., the higher the pre-choice profit margin, the more likely management would make an income decreasing accounting choice. Thus, the second hypothesis is:

**H2:** The degree of restricted reporting (DRR) is positively related to the unrestricted net income ratio (UNIR).

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15 KPMG’s *Ratio Analysis in Higher Education* (Prager, McCarthy & Sealy 1995) describes five ratios to measure financial viability: expendable net assets to long-term debt, change in net assets to total net assets, expendable net assets to total expenses, net cash provided by operating activities to total unrestricted inflows, and change in unrestricted net assets to total unrestricted inflows. We use a modification of the last ratio as the measure of financial viability. *Standard & Poor’s* (2014) uses a similar measure of financial performance.

16 We use the term “total unrestricted revenue” for ease of reading. A more technically correct term is “total unrestricted inflows.”

17 As pointed out by a reviewer, this prediction is likely to be reinforced by incentives related to the two groups discussed in the next two subsections, (1) students and parents, and (2) donors.
Students and Parents

Students and parents are often concerned with the affordability of a PCU. Tuition has increased substantially over time—tuition had risen 234 percent between 1981 and 1995, the years leading up to our data year (Arlington 1998). As a result, editorialists and others began questioning why tuition continued to rise, especially when tuition increases far outpaced increases in the Consumer Price Index (Arlington 1998; Marklin 1998; Strosnider 1998). Note that this situation has not changed in the years following our data year in that tuition has grown 23.4 percent between 2000 and 2010 (Matthews 2013). Further, student responses to tuition increases have taken the form of petitions, protests, and even legal action. For example, in 2003 students from the University of California sued the university over tuition increases and won a $42 million settlement (Hawkins 2010). This example illustrates the potential student responses to tuition increases and indicates why PCUs might care about student and parent perceptions related to tuition and affordability.

Tuition rates are one part of the affordability concept and the amount of financial aid is another part. Thus, students and parents are likely to consider the net tuition cost when determining a PCU’s affordability. The net tuition cost to the student (and net tuition revenue to the PCU) is determined by a combination of tuition rates and financial aid provided by the PCU. For example, high tuition rates combined with high average scholarship levels are equivalent to low tuition rates with no scholarships in terms of net cost to the student (and net revenue to the PCU), but are not necessarily equivalent in terms of effects on student and parent perceptions and actions. For example, higher tuition rates may lead to student and parent perceptions of higher quality. As a result, PCUs may have incentives to move toward higher tuition rates combined with higher scholarship levels. Other factors may also play a role in student/parent perceptions of affordability or value for the net tuition dollar, such as perceived quality.

Concern regarding student and parent perceptions of affordability and value could influence an institution’s choice of how endowment earnings and net appreciation are recorded. When net appreciation is classified as unrestricted, students and parents may expect the PCU to use unrestricted endowment funds to lower tuition rates and/or to grant more scholarships. When net appreciation is classified as temporarily or permanently restricted, the funds appear to be outside the discretion of the institution. Thus, when affordability is an issue, there are incentives to report net appreciation as restricted to reduce pressure to make additional funds available to reduce tuition or increase financial aid.

A measure of affordability is the average cost to the student, i.e., level of the net cost of tuition (NCT), defined as tuition rate minus average unrestricted grants and scholarships. Moreover, PCUs also may have incentives to price discriminate, both to maximize revenue and to attract high-quality students. That is, higher tuition rates combined with higher scholarship levels provide more opportunity for the PCU to maximize total revenue by setting net tuition (gross tuition less the individual student’s scholarship) near the reservation price for each individual student. At the same time, higher average scholarship levels allow the PCU to offer higher individual scholarships to attract high-quality students. In fact, many institutions now tailor the financial aid packages offered to individual students based on their academic record, demographic background, and intended major. Further, financial aid has a significant effect on net tuition cost at many PCUs. For example, the average PCU is giving back 36.7 percent of its published price as aid to freshmen (Wang 1998), and more recent data suggest this has continued to grow to 44.8 percent for the 2012–2013 academic year (NACUBO 2013a).

Only unrestricted scholarships are used in the calculation of NCT because these are the scholarships that the PCUs can control. PCUs cannot exert discretion over how many restricted scholarships are given out, nor do they have discretion over who receives the restricted scholarships outside of the scholarship restrictions. However, when restricted scholarships are included in the calculation of NCT, the results are qualitatively similar.

The tuition discount rate is also used by Standard & Poor’s (2014) evaluation of PCUs.
to put this variable into the same form as the other variables, we scale the \( NCT \) variable to range between 0 and 1 by dividing the \( NCT \) for every PCU by the maximum value of \( NCT \) in our sample.\(^{21}\) The resulting scaled variable is referred to as \( NCT\% \). Although \( NCT \) tends to grow over time, values of \( NCT \) relative to the cross section of other PCUs remain relatively stable, so \( NCT\% \) is relatively stable over time. Therefore, we expect a higher propensity to report net appreciation as restricted at higher levels of average cost to the student.

\[ \text{H3: The degree of restricted reporting (DRR) is positively related to the scaled net cost of tuition (NCT\%).} \]

\section*{Donors}

Charitable giving has grown substantially over the years, with education ranking as the second largest beneficiary (Pollak 1999). This is still true, with donations to higher education reaching an all-time high in 2013 (Council for Aid to Education [CAE] 2014). During the 1998 academic year, private donors gave in excess of $18.4 billion to American colleges and universities (Pulley 1999). Of this record amount, 30 percent was donated by alumni, 24 percent by other individuals, 21 percent by foundations, 18 percent by corporations, and 7 percent by other sources. As donations grew, donors demanded greater accountability and control over where and how their donated dollars were used (Pulley 1999). On average, institutions collected $3.88 in restricted contributions for every $1 that was unrestricted, up from 1996 where the ratio of restricted to unrestricted contributions was approximately 3:1 (Pulley 1999). Again, these restrictions are almost always on the use of the gift and only rarely on the way the net appreciation is reported.

Prior research has found that not-for-profit organizations have a variety of different incentives related to donors. For example, donor’s charitable giving may be sensitive to other revenue sources (Okten and Weisbrod 2000; M. Yetman and R. Yetman 2003; Brooks 2003) and donors may be sensitive to perceptions of a charity’s effectiveness, efficiency, performance, and service quality (Tinkelman 1998; Sargeant, West, and Ford 2004; Parsons 2007). In addition, charities tend to make program spending decisions (Kitching et al. 2012), change real business practices (Tinkelman 2009), and shift costs or hide fundraising costs (Jones and Roberts 2006; Krishnan et al. 2006; Keating et al. 2008) based on perceived donor expectations. Further, Baber et al. (2002) argue that donors can interpret undistributed surplus as evidence that the organization is overfunded, which likely discourages contributions. On the other hand, they argue, donors are likely reluctant to contribute to financially distressed charities. Finally, research shows that NFPSs that are more reliant on contributions make more earnings management choices to increase financial performance measures (Krishnan and Yetman 2011; Kitching et al. 2012).

Extension of the results of this NFP research to net appreciation reporting suggests that PCUs that are more reliant on unrestricted contributions are more likely to report net appreciation as unrestricted (less restricted) to improve operating results. Thus, we expect any effect related to

\(^{21}\) Note that scaling by dividing by a constant (the maximum \( NCT \) in the sample) affects only the magnitude, and not the statistical significance, of the reported coefficients.
donors to be negatively related to the PCUs’ reliance on donations as measured by the unrestricted contributed income ratio (UCIR), defined as:\textsuperscript{22,23,24}

\[ \text{UCIR} = \frac{\text{Unrestricted Giving}}{(\text{Total Expenses} - \text{Auxiliary Expenses})} \]

where auxiliary expenses are related to self-supporting enterprises and are therefore excluded from the denominator.

In alternative form, the fourth hypothesis about the reporting of net appreciation on endowment assets is:

\[ \text{H4: The degree of restricted reporting (DRR) is negatively related to the unrestricted contributed income ratio (UCIR).} \]

**Structure of Tests**

In the discussion to this point, the incentives related to each of the stakeholder groups have been described separately and the hypotheses listed as individual determinants of the reporting choice. However, reporting of appreciation represents a single reporting choice and the incentives operate jointly to determine the choice. Therefore, it is necessary to model the financial reporting choice as determined by the joint effect of the individual incentives. We focus on the following equation that specifies a linear additive relation between the reporting choice (measured by DRR) and the four proxies for the incentives created by each stakeholder group.

\[ \text{Predicted Signs} \]

\[ \text{DDR (Degree of Restricted Reporting)} = x_0 + x_1 \text{DEBTTA (Lenders)} + x_2 \text{UNIR (Faculty/Staff)} \]

\[ + x_3 \text{NCT\\% (Students/Parents)} + x_4 \text{UCIR (Donors)} \]

\textsuperscript{22} The unrestricted contributed income ratio is a modification of the contribution income ratio defined in the *Ratio Analysis in Higher Education* (Prager, McCarthy & Sealy 1995). The modification excludes net assets released from restrictions in order to measure an institution’s reliance on current year unrestricted contributions received, as opposed to reliance on unrestricted contributions plus funds generated by endowment earnings and temporarily restricted contributions. *Standard & Poor’s (2014)* has a similar measure of revenue diversity (gifts and pledges/total unrestricted operating revenues).

\textsuperscript{23} Unrestricted giving is defined as donations that have no donor restrictions or that have general designations such as “for operations” or “for general use” or “for the operating fund.” If a donor stipulates that a gift be used for any specific purpose, i.e., scholarships, then the gift is not unrestricted.

\textsuperscript{24} The UCIR is a typical measure used by PCUs to determine relative reliance on contributed funds. An alternative measure of the importance or reliance on donated funds would be unrestricted gifts as a percent of unrestricted inflows. Tests run using unrestricted gifts as a percent of unrestricted inflows in place of UCIR yield results qualitatively identical to those reported below.
SAMPLE AND DATA

A list of 838 PCUs with enrollment over 1,000 was obtained from Higher Education Publications, Inc. Requests for the 1997–1998 fiscal year financial statements were mailed in 1999 to the 763 institutions for which the name of the chief financial officer was available.25 A total of 417 institutions responded (a 52 percent response rate), and 395 sent financial statements within two months.26 Of the 395 responses for which financial statements were returned, 24 did not contain enough detailed information to determine where endowment assets were reported or how endowment net appreciation was reported and, as a result, were dropped from the sample, leaving 371 institutions. Further, we focused on PCUs that were more likely to have similar incentives and, as a result, we selected PCUs with Carnegie Foundation Classifications of 1 (Doctorate Granting Institutions), 2 (Master’s Colleges and Universities), and 3 (Baccalaureate Colleges), and excluded 37 PCUs from Classifications 4 (Associate Colleges) and 5 (Specialized Institutions). The final sample totaled 334 PCUs. The effects of the sample selection criteria are outlined in Panel A of Table 1.

Descriptive characteristics for the sample are shown in Panel B of Table 1. All variables were obtained from the financial statements except tuition rates, which were obtained from The College Board (1998). The statistics show that endowments represent a significant portion of total assets for most of the sample PCUs. Also, the magnitude of net appreciation relative to total unrestricted revenue suggests that the accounting for net appreciation on endowment assets could have a substantial impact on reported changes in unrestricted net assets. Descriptive statistics for the dependent and independent variables are shown in Panel C. The mean value of DRR is 0.748 and the median is 0.734 and the range of values is 0.114 to 4.431, which indicates substantial variation in the dependent variable.

A follow-up survey was sent to the CFO of each of the 334 institutions that provided usable data to determine what types of financial information (if any) PCUs provide to each group, as well as to gain more information on endowment agreements, spending policies, and reporting choices. The follow-up survey is discussed in this section, rather than in the results section, because it adds background information about the financial reporting choice available to PCUs and because it is not used to test the hypotheses.

One hundred ten PCUs responded to the follow-up survey, a 33 percent response rate. We tested for nonresponse bias by comparing survey respondents and nonrespondents and found no statistical difference in characteristics (as listed in Table 1, Panel B), descriptive statistics (as listed in Table 1, Panel C), or distribution of Carnegie Classifications (as listed in Table 1, Panel D). As a result, it appears that the survey respondents fairly represent the larger sample of 334 PCUs. Finally, Pearson correlations (Table 1, Panel E) indicate a significant correlation between the dependent variable (DRR) and three of the independent variables (UNIR, NCT%, and UCIR).

25 Prior NFP studies have used Form 990, “Return of Organization Exempt From Income Tax,” tax return data, which are readily available. However, it was necessary to hand collect PCU annual reports for this study because SFASs 116, 117, and 124 are related to financial reporting and do not affect how net appreciation is reported on the Form 990. Thus, Form 990 data would not be appropriate for this study.

26 It was relatively easy for most institutions to respond to the request for financial statements. PCUs receiving federal aid must have an annual audit. Because nearly all PCUs receive federal aid, most have already generated the requested financial statements. However, the 22 responses where financial statements were not available represent a variety of reasons: eight reported that their policy is to not release their financial information, six institutions reported that they are for-profit corporations, two sent only Form 990 tax returns, and six institutions had other reasons not to participate.
The survey (see Appendix B) asked respondents to indicate the types of information provided each stakeholder group by checking all the boxes that apply from the following list: financial statements, excerpts from the financial statements, financial highlights, detailed reports specifically for groups’ needs, other, or no information.\textsuperscript{27} In addition, the survey asked respondents

\textsuperscript{27} At the time of the survey, the institutional review board did not require approval for this type of survey.
### TABLE 1 (continued)

#### Panel C: Descriptive Statistics

|          | DRR   | UCIR  | NCT%  | UNIR  | DEBTTA |
|----------|-------|-------|-------|-------|--------|
| Mean     | 0.748 | 0.079 | 0.449 | 0.029 | 0.164  |
| Median   | 0.734 | 0.062 | 0.433 | 0.032 | 0.141  |
| Minimum  | 0.114 | 0.003 | 0.120 | -0.327| 0.000  |
| 10th percentile | 0.379 | 0.018 | 0.271 | -0.072| 0.033  |
| 25th percentile | 0.558 | 0.037 | 0.360 | -0.015| 0.073  |
| 75th percentile | 0.887 | 0.104 | 0.528 | 0.078 | 0.229  |
| 90th percentile | 1.059 | 0.156 | 0.653 | 0.137 | 0.318  |
| Maximum  | 4.431 | 0.448 | 1.000 | 0.409 | 0.670  |

Variable Definitions:
- **DRR** = degree of restricted reporting;
- **UCIR** = unrestricted contributed income ratio;
- **NCT%** = net tuition cost/highest net tuition cost in sample;
- **UNIR** = unrestricted net income ratio; and
- **DEBTTA** = debt to total assets.

#### Panel D: Carnegie Classifications

| Classification   | Number | Percentage |
|------------------|--------|------------|
| Doctorate        | 61     | 18%        |
| Master's         | 128    | 38%        |
| Baccalaureate    | 145    | 44%        |
| Total            | 334    | 100%       |

#### Panel E: Pearson Correlation Analysis

|          | Degree of Restrictive Reporting (DRR) | Debt-to-Assets (DEBTTA) | Unrestricted Net Income Ratio (UNIR) | Net Tuition Discount Percentage (NCT%) | Unrestricted Contributed Income Ratio (UCIR) |
|----------|---------------------------------------|--------------------------|--------------------------------------|----------------------------------------|---------------------------------------------|
| DRR      | Correlation                           |                          |                                      |                                        |                                             |
|          | 1                                     |                          |                                      |                                        |                                             |
|          | Sig. (two-tailed)                     |                          |                                      |                                        |                                             |
| DEBTTA   | Correlation                           | 0.068                    | 1                                    |                                        |                                             |
|          | Sig. (two-tailed)                     | 0.218                    |                                      |                                        |                                             |
| UNIR     | Correlation                           | 0.119*                   | -0.090                               | 1                                      |                                             |
|          | Sig. (two-tailed)                     | 0.030                    | 0.099                                |                                        |                                             |
| NCT%     | Correlation                           | 0.157**                  | -0.066                               | 0.095                                  | 1                                           |
|          | Sig. (two-tailed)                     | 0.004                    | 0.232                                | 0.082                                  |                                             |
| UCIR     | Correlation                           | -0.109*                  | -0.242**                             | 0.132*                                 | -0.066                                      |
|          | Sig. (two-tailed)                     | 0.047                    | 0.000                                | 0.016                                  | 0.231                                       |

*, ** Indicate the correlation is significant at the 0.05 and 0.01 levels, respectively (two-tailed).
to indicate the percent of endowment agreements that have language restricting each of the following: use of endowment earnings, use of net appreciation on endowment assets, investing policies, and spending policies. Finally, the survey asked respondents to check a box that best described their spending policy (fixed dollar amount, fixed percent on average endowment assets, fixed percent of endowment earnings, spend all available earnings, or other), and their net appreciation reporting policy (unrestricted unless donor has specified otherwise, same manner as endowment earnings, increase to the corpus of the endowment, or other).

Table 2, Panel A reports details of the survey data describing the types of information provided to stakeholder groups. Eighty percent of the 110 PCU respondents indicate that they provide at least some financial information to students/parents, 97 percent of the PCUs provide financial information to faculty/staff, 100 percent provide financial information to donors and lending institutions, and 99 percent of the PCUs provide financial information to governmental agencies. For some categories of stakeholders, actual financial statements are virtually always provided; e.g., 97 percent of PCUs provide financial statements to lending institutions, and 95 percent provided them to governmental agencies. Smaller percentages provide actual financial statements to donors (53 percent) or faculty and staff (22 percent), and only a few provide financial statements to parents and students (2 percent). However, as previously noted, even for stakeholder groups that are not always provided financial statements, they are usually provided financial information in some form.28

Table 2, Panel B presents information regarding endowment agreements. Based on the survey data, only 1 percent of endowment agreements contain language that restricts the use of net appreciation. This suggests that for the other 99 percent of endowments, PCUs have discretion over reporting of the net appreciation on endowment assets; i.e., they can report the appreciation as unrestricted or, if they have incentives to do so, they may conservatively report the appreciation as restricted. In addition, 50 percent of endowment agreements contain language that restricts the use of endowment earnings, while only 1 percent of endowment agreements contain language that restricts investing policies and only 22 percent contain language that restricts spending policies. This suggests that PCUs have significant authority over both investing and spending policies in relation to endowments assets and earnings. Overall, the survey supports the underlying assumptions that PCUs provide financial information to stakeholder groups and that PCUs have significant discretion over reporting net appreciation, as well as endowment investing and spending policies.

The remaining survey data are presented in Table 2, Panel C. Based on the data in Panel C, only 43 percent of PCUs report net appreciation as unrestricted unless the donor specified otherwise (as allowed under SFAS 117), while 30 percent of PCUs report net appreciation in the same classification as endowment earnings, 21 percent report net appreciation as an increase to the endowment corpus, and the remaining 6 percent have some other type of reporting policy. These data provide at least indirect evidence that PCUs sometimes exercise their discretion to report appreciation as more restricted than required by GAAP—57 percent of PCUs choose reporting policies that are more restrictive than allowed under SFAS 117.

28 While survey results indicate that all stakeholder groups receive some form of financial information, not all groups receive the annual report. This does not necessarily diminish our argument because the reporting is made by PCU managers who are likely to consider potential stakeholder responses. This is similar to other stakeholder literature and reporting choices such as Bowen et al. (1995), who find that stakeholders (customers, suppliers, employees, and creditors) create incentives for management to choose accounting methods even though there is no evidence that those stakeholders received financial statements.
Table 2 presents the results of the OLS multiple regression of DRR on the four proxies (DEBTTA, UNIR, NCT%, and UCIR). Analysis of influential observations based on Cook’s distance identified one outlier observation, and the results reported in Table 3 reflect the elimination of this outlier.
TABLE 3
Multivariate OLS Regression

\[ DRR = \alpha_0 + \alpha_1 DEBTTA + \alpha_2 UNIR + \alpha_3 NCT\% + \alpha_4 UCIR \]

Panel A: Basic OLS Regression

|                | Intercept | DEBTTA | UNIR  | NCT\%  | UCIR |
|----------------|-----------|--------|-------|--------|-------|
| Coefficient    | 0.594     | 0.186  | 0.469 | 0.347  | -0.573|
| t-stats        | 7.661     | 1.150  | 2.281 | 2.627  | 1.794 |
| (p-value)\(^a\) | (0.000)   | (0.874)| (0.012)| (0.000)| (0.037)|

n = 333

Adjusted R\(^2\) 0.041

\(^a\) Independent variables: one-tailed p-values; Intercept and Control variables: two-tailed p-values.

Variable Definitions:
- DRR = degree of restricted reporting;
- DEBTTA = debt to total assets;
- UNIR = unrestricted net income ratio;
- NCT\% = net tuition cost/highest net tuition cost in sample; and
- UCIR = unrestricted contributed income ratio.

Panel B: OLS Regression Including Control Variables

|                | Intercept | DEBTTA | UNIR  | NCT\%  | UCIR | Adjusted Total Assets | Total Enrollment | Age | Acceptance Rate | Carnegie Class |
|----------------|-----------|--------|-------|--------|------|------------------------|-----------------|-----|---------------|----------------|
| Coefficient    | 0.757     | 0.201  | 0.462 | 0.279  | -0.916| 0.000                  | 0.000           | 0.000| -0.211        | 0.047          |
| t-stats        | 3.883     | 1.062  | 2.165 | 1.527  | 2.608 | 0.672                  | 0.597           | 0.846| 1.435         | 1.335          |
| (p-value)\(^a\) | (0.000)   | (0.855)| (0.016)| (0.064)| (0.005)| (0.502)                | (0.551)         | (0.399)| (0.152)      | (0.183)        |

n = 284

Adjusted R\(^2\) 0.061

\(^a\) Independent variables: one-tailed p-values; Intercept and Control variables: two-tailed p-values.

Adjusted total assets = total assets – total endowment assets.

Variable Definitions:
- DRR = degree of restricted reporting;
- DEBTTA = debt to total assets;
- UNIR = unrestricted net income ratio;
- NCT\% = net tuition cost/highest net tuition cost in sample; and
- UCIR = unrestricted contributed income ratio.

outlier. However, the results for all variables are qualitatively the same whether the outlier is included or excluded from the analysis.\(^{29}\)

\(^{29}\) In addition, the PCUs were examined to check for obvious cross-sectional differences that might affect the results. We found that 18 of the PCUs in the sample were either affiliated with a hospital or had financial statements consolidated with a hospital. The results reported in the tables include these 18 PCUs, but the (unreported) results were qualitatively similar when these 18 PCUs were excluded from the sample.
Panel A of Table 3 reports a regression without control variables, while Panel B reports a regression including control variables that proxy for PCU characteristics that might impact the net appreciation reporting choice, such as size, age, ranking, and type of institution. The control variables include two proxies for size: (1) adjusted total assets (total assets / endowment assets), which is a proxy for financial size; and (2) total student enrollment, which proxies for service size.\(^{30}\) Age is based on the date the PCU was founded. Older PCUs may have more established endowments and may be more stable institutions. PCUs are ranked using a variety of measures and formulas, one of which is the acceptance rate (number of students admitted as a percent of the number of students who applied). A lower acceptance rate indicates a more selective institution. This control variable may impact student/parent perceptions of the PCU affordability and value. As a control for type of PCU we use the Carnegie Classifications, which classifies universities by their level of degree-granting ability (doctoral, master’s, undergraduate). The results of regressions in both panels (with and without control variables) are qualitatively similar. Further, none of the control variables are statistically significant, although we still report them for completeness.

The coefficient for \textit{DEBTTA} is positive and not significant, which does not support the hypothesis that PCUs with lower debt-to-asset ratios are more likely to adopt restrictive reporting policies for net appreciation. While we lack detailed data to conduct further tests, one possible explanation for the lack of results on \textit{DEBTTA} is that PCUs may have the majority of their borrowing related to auxiliary operations such as residence halls, food services, and bookstores. If that were the case, then the financial data of interest to lenders would be more related to the ability of the specific auxiliary operation to service the debt. A second potential explanation could be that lending institutions are more concerned with the overall financial viability of a PCU and, thus, results for \textit{UNIR} capture the concerns of lenders.

The estimated coefficient on \textit{UNIR} is positive and significant, consistent with the hypothesis that for higher levels of change in unrestricted net assets, there are greater incentives to report appreciation as restricted, decreasing the perceived ability of the PCU to pay larger faculty and staff salaries. Thus, incentives for adoption of the net appreciation reporting policy depend on the change in unrestricted net assets other than appreciation: when the net change in unrestricted net assets due to items other than appreciation is already high, reporting incentives with respect to net appreciation shift toward minimizing perceptions of the availability of funds for faculty and staff salary and benefit increases. When the change in unrestricted net assets due to other items is already low, reporting incentives shift toward minimizing faculty and staff concerns about financial viability.

The estimated coefficient on \textit{NCT%} is positive and significant, consistent with the hypothesis that when net tuition costs are higher, PCUs have greater incentives to report funds as restricted so that the amount of funds that appear to be available at the discretion of the PCU is lower. Reduced perceptions of availability of funds may in turn decrease demands from students and parents for lower tuition and/or higher scholarships.\(^{31}\)

The estimated coefficient on \textit{UCIR} is negative and significant. This suggests that, for those PCUs that have a greater reliance on contributions to fund operations, incentives to report more restricted funds to document greater need for contributions or greater attention to donors’ wishes are more than offset by a greater immediate need for unrestricted funds.

\(^{30}\) Results are similar when undergraduate enrollment and graduate enrollment are considered as separate variables.

\(^{31}\) We also ran the regression using the tuition rate alone. The results were qualitatively similar to the results using \textit{NCT%}. 

\cite{Burgstahler and Sawers 2017}
Additional Analysis

The results reported above implicitly assume that the importance of the net appreciation reporting choice is similar across PCUs. There is reason to believe, however, that the importance of the appreciation reporting choice differs across PCUs. For PCUs where net appreciation is small relative to total unrestricted inflows, the reporting choice is nearly inconsequential, and observations for these PCUs provide little information about the effect of incentives on reporting choices. On the other hand, for PCUs where net appreciation is large relative to total unrestricted inflows, the reporting choice has a larger effect on stakeholder perceptions, and observations for these PCUs provide more information about the effects of incentives. This suggests that it is useful to segment the sample into two groups, one where the reporting choice has a larger effect on stakeholder perspectives and incentives are therefore stronger, and another where the reporting choice has a smaller effect on stakeholder perspectives and incentives are weaker. If our results are driven by the incentives specified in our hypotheses, then we expect to find that the results are stronger in the subsample where the effects of the reporting choice are larger, while the results are weaker, or even nonexistent, in the subsample where the effects of the reporting choice are smaller.

To measure the relative importance of the net appreciation reporting choice, we use the relative magnitude of total net appreciation to total unrestricted inflows, denoted \( \text{RTOTNAP} \), and segment the sample at the median value. Operationally, \( \text{RTOTNAP} \) is defined as:

\[
\text{RTOTNAP} = \frac{\text{TOTAPP}}{\text{UNRev}};
\]

where:

- \( \text{TOTAPP} \) = total net appreciation; and
- \( \text{UNRev} \) = total unrestricted revenue \( \text{C0} \) net appreciation reported as unrestricted.

The results in Table 4, Panel A for the OLS regression without control variables in the subsample of PCUs where the reporting choice has greater impact (above the median \( \text{RTOTNAP} \)) are consistent with our conclusions for the entire sample. The coefficients used to test three of the four hypotheses are significant, while the coefficient on debt-to-assets is not significant. In Panel B, where all of the control variables are included, we find that the coefficients for the predictions related to faculty/staff and donors remain significant, while the coefficient on the net cost of tuition \( (\text{NCT}\%) \) is no longer significant, with a p-value 0.122.

The decline in the significance of the \( \text{NCT}\% \) coefficient is likely due to a combination of the smaller sample size in this subsample and, more importantly, a significant interaction in this subsample between \( \text{NCT}\% \) and one of the control variables. In the results for the full sample, the coefficients on all of the control variables are insignificant. The same is true for the subsample where the net appreciation reporting choice has a greater impact except that the coefficient on the acceptance rate control variable is negative and significant, suggesting that in the subsample, PCUs with higher acceptance rates tend to report net appreciation as less restricted. To investigate these results further, we note that for this subsample (above the median \( \text{RTOTNAP} \)), net tuition costs and acceptance rate are strongly negatively correlated \( (-0.703 \text{ and significant at the 0.001 level}, \text{two-tailed}) \). Thus, the lower the net tuition cost, the higher the acceptance rate. Therefore, for this subsample, PCUs with higher acceptance rates tend to have lower net tuition cost. The significant effect of acceptance rates in the regression may indicate the effect of net appreciation, but it is not feasible to separate this complex interaction.
In contrast to the results reported in Table 4, Panels A and B, none of the hypothesized effects are significant for PCUs where the reporting choice has a lower impact (not reported). Thus, the results observed for the full sample appear to be driven by the portion of the sample where we expect the effects to be strongest.

### TABLE 4
Multivariate OLS Regression for Subsample above Median \(RTOTNAP\)

\[ DRR = \alpha_0 + \alpha_1 DEBTTA + \alpha_2 UNIR + \alpha_3 NCT\% + \alpha_4 UCIR \]

**Panel A: Basic OLS Regression**

| Variable | Coefficient | t-stats | (p-value) | n = 167 | Adjusted R² |
|----------|-------------|---------|-----------|---------|-------------|
| Intercept | 0.607       | 6.877   | (0.000)   |         | 0.109       |
| DEBTTA   | 0.512       | 1.934   | (0.972)   |         |             |
| UNIR     | 0.599       | 3.003   | (0.002)   |         |             |
| NCT\%    | 0.351       | 2.423   | (0.008)   |         |             |
| UCIR     | -0.712      | 1.875   | (0.032)   |         |             |

\( a \) Independent variables: one-tailed p-values; Intercept and Control variables: two-tailed p-values.

**Variable Definitions:**
- \(RTOTNAP\) = relative magnitude of net appreciation to total unrestricted inflows;
- \(DRR\) = degree of restricted reporting;
- \(DEBTTA\) = debt to total assets;
- \(UNIR\) = unrestricted net income ratio;
- \(NCT\%\) = net tuition cost/highest net tuition cost in sample; and
- \(UCIR\) = unrestricted contributed income ratio.

**Panel B: OLS Regression Including Control Variables**

| Variable | Coefficient | t-stats | (p-value) | n = 142 | Adjusted R² |
|----------|-------------|---------|-----------|---------|-------------|
| Intercept | 1.021       | 5.503   | (0.000)   |         | 0.192       |
| DEBTTA   | 0.261       | 1.075   | (0.858)   |         |             |
| UNIR     | 0.522       | 3.113   | (0.001)   |         |             |
| NCT\%    | 0.212       | 1.173   | (0.122)   |         |             |
| UCIR     | -0.810      | 2.242   | (0.013)   |         |             |
| Adjusted Total Assets | 0.000 | 0.409 | (0.683) | (0.721) | (0.128) |
| Total Enrollment | 0.000 | 0.358 | (0.001) | (0.128) | (0.019) |
| Age | -0.001 | 1.531 | (0.683) | (0.721) | (0.128) |
| Acceptance Rate | -0.311 | 2.365 | (0.001) | (0.128) | (0.019) |
| Carnegie Class | -0.131 | 2.365 | (0.013) | (0.019) | (0.878) |

\( a \) Independent variables: one-tailed p-values; Intercept and Control variables: two-tailed p-values.

Adjusted total assets = total assets – total endowment assets.

**Variable Definitions:**
- \(RTOTNAP\) = relative magnitude of net appreciation to total unrestricted inflows;
- \(DRR\) = degree of restricted reporting;
- \(DEBTTA\) = debt to total assets;
- \(UNIR\) = unrestricted net income ratio;
- \(NCT\%\) = net tuition cost/highest net tuition cost in sample; and
- \(UCIR\) = unrestricted contributed income ratio.
Finally, we made the assertion that when the net change in unrestricted net assets due to items other than appreciation is already high, reporting incentives with respect to net appreciation shift toward minimizing perceptions of the availability of funds for increases (i.e., report net appreciation more restrictively). But, when the change in unrestricted net assets due to other items is already low, reporting incentives shift toward minimizing concerns about financial viability. To provide further evidence on this assertion, we segment our sample into positive and negative UNIR. We find that in the subsample where UNIR is positive, the results are qualitatively similar to the full sample (detailed results not reported). In contrast, none of the hypothesized effects are significant for the subsample of where UNIR is negative. Thus, the results support our assertion that when net change in unrestricted net assets (UNIR) is positive (already high), reporting incentives with respect to net appreciation shift toward minimizing perceptions of the availability of funds and thus reporting net appreciation as more restrictive. But, the incentive to report net appreciation as more restrictive is not significant when the unrestricted net income ratio (UNIR) is negative.

**CONCLUSION**

This study examines financial reporting choices of private colleges and universities with respect to reporting of net appreciation on endowments at the time of implementation of SFASs 116, 117, and 124. This financial reporting change provides a unique opportunity to examine the incentives that influence the financial reporting choices of NFPs. The results extend the NFP literature that has focused on Form 990 reporting, and on hospitals, to examine the relationship between incentives created by stakeholder interests and financial reporting choices. As is often the case in corporate financial reporting, there are complex and countervailing incentives in the not-for-profit setting, and it is important to take into account the financial and operational status of the PCU as determinants of the incentives.

Results show a significant relation between the net appreciation reporting choice and proxies for the incentives derived from three major stakeholder groups: faculty/staff, students/parents, and donors. We find evidence that more restrictive reporting policies are related to changes in unrestricted net assets due to items other than net appreciation. When other changes in net assets are already high, reporting incentives with respect to net appreciation shift toward minimizing perceptions of the availability of funds for faculty and staff salary and benefit increases. When other changes in unrestricted net assets are already low, reporting incentives shift toward minimizing faculty and staff concerns about financial viability. The results also suggest greater incentives to adopt more restrictive reporting (and thereby minimize perceptions of the availability of funds) when affordability and value are more of an issue for students and parents. Finally, the relative importance of the incentives to report net appreciation as restricted versus unrestricted to influence donors’ perceptions and actions depends on the importance of donor contributions to fund current operations. When the PCU relies on donations to fund current operations, the incentives for PCUs to report net appreciation as unrestricted so that the appreciation is also available to fund operations outweigh the countervailing incentives to report net appreciation as restricted to increase donor perceptions that contributions are needed and are being properly applied. In sum, the results show a significant relation between the financial reporting choices of PCUs and incentives related to multiple stakeholder interests.

While this study examines a reporting change that occurred in 1998, the issues discussed in this paper are timely and relevant today as they are among the issues addressed in the April 2015
Exposure Draft for Not-For-Profit Entities (FASB 2015) and in the subsequent Accounting Standard Update 2016-14 (FASB 2016). The update provides more definitive guidance on reporting net appreciation, moving net appreciation reporting from unrestricted unless otherwise indicated to restricted unless otherwise indicated. Nonetheless, there is still substantial reporting discretion available to PCUs. Respondents to our survey reported that, on average, only 50 percent of endowment agreements contain language that restricts the use of earnings, which leaves PCUs substantial discretion with respect to the remaining 50 percent of endowment agreements without restrictive language. Further, the update postponed determination of a reporting measure for operating performance. The findings in this paper are consistent with the conjecture that concerns about stakeholder perceptions of the current measure of financial performance—change in unrestricted net assets—influence the net appreciation reporting choices of PCUs.

The results here are subject to limitations. First, net appreciation reporting choices may be determined by other incentives in addition to those we explicitly model. For example, reporting net appreciation as restricted shields the change in unrestricted net assets from market volatility and, relatedly, PCUs may believe that reporting net appreciation as restricted is a strategy to smooth changes in unrestricted net assets. The issues of smoothing and avoidance of volatility are interesting potential topics for future research. Second, our study assumes that the incentives present in the current year persist and, as a result, influence the net appreciation reporting choice. Third, we developed our study based on data from an environment where net appreciation was almost always positive. Net appreciation could be negative as well, and it would be an interesting research question to examine whether PCUs change their reporting choices during periods when net appreciation is negative. Fourth, this study is a point-in-time, cross-sectional study. Data from multiple years might provide more robust results, but would also introduce other issues that could potentially make inferences more difficult.

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APPENDIX A
Illustration of Degree of Restricted Reporting (DRR) Calculations

Panel A: Endowment Assets

| Asset Classification | Total (TEA) | Unrestricted Net Assets (UEA) | Temporarily Restricted Net Assets | PermanentlyRestricted Net Assets |
|----------------------|-------------|------------------------------|----------------------------------|----------------------------------|
| Assets               | $12,000,000 | $6,000,000                   | $42,000,000                      | $60,000,000                      |
| Percent of Total Endowment (UEA/TEA) | 20%  |

Panel B: Net Appreciation Reported in Same Classification as Net Assets

| Asset Classification | Total (TEA) | Unrestricted Net Assets (UEA) | Temporarily Restricted Net Assets | Permanently Restricted Net Assets |
|----------------------|-------------|------------------------------|----------------------------------|----------------------------------|
| Net Appreciation     | $1,200,000  | $600,000                      | $4,200,000                       | $6,000,000                       |
| Percent of Total Net Appreciation (UNAPP/TAPP) | 20%  |
| DRR = (UEA/TEA)/(UNAPP/TAPP) | 1.00  |

Panel C: Net Appreciation Reported as More Restrictive

| Asset Classification | Total (TEA) | Unrestricted Net Assets (UEA) | Temporarily Restricted Net Assets | Permanently Restricted Net Assets |
|----------------------|-------------|------------------------------|----------------------------------|----------------------------------|
| Net Appreciation     | $600,000    | $600,000                      | $4,800,000                       | $6,000,000                       |
| Percent of Total Net Appreciation (UNAPP/TAPP) | 10%  |
| DRR = (UEA/TEA)/(UNAPP/TAPP) | 2.00  |

(continued on next page)
APPENDIX A (continued)

Panel D: Net Appreciation Reported as Unrestrictive

| Asset Classification | Unrestricted Net Assets (UEA) | Temporarily Restricted Net Assets | Permanently Restricted Net Assets | Total (TEA) |
|----------------------|-------------------------------|-----------------------------------|-----------------------------------|-------------|
| Net Appreciation     | $6,000,000 (UNAPP)            | $0                                | $0                                | $6,000,000 (TAPP) |
| (Assume a 10% Return) |                               |                                   |                                   |             |
| Percent of Total Net Appreciation (UNAPP/TAPP) | 100%                          |                                   |                                   |             |
| $DRR = (UEA/TEA)/(UNAPP/TAPP)$ | 0.20                          |                                   |                                   |             |

Variable Definitions:

$DRR$ = degree of restricted reporting;
$UEA$ = unrestricted endowment net assets;
$TEA$ = total endowment net assets;
$UNAPP$ = unrestricted net appreciation; and
$TAPP$ = total net appreciation.

APPENDIX B

Private College and University Survey

1. Please indicate the types of financial information provided to each of the following stakeholder groups. Check all the boxes that apply.

| Stakeholder Group          | Financial Statements | Excerpts from Financial Statements | Financial Highlights | Detailed Reports | Other | No Information |
|----------------------------|----------------------|-----------------------------------|----------------------|-----------------|-------|----------------|
| Students/Parents           |                      |                                   |                      |                 |       |                |
| Faculty/Staff              |                      |                                   |                      |                 |       |                |
| Donors                     |                      |                                   |                      |                 |       |                |
| Lending Institutions       |                      |                                   |                      |                 |       |                |
| Governmental Agencies      |                      |                                   |                      |                 |       |                |

2. Please indicate the percent of endowment agreements that have language restricting each of the following:

- Use of endowment earnings _____
- Use of net appreciation of endowment assets _____
- Investing policies _____
- Spending policies _____
3. Please check the box that best describes your university’s spending policy.

| Type of Spending Policy: | Check Only One Box |
|-------------------------|--------------------|
| Fixed dollar amount     |                    |
| Fixed percent on average endowment assets |          |
| Fixed percent of endowment earnings   |                    |
| Spend all available earnings          |                    |
| Other                                 |                    |

4. Please check the box that best describes your university’s net appreciation reporting policy.

| Net Appreciation Reporting Policy: | Check Only One Box |
|----------------------------------|--------------------|
| Unrestricted unless donor specified otherwise |         |
| Same manner as endowment earnings |                    |
| Increase to the corpus of the endowment |                     |
| Other                             |                    |