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Does Stakeholder Outrage Constrain Executive Compensation? Evidence from University President Pay

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Abstract

We analyze the determinants of the compensation of private college and university presidents from 1999 through 2007. We find that the fraction of institutional revenue derived from current donations is negatively associated with compensation and that presidents of religiously-affiliated institutions receive lower levels of compensation. Looking at the determinants of contributions, we find a negative association between presidential pay and subsequent donations. We interpret these results as consistent with the hypotheses that donors to nonprofits are sensitive to executive pay and that stakeholder outrage plays a role in constraining that pay. We discuss the implications of these findings for the regulation of nonprofits and for our broader understanding of the pay-setting process at for-profit as well as nonprofit organizations.

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1. Introduction

The relationship between managerial agency problems and executive pay has been a central focus of academic research over the last several decades. A key question has been whether pay practices reflect agency problems or mitigate those problems or both. The research has focused primarily on executive pay in the for-profit sector and, in large part, on public company executive pay.[1] There has been little research on executive pay in the nonprofit sector, which is somewhat odd given the conventional wisdom that agency problems are particularly severe in this sector.

Moreover, the nonprofit sector seems to be a promising laboratory for exploring the nuances of one particular theory of the executive pay setting process – the managerial power theory. This theory posits that, given significant agency slack, stakeholder outrage plays a role in limiting and shaping executive pay (Bebchuk, Fried, & Walker 2002). The theory has been discussed exclusively in the context of the for-profit sector, but it would seem to be applicable to nonprofit organizations that suffer from similar agency problems. Furthermore, there are a number of factors at play in the nonprofit sector that should have a predictable and testable impact on the level of executive pay that would trigger outrage or on the extent to which directors and executives would be sensitive to outrage that are absent or less pressing in the for-profit world.

This paper begins that exploration. We analyze the compensation of private college and university presidents from 1999 through 2007. We are interested in the determinants of president compensation as a matter of independent significance and in what the determinants tell us about the persuasiveness of the managerial power theory. As in the for-profit sector, we find, unsurprisingly, that executive compensation is a function of organization size and tenure in office. But we also find evidence consistent with stakeholder outrage constraining executive pay. We find, for example, that president pay is lower at religiously-affiliated institutions. Of course, self-selection could also explain this finding, but the result is consistent with the managerial power theory if one assumes, reasonably, we believe, that observer expectations regarding "acceptable" levels of president compensation would be lower at religiously affiliated institutions. In addition, we find that president pay is lower at institutions that are more highly dependent on current donations as a source of revenue (versus tuition, grants, etc.). Our theory here is that active donors are likely to generate the kind of outrage over pay that would be effective in dampening pay and that schools that are relatively insulated from this effect would be less constrained in setting president pay.

The negative association between donations and pay, however, also can be explained without resorting to the managerial power theory. Thus, in order to test the outrage constraint

[1] For surveys of the literature on for-profit executive pay, see Murphy (1999), Core et al. (2003), and Frydman & Jenter (2010). There is also an emerging literature on executive pay in the private equity/venture capital arena. See Leslie & Oyer (2009); Jackson (2009).

hypothesis further, we look at the impact of pay levels on future giving, and we find a negative association, which is consistent with the idea that donors care about pay. Although this finding does not rule out other explanations for the negative association we find between dependence on current donations and pay levels, it does confirm a relationship that is a necessary condition for our hypothesis to be correct.

The reminder of this paper is organized as follows. Part 2 provides background and a brief overview of the leading theories of the executive pay setting process. Part 3 describes our data and methods and provides our results. These results are interpreted in Part 4, and we discuss the implications in that Part. Part 5 concludes.

2. Background and Theory

This Part explains why the managerial power theory of the executive pay setting process is as plausibly applicable to the nonprofit sector as to the for-profit sector and why the nonprofit sector could provide a useful venue for exploring the nuances of the outrage constraint. It begins with an overview of both the optimal contracting and managerial power theories in the context of for-profit executive pay, and then extends the analysis to the nonprofit sector.

2.1 Public Company Executive Pay

There are two competing, but to some degree complementary theories of the executive pay setting process at U.S. public companies. The optimal contracting theory, which dominates the corporate finance literature on executive pay, posits that executive pay is designed to minimize managerial agency costs that arise from the separation of ownership from control in the widely held, Berle/Means corporation.[2] As described by Jensen and Meckling (1976), these agency costs reflect the divergence between share value maximizing actions of managers and managers' actual actions, plus the monitoring and bonding expenditures (including contracting costs) undertaken to reduce that divergence. Under this view, equity compensation arrangements through which managers receive restricted stock, stock options, and the like, and long-term non-equity incentive plans are seen as minimizing agency costs and contributing to shareholder value by tying executive pay to long-term share price performance. Core et al. (2003).

Under the alternative managerial power view, executive pay arrangements are not simply a means of combatting agency costs; these arrangements also reflect agency costs. (Bebchuk et al. 2002). The managerial power story begins with the observation that many features of executive compensation arrangements appear to be inconsistent with a share value maximizing model. (Bebchuk et al. 2002). The managerial power view posits that executive pay practices do not uniformly reflect vigorous bargaining and that executives exert more influence over the terms of their pay than would be expected in an arm's length bargaining situation. Further, under

[2] See, e.g., Core et al. (2003).

this view, pressures from competitive markets for capital, products, labor, and corporate control are seen as insufficient to significantly constrain executive pay.

The threat or reality of investor and financial press outrage play an important role in disciplining executive compensation under the managerial power view. (Bebchuk et al. 2002). The idea is that executives and outside directors bear personal costs when these constituencies become outraged over pay levels or pay practices. In order to minimize outrage, executives and their boards seek out low salience channels of compensation and other means of camouflaging compensation. The result under the managerial power view is that public company executives receive both more pay and different forms of pay than they would in a well-functioning market, all of which is costly for shareholders.

Prior theory has not specified exactly the mechanism of action for the outrage constraint. One possible view, along the lines of Ostrom (1990), is that outrage comprises a set of social sanctions on managers who extract excessive rents: The firm is a cooperative enterprise, and participants impose largely intangible punishment on those whom they know to be violating the implicit cooperative norm.[3] Or, more broadly, managers may face judgment from their friends and peers for violating social norms. A third possibility is that outrage represents latent action on the part of other stakeholders, action that could be motivated by emotion or ideology. The literature on collective action reports that emotional and ideological commitment often are key factors in groups that successfully overcome free riding (e.g., Hardin 1982, Knoke 1998, Vesterlund 2006). Managers would then aim to avoid "outrage" as a way of ensuring that their principals continue to monitor only loosely.

Evidence supporting the managerial power theory of the executive pay setting process in the public company setting is largely indirect. For example, we observe that executives and boards camouflage compensation by emphasizing relatively opaque pay channels such as deferred compensation (Bebchuk & Jackson 2005) or backdating stock options (Walker 2007) and we infer that they do so to minimize outrage over pay levels. Some commentators have argued that insufficient pay for performance sensitivity (Jensen & Murphy 1990) or a lack of relative performance evaluation (Holmstrom 1982, Rappaport 1999) undermines the persuasiveness of the optimal contracting theory, but others remain unconvinced (Hall & Liebman 1998, 2000; Baker & Hall 2004; Core et al. 2003).

2.2. Executive Pay in the Nonprofit Sector

Large nonprofit organizations suffer from managerial agency problems that are similar to those observed in the for-profit sector, which suggests that the managerial power view of the pay setting process may help explain nonprofit executive pay. As in the case of public companies,

[3] We note that punishment may, but need not be, related to the efficacy of the manager's pay structure as a system for incentivizing maximum returns to stakeholders. Participants may also have preferences for the distribution of firm profits that do not align perfectly with the distributionally-neutral optimal incentive structure.

large nonprofits are characterized by a separation of ownership from control. In fact, the separation is more severe in the nonprofit sector. At public companies, it is generally possible for a party to accumulate a sufficient number of shares to gain control, and this possibility places some upper bound on agency costs. In the nonprofit sector, there is no market for organizational control, and no such upper bound.

As in the case of public companies, boards of directors are charged with negotiating nonprofit executive pay. These boards are likely to be relatively weak and the executives relatively strong with respect to the pay setting process, and other matters, for the same reasons that public company boards are weak and executives strong.[4] First, nonprofit outside directors are part-timers who typically spend a small fraction of their time exercising oversight over the organization, while the full time executives set the agenda and control the flow of information to the outside directors. Second, the outside directors are not spending their own money when they negotiate executive pay. In fact, while public company directors are increasingly compensated with equity, which may encourage them to think and act more like owners, most nonprofit outside directors have little or no economic interest in their organizations. Third, as in the case of public companies, nonprofit outside directors are likely to be bound to the senior executives through various formal and informal ties that encourage a culture of deference to the executives.[5]

Moreover, external market forces are even less likely to provide effective discipline over the executive pay-setting process in the nonprofit sector. As noted above, there is no organizational control market in the nonprofit sector, and, given the nature of the sector, markets for capital and products are likely to be much less efficient than in the for-profit sector.

These disabilities have been recognized and the law does provide some responses. State attorneys general have responsibility for nonprofit oversight, including oversight of nonprofit executive pay. But state AGs are subject to their own agency problems and resource constraints and it seems unreasonable to expect state AGs to provide discipline over any but the most egregious cases of excessive nonprofit executive pay.[6]

The "intermediate sanctions" rules of the tax code provide another possible upper bound on nonprofit executive pay, but are unlikely to tightly constrain that pay.[7] Under these rules,

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[4] Citations throughout this paragraph are from Bebchuk et al. (2002).

[5] Although the intermediate sanctions rules that are discussed below essentially require that nonprofit directors that approve executive pay not have a conflict of interest, that standard insures only a very modest degree of independence. Efforts to increase outside director independence in the for-profit sector, such as by removing inside directors from board nominating committees, generally have not carried over to the nonprofit sector. IRS regulations do reward board independence in certain situations, using independence as a plus factor in the determination of public charity status (Treas. Reg. 1.509(a)), but for many nonprofits, such as the institutions of higher education that are the focus of this study, public charity status is automatic (IRC 509(a)(1)) and this lever is unimportant.

[6] For a concise review of state resources devoted to nonprofit supervision, see Dukeminier et al. (2010: 785-86).

[7] IRC § 4958. These sanctions are described as "intermediate" in the sense that they are less draconian than revoking a nonprofit organization's tax-exempt status.

significant financial penalties can be imposed on nonprofit executives and directors who engage in "excess benefit transactions," which include the provision of excessive executive pay. However, a safe harbor lies in a rebuttable presumption that transactions, including awards of pay, are not excess benefit transactions if 1) they are approved in advance by a nonprofit board or committee composed of individuals who have no conflict of interest, 2) the board or committee obtained and relied on appropriate data in determining pay, and 3) the board or committee adequately documented the basis for its decision. If these criteria are met, the burden shifts to the IRS to show that a pay grant was an excess benefit transaction. While the intermediate sanctions rules strongly encourage nonprofits to follow certain procedures in setting executive pay, they are unlikely to provide significant discipline on the substance of these awards.

Therefore it seems quite plausible that the managerial power view would to some extent characterize the executive pay setting process in the nonprofit sector. Other stakeholders rarely have both incentives and resources to closely monitor executive pay.

Like their for-profit counterparts, though, nonprofit managers may experience some personal cost if others believe that the manager receives excessive compensation. By definition nonprofit organizations do not share a cooperative venture with investors, but they do have donors, beneficiaries or customers, and employees. Nonprofit managers are also likely to be particularly sensitive to more general social perception of their pay. Most theorists of the sector believe that a portion of managers' rewards for working at a nonprofit include the "warm glow" of social approbation that comes with signaling to the public that the manager has sacrificed for the public good.[8] And, lastly, nonprofit managers may be constrained by latent stakeholder responses to higher reported pay. Warm glow is an important motive for donors (Vesterlund 2006, Bernheim & Rangel 2008, Andreoni & Payne 2011). If donors' attachment to the nonprofit is diminished by emotional or ideological disappointment in its leader's pay, donations may fall, leaving the manager with fewer resources available to pursue her own goals.[9]

Anecdotal evidence supports the notion that nonprofit executives and boards are sensitive to the perception of their pay practices. Like their for-profit brethren, nonprofit executives often receive a considerable portion of their total compensation in less visible forms, such as deferred compensation and perquisites (Atwell & Wellman 2000). Moreover, some nonprofit executives receive only a portion of their compensation directly from their employer with the balance coming from an outside foundation (Chronicle of Higher Education 2011). Aside from

[8] See Leete (2006) for a review and Galle (2010) for more extended discussion.

[9] The role of the press in this story is unclear. The press may serve simply as an intermediary – the means by which information is passed to the stakeholders who express approbation or disapprobation – or the press may contribute more directly to an outrage constraint if managers are sensitive to adverse press coverage independent of its impact on donors, employees, and other stakeholders.

camouflaging total compensation, it is difficult to imagine what purpose is served by splitting compensation in this way.[10]

It thus appears that the threat or reality of what Bebchuk et al. (2002) term "outrage" could play an important role in disciplining the pay of nonprofit executives.

2.3 Differences in the Outrage Mechanism that Prompt Study of Nonprofit Executive Pay

Although we believe that an outrage constraint is likely to play a role in both for-profit and nonprofit executive pay, it may be easier to test for in the nonprofit sector. As noted above, evidence from the for-profit sector of the managerial power theory and the impact of an outrage constraint is largely inferential – we see that executives and boards camouflage compensation and deduce that they do so to minimize outrage – but there are few, if any, differences between firms in a particular subsector (say manufacturing or utilities) that would have a predictable and testable impact on the outrage constraint and thus pay levels at various firms. By contrast, there are several factors at play in the nonprofit sector (and absent or of less significance in the for-profit sector) that should have a differential impact on the outrage constraint within nonprofit subsectors and that may provide more compelling evidence of the existence and scope of that constraint.

1. Religious Affiliation. Although religious affiliation may have little or no impact on the scope or demands of an executive's job, observers may feel that the head of an organization with a religious affiliation should be paid at a relatively low level. They may feel that the charitable nature of the organization should extend to its senior management. At one level, we would simply expect a more strongly negative visceral reaction to the announcement that the president of a religiously affiliated college received $1 million in pay than we would to the same announcement with respect to the president of an otherwise identical secular college. At a deeper level, the theory here is that donors to "commercial" nonprofits are more likely to simply be customers purchasing a product, while donors to organizations with a clearer ideological mission will derive a greater measure of utility from the "warm glow" of giving.[11] Customers purchasing a product may view high pay simply as a signal of quality. In contrast, high pay can diminish the warm glow of giving by contradicting donors' distributive or other ideological preferences, and by undermining the social consensus that the organization is "noble" or "worthy"; if insiders won't sacrifice on behalf of the organization, that could be taken as a signal that less-informed supporters shouldn't, either (Marwell & Oliver 1993).

In sum, we would expect the outrage constraint to be set at a relatively lower level and to result in relatively lower executive pay at organizations with a religious affiliation. To be sure,

[10] Some state institutions reportedly rely on compensation from multiple sources to avoid state-law caps on public employee salaries (Monks 2007). But there is no comparable explanation for the practice among private entities.
[11] See Andreoni 1990 for a general discussion of warm glow motives in giving.

though, there would be competing explanations, such as self-selection, for a finding of a negative association between religious affiliation and pay levels.

2. Exposure to Current Donations. Nonprofit organizations receive funds from operations, government grants, donations, and other sources; and relative dependence on these sources varies.[12] Again, we expect that because donors are more motivated by "warm glow," they are generally more sensitive to perceived excess executive pay than are other revenue providers, such as customers (e.g., university students or hospital patients) or grant-making agencies.[13] At least under our first and third theories of "outrage," differences in firms' sources of funding should differentially impact compensation. If outrage consists of social sanctions from other firm stakeholders, or represents the threat of more tangible latent stakeholder action, executives of nonprofit organizations (and their boards) that are relatively more exposed to potential outrage on the part of current donors because current donations make up a relatively large portion of revenues may feel more constrained in providing high levels of executive pay. Our second suggested mechanism, more general social disapprobation, could also be at play if managers' social circles tend to give more recognition to leaders of organizations with greater donor support. Thus, we would expect that all else being equal, nonprofit executive pay levels decline with the fraction of revenues that consists of current donations.[14]

3. Unionization. Other factors may be present in both the for-profit and nonprofit sectors but may have a differing impact on the outrage constraint in the two sectors. For example, we would expect unionized employees to be more effective critics of high executive pay than non-unionized, generally less well-organized employees. Moreover, unionized employees may provide a more effective voice at nonprofit organizations because nonprofit managers will have somewhat greater difficulty in assigning responsibility for pay levels to market forces. If so, the disciplining effect of unionization may be more discernible in the nonprofit sector.

4. Cross-subsector Differences. One might also expect that there would be differences between nonprofit subsectors that would have a predictable impact on the outrage constraint and pay levels. For example, one might expect that, all else equal, pay levels would be greater in nonprofit subsectors that are more closely associated with for-profit activities (e.g., hospitals) than in nonprofit subsectors that are viewed as pure charities (e.g., provision of aid to the poor and victims of disaster relief). It does not seem practical, however, to separate the impact of the

[12] If nonprofit line employees substitute "warm glow" for salary (Ben-Ner 1996), they are in effect donors to the firm and should be sensitive to executive pay in the same way.

[13] Hansmann (1981) suggests that all purchasers of services from a firm whose product is difficult to monitor would be suspicious of managerial rent extraction. Our argument, though, is that some customers are only purchasing goods or services, while others are also purchasing warm glow.

[14] Again, however, the story may be more complicated. As Hansmann (1981) describes, consumers may view the nonprofit form as indicating commitment not to divert profits to private actors. Excessive compensation might undermine that perception and affect product sales by a nonprofit. Thus, to the extent that a nonprofit provides goods or services, we might expect that nonprofit executive pay levels would also decline with the fraction of revenues consisting of sales.

outrage constraint from other factors that would differentially impact pay levels across subsectors (e.g., higher levels of pay for nonprofit hospital executives resulting from higher pay levels enjoyed by for-profit hospital executives). As a result, our investigation is limited to pay variations *within* a nonprofit subsector, specifically private colleges and universities.

2.4 Other Considerations that Impact the Study of Managerial Power over Pay in the Nonprofit Sector

Although the factors discussed in the previous section lead us to think that the nonprofit sector should be a fertile laboratory for the study of managerial power and the outrage constraint, other factors may make it more difficult for us to find strong evidence. For example, the factors discussed in the previous section are not institution specific, and in some cases institution specific factors, such as particularly active press coverage, may swamp the impact of donors, unionization, or religious affiliation. Also, while nonprofit executive pay has grown substantially in recent years, the growth and diversity in pay does not match that of the for-profit sector. Part of the explanation may lie in a difference in technology. Without equity compensation, it is unlikely that public company executive pay would have grown to present levels. This is not to suggest that there is inadequate variation in nonprofit executive pay, but only that the signal to noise ratio may be somewhat lower in this sector.

2.5 Prior Literature

Prior studies have established that the compensation of university presidents bears a fair relationship to the demands of the job and the personal characteristics of the president. Boulanger & Pliskin (1999), in a cross-section drawn from the CHE data for 1995-1996, find that university expenditures, presidential tenure in office, and admissions selectivity are correlated with higher pay. Similarly, Tang et al. (1996), using data from 1991, find correlations between pay and expenditures, rankings, and Carnegie classification.

Ehrenberg et al. (2001) were the first to employ panel data to analyze the determinants of university president compensation. They find little sensitivity of pay to most performance measures, such as changes in selectivity or endowment.[15] They do find, though, some evidence that successful fundraising increases a president's compensation. Sorokina (2003), using an academic-year 2000 cross-section and a panel ranging from 1997 to 2000, finds that college "ranking" correlates with compensation, but finds no evidence that the percent of alumni donating has any effect on presidents' pay. Monks (2007) confirms these earlier findings in a small-sample study aimed primarily at identifying differences between public and private university pay. And Banker et al. (2009), also using a panel drawn from CHE and NCES data, find that presidential experience, university "success" measures such as SAT scores, endowment, and faculty salaries, and organizational complexity contribute to higher pay.

[15] Frumkin & Keating (2001) find similar insensitivity between pay and performance for the sector more generally.

In contrast, there is relatively little existing work examining our questions here. Oster (1998) hypothesized that nonprofit executive compensation might be related to religious affiliation and constrained by dependence on donors. Using a small cross-section of fifty-seven universities, Oster found no significant impact of the university's ability to spend out of endowment on presidents' pay. However, Oster did find some relation between dependence on donations and compensation in a slightly larger group of ninety-five nonprofits (only a handful of them educational organizations), albeit with very limited institutional or personal-characteristic controls. Similar in spirit and method is Saunders (2007), which finds that presidents of religiously-affiliated colleges earned about $25,000 less than their peers during the 2005 academic year, and presidents at a small group of self-identified Christian fundamentalist schools another $22,000 less.

Langbert and Fox (2011) examined university president pay using cross-sectional data for the 1999-2000 and 2005-2006 academic years in a study motivated by the broader executive compensation debate. They concluded that presidents are primarily paid for performance as measured through enrollments, SAT scores, and peer assessment, but they also found a negative association between the rate of alumni giving and president pay, which might be viewed as a "noisy" measure of dependence on current donations. Langbert and Fox also found that the 20% of the presidents in their sample who were hired from within the university were paid less than their externally hired counterparts.[16] In addition, studies of the nonprofit sector generally show some relationship between principal-agent slack and compensation; for example, Frumkin & Keating (2001) find that free cash flows tend to correlate with higher pay.

Aside from the forgoing, we are not aware of any prior research examining the relationship between the compensation of college and university presidents and donations and/or religious affiliation. Moreover, our ability to test the Oster (1998) hypotheses using a large panel, more precise specification of the variables of interest, and a diverse set of institutional and personal controls, offers a significant advance over the current state of the literature.

3. Data, Methods, and Outcomes

3.1 Data

[16] Langbert and Fox argue that this evidence is inconsistent with the managerial power hypothesis because internal hires "ought to have institution-specific human capital" and "more extensive ties to the Boards of Trustees" that should result in higher pay, all else being equal. The value of human capital would be more central to the optimal contracting view than the managerial power view of the pay-setting process. Moreover, we would not expect university provosts or other lower ranking university officials to have much managerial power. Thus, we do not view this as evidence contrary to that theory. Employees signing their first contract with a charitable organization are exempt from IRS rules limiting excessive compensation, supplying a potential tax reason for outside hires to be paid more. Finally, we suspect that the results here may be driven in part by the fact that interim presidents would typically be internal hires and would be paid less than permanent hires.

In this paper, we explore the compensation of presidents of private colleges and universities.[17] Our data derive from three main sources. President salaries and other compensation come from the annual compilation by the Chronicle of Higher Education (CHE). CHE's figures in turn were harvested from Form 990 tax returns filed by the respective organizations. Most other institution-level data, including religious affiliation, were downloaded from the National Center on Education Statistics (NCES). NCES derives its data from regulatory filings required by the U.S. Department of Education. We obtained each school's fundraising costs, as well as other data used in our instrumental-variable regressions, by matching NCES data with corresponding university tax return information from the National Center on Charitable Statistics. In addition, we hand-collected unionization and U.S. News ranking information for each school, as well as some demographic data on presidents, such as each individual's tenure in office. We deflated all dollar amounts to real values using the CPI.

Our sample comprises all of the colleges and universities appearing both in the CHE "Private Universities" survey and the NCES data for each of the nine years between 1999 and 2007.[18] Three hundred forty-one institutions met these criteria. Although there is some chance that limiting the sample only to universities that appear for nine consecutive years could introduce survivor bias, we view that as the lesser risk. Start-up organizations, or those on the edge of collapse, may differ significantly in their organizational dynamic from the typical, long-standing and stable entities that make up most of the sample. In addition, the Chronicle omits certain forms of educational organization, such as community colleges, from its survey. Entities in transition to or from such a dramatic change in their educational mission also are likely to be unrepresentative of universities as a whole. Our sample extends back as far as NCES data permit for our variables of interest, and terminates at 2007 to avoid the potentially confounding effects of a severe recession on charitable giving.

We also drop select observations within the sample to account for the limitations of our data. All of our regressions omit president-academic year pairs for which the reported salary of the president was zero. In all cases, as best we can tell, these observations can be explained by the fact that the president in question belongs to a religious order whose members forswear material wealth. In many instances the president's order is reimbursed for his or her services, but

[17] We omit public universities for a number of reasons. Most critically, data are limited and less reliable. Public universities are exempted by Treasury rule from having to file tax returns; while some do so voluntarily, most do not. Similarly, public universities are exempt from federal rules governing executive compensation at nonprofits, implying that the coefficients on each of our predictive variables would likely differ significantly between the two groups. Adding interaction effects to account for that difference would substantially diminish the precision of our estimates. Finally, public universities also have many additional stakeholders, such that it is possible outrage functions in a wholly different way in that sector; prior literature suggests a variety of political factors that impact public university funding but that likely would have only minimal effect on private institutions. (Lowry 2001; see also Ehrenberg 2004 for a brief review).

[18] Although our study focuses on the period 1999 to 2007, we use lagged data for some variables.

the precise amount cannot be discerned.[19] We also drop institution-years in which more than one individual served as president. CHE's data do not make clear whether the figures reported for partial-year service represent annualized or actual compensation, leaving us unable to determine the correct amount to include. Moreover, compensation provided in transitional years may not be representative of steady-state pay levels.

Descriptive Statistics

<Table 1>

3.2 Determinants of Compensation

For our main regression analysis, we construct a panel of 341 universities over six years.[20] The dependent variable in our reported results is total annual reported compensation, as provided by CHE. Methods of computing and reporting non-salary awards reportedly vary between organizations (Niklin 2000). If this variation were random its only effect would be to reduce the precision of estimates of the determinants of true compensation (Baum 2006: 217). As we discuss in 4.1 below, however, it is likely that reporting error is not random. Therefore our results are best interpreted as measuring the determinants and effects of reported, rather than actual, compensation. We also obtain qualitatively similar results when salary is the dependent variable.

We measure the importance of stakeholder outrage for president compensation through three main explanatory variables -- the proportion of the university's annual budget derived from contributions and gifts, institutional religious affiliation, and faculty or staff unionization.

As explained above, dependence on gifts captures to some degree donors' leverage over the organization and its managers, and therefore should be correlated with the organization's preferences for higher or lower pay.[21] President pay and contributions may be related through more than one channel, however, complicating our analysis. As prior literature reports (Ehrenberg et al. 2001), boards tend to reward successful fundraisers. This positive correlation between pay and donations may obscure the negative correlation our outrage theory predicts. A series of annual scatterplots and nonlinear fit lines for the two variables confirmed our suspicion that the combination of the two effects resulted in a nonlinear relationship. Accordingly, we also include a measure for the nonlinear effects of dependence on donations.

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[19] For example, the 2009 Form 990 for Boston College reports that the university paid over $3 million to the Society of Jesuits in return for services rendered to BC by members of the order. But the return does not separately identify how much was paid for each individual employee.
As best we can tell, universities that pay their leaders a meaningful salary do not also compensate the leaders' clerical order for their services.

[20] NCES's SAT-score data go back only to the 2002 academic year; we hand-collect SAT data for 1999 through 2002 from U.S. News and World Reports.

[21] We obtain quantitatively similar results when using alternative measures of the university's dependence on gifts, such as gifts as a percentage of expenditures or gifts per student.

Endogeneity may present an additional challenge. Unobserved aspects of presidential ability, such as strong leadership and fundraising skills, could simultaneously drive both giving and presidential pay. Outside shocks to regional wealth or inflation could also drive both giving and pay. Our primary solution to these problems is fixed effects. We use individual presidents as a panel variable; since we use random-effects models, each observation includes a weighted fixed effect for each president.[22] That should control for unobservable variation in presidential ability and human capital.[23] Similarly, our state and year fixed effects help to account for the impact of local economic factors. In any event, all of these relationships would tend to produce a positive relationship between pay and donations. To the extent that we find a negative relationship, it should be in spite of, rather than because of, these unobserved influences.

A potential complication, as we report in 3.3., below, is that presidential pay can also affect donations, implying that regressors derived from total contributions could be correlated with lags of our dependent variable. We would argue that most of this relationship can be attributed to individual characteristics of the president already controlled for in the regression, such as fundraising prowess and tenure in office. However, to account for the possibility that past shocks to pay may have been due to luck or other factors not unique to the president, we also present separately a regression in which we control for lagged compensation.[24] Given that the first lag of pay is mathematically related to the error term of our regression, we instrument for it using the system GMM method of Bond (2002). Because system GMM relies on first differences, we cannot provide estimates of invarying, constantly varying, or small-variation variables in that specification.[25]

As an additional check, we also use 2SLS to include several different instruments for donation-dependence. First, using firm-level data from the National Center on Charitable Statistics, we compute the total donations to all institutions of secondary and higher education in each state for each year, and divide that by total revenues at those institutions. Additionally, we

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[22] The random-effects model assumes that the individual president effects are uncorrelated with our regressors. Given the potential relationship between presidential ability and fundraising, that assumption may be implausible. As an additional check, we estimate our equation using a population-averaged panel-data model, also known as a generalized estimating equation or "GEE." (See Gardiner et al. 2009 for an overview of the differences between the RE and GEE models). GEE does not require any assumptions about the relationship between the individual effect and the other regressors. It is, however, more precise if the researchers can specify the nature of the correlation between annual error terms. Standard tests show some evidence for an AR(1) process in the errors, and weak evidence for AR(2). We obtain quantitatively similar results to our random effects model under either assumption.

[23] Of course, using presidents rather than universities as our panel variable means that we cannot control for unobserved university characteristics, but we believe that unlike human capital, most of the important pay-determining variation in institutions is already measured in our other data.

[24] We obtain similar results controlling only for first or for both first and second lags of compensation.

[25] Although generally system GMM is more efficient than alternatives such as Hausman-Taylor, to capture estimates of the time-invarying variables we also estimate a Hausman-Taylor regression in which we treat percent gifts and percent gifts squared as endogenous to the president fixed effects. We again obtain quantitatively similar results to our OLS regression---and therefore rather more precisely estimated coefficients than our system GMM regression---except that the effect of religious affiliation is now similar in size to our OLS regression (at -41,759) but less precisely estimated, so that it is significant only at the 10% level. (We used Schaffer & Stillman's "xtoverid" Stata routine to obtain cluster-robust standard errors for the Hausman-Taylor regressions).

use fundraising expenditures, which are strongly correlated with donations, but have no obvious causal connection to executive compensation.[26] Since we have no clear theoretical prior on whether overall fundraising is more important than fundraising per student, we employ both. In all cases, we use squares of the IV variables to instrument for percent-grants squared.

Our other tests for the existence of an outrage constraint involve indicator variables for whether the university is religiously affiliated and whether its faculty or staff is unionized. Unionized faculty or staff might focus outrage over president pay more effectively than non-unionized employees. We also hypothesize that the outrage threshold may be lower at religiously-affiliated organizations that are perceived to have a more public-spirited mission. As we noted earlier, however, relatively low president pay in the latter case could also result from self-selection by warm-glow motivated individuals into religious organizations.

In addition to donors and employees, several other constituencies could conceivably be sources of outrage, but we do not expect to see any effects from the university's dependence on these other sources of revenue. Hansmann (1981) suggests that customers of a nonprofit are concerned about self-dealing, but, as he notes, free riding among customers is likely to be pervasive for organizations of any size. Similarly, private universities receiving government research grants could be subject to heightened expectations and scrutiny from taxpayers or lawmakers. But given the opacity of most research grants and the attenuated connection between research funding and the availability of money for presidential pay, we would be surprised to see any significant impact of grants on pay in the private-university setting. Nonetheless, we include total tuition and total grants as regressors.

We also include a vector of control variables, many inspired by prior literature. As we described in 2.5, above, researchers have found that organizational size, complexity, and status influence presidents' pay, so we control for those factors using total revenues, total full-time equivalent enrollment, log of total assets,[27] size of the faculty, faculty:FTE ratio, faculty mean salary, whether the university has a teaching hospital, U.S. News and World Report ranking,[28] and seventy-fifth percentile SAT scores for the entering first-year class.[29] To account for the

[26] Conceivably, a nonprofit executive could extract value from the nonprofit by operating a fundraising firm and then contracting with the firm to do fundraising for the nonprofit. But most universities have policies that prohibit presidents from such extensive outside activity, and obvious conflicts of interest at that level would seldom escape close scrutiny. In addition, it might be argued that, to the extent the president is involved in fundraising, a portion of the university's reported fundraising costs may include a fraction of the president's salary. Average fundraising expenditures in our sample, however, were orders of magnitude larger than average president pay; changes in president pay should have no meaningful impact on reported fundraising.

[27] We use the natural log of assets because assets are highly skewed in our sample. Readers should accordingly interpret our coefficient as a semi-elasticity.

[28] We control for U.S. News rankings using indicator variables for U.S. News tiers in each of the research university and liberal arts college undergraduate hierarchies. Unranked schools were coded as "third tier." U.S. News used a different reporting methodology for the 2002 academic year; regressions including U.S. News ranking omit data from that year; including 2002 but omitting U.S. News ranking does not change our results.

[29] SAT scores and U.S. News rankings are highly correlated. Unsurprisingly, omitting one tends to produce considerably more significant results for the other. Our main outcomes are robust to including only one of the two.

possibility that executive salaries are influenced by peer compensation, we additionally include the mean total compensation in the sample.

In addition to president fixed effects, we attempt to account for variations in the quality of each president in several other different ways. Although outcome measures are notoriously difficult to identify in nonprofit settings, we include return on assets and graduation rate as approximations of the president's success at managing the budget and ensuring student success. Since presidents likely develop fundraising connections and learn from experience, we also hand-collected and included each president's tenure in office.

To account for differences in organizational focus and mission, we include a set of indicator variables for each of the major Carnegie Institution categories, such as "research university" and "liberal-arts college." (Ehrenberg et al. 2001 report significant variations in pay practices by Carnegie category). We also include a full set of state and year fixed effects, which we expect to account for any variations in macro-economic factors, the tax-price of giving, or major regulatory differences across time and institutions.

Finally, as in Sorokina (2003), we employ lags of all of our regressors. Presidential salaries are set in advance of the academic year. The factors that determine compensation should logically be those prevailing at that time. Although of course there is usually a strong correlation between most regressors and their lags, such that other studies using same-year data are likely still largely reliable, we believe our measures are more precise.

We employ a random-effects model with robust standard errors clustered by president.[30] Our main results are reported in Table 2, below. For ease of reading, we omit state, year, and Carnegie-category effects and most insignificant controls.

<Table 2>

Overall, we find some support for our donor and religious-affiliation hypotheses. We find two strong, opposing effects of increasing dependence on donations on presidential pay. In all of the specifications the linear effect is negative, significant at least at the 5% level, and economically substantial in magnitude. For example, the OLS coefficient implies that a one-standard deviation increase in percent of revenue from gifts, which is about a 19% bump, would correspond to $54,583 (in 1983 dollars) less reported compensation as a result of the linear effect, or about $111,426 in 2007 dollars.[31] For comparison, the median total compensation in the sample is $370,325 in 2007 dollars. At the same time, greater donations also lead to higher pay; our nonlinear effect was positive in sign, and significant at the 5% level.

[30] A Hausman test could not reject the null hypothesis that the RE estimator was consistent, confirming that the random-effects model was appropriate.

[31] The coefficient on the percent gift variable in our GEE regression is a bit smaller, at -203,261, and significant at the 1% level.

Admittedly, the 2SLS regression provides surprisingly large coefficients for the effects of donation-dependence. We argue that our OLS result is probably biased upwards, but the difference here seems too large to be explained solely by bias in the OLS estimate. Weak instruments would be a logical suspect, except that LIML estimates of the coefficients were quite close to those reported, which argues against a weak instrument problem. (Angrist & Pischke 2009). Possibly one or more of the instruments are picking up some other unobserved influence.[32] Accordingly, we view the 2SLS results as only weakly confirming our results.

Turning to the other measures of outrage, we find significant constraints only from religious affiliation. Our OLS panel data confirm the cross-sectional results of Saunders (2007) that religiously-affiliated presidents report lower average compensation --- almost $88,000 less (in 2007 dollars) in our sample. As expected, we find no evidence that grants or tuition constrain reported presidential pay. Indeed, the sign of the coefficient on tuition is positive and significant. We examine several possible explanations for this finding in the discussion section.

We further find significant results with the expected sign for a number of our institutional and personal-characteristic controls. Schools with more resources pay more, and presidents earn more the longer they are in office. President and faculty salaries tend to move in the same direction, though no doubt some portion of that correlation is due to simultaneous shocks to the academic labor market.

3.3 Determinants of Contributions

In order for donor dependence to constrain presidential pay in the manner we have hypothesized, it must be the case that donors care about presidential pay levels. In other words, donor sensitivity is a necessary but not sufficient condition for the proposition that dependence on current donations dampens pay levels. We test donor sensitivity to compensation through an analysis of the determinants of annual giving.

Again, we construct a panel derived from CHE compensation data and institutional variables from NCES and NCCS. Our dependent variable is simply total annual giving. Since donors must first learn of compensation before they react to it, and the main source of compensation information is annual tax return data filed up to fifteen months after the beginning of the academic year, we expect to see any impact on giving only at some remove from the actual year of payment. Thus our main regressors of interest are lags of reported compensation.[33]

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[32] Another potential explanation is that university donations also affect state-level donations. The mean proportion of university to state donations in our sample was 8%, which may suggest that the state-level donations instrument is not fully exogenous. To test this, we repeated our regressions, dropping observations where the university's contributions to state donations exceeded 10%. This brought the mean down to 2.3%, but we still obtained the same large coefficients.

[33] Our results using only salary, or using the difference between compensation and mean president compensation, as the main variables of interest are essentially identical.

Relying on lags also mitigates any endogeneity concerns. Our earlier results suggest both that higher pay can reduce giving and also that successful fundraising can increase pay. But, of course, compensation in 2000 cannot be a reward for successful fundraising in 2002. Admittedly, though, both high compensation and generous contributions may be the products of some third variable we cannot measure, such as the charm, gregariousness, social connections, or talent of the president. Once more, we control for these possibilities by using weighted individual president fixed effects. If these are not fully effective in eliminating the role of unobserved human capital, then our coefficient will be biased upwards. Since we predict a negative correlation between pay and donations, the effect of these personal characteristics will therefore tend to obscure our hypothesized result.

As with the determinants of pay regressions, we also report two additional specifications as robustness checks on our OLS results. In one specification we include lags of donations as a control for the possibility that, say, year-2000 donations affected year 2001 compensation. Because these long lags quickly chew up our available data, we use difference, rather than system, GMM to instrument for lags of donations.

We also estimate a 2SLS regression using same-year compensation and number of executive employees per student as instruments for the lag of compensation. We suggest that the president's compensation during the same academic year as the dependent variable is an appropriate instrument for lags of compensation. Because both compensation and donations can respond to each other only with at least a one-year delay, there should be no simultaneous causation between contemporary levels of each. Although some omitted variable, such as university performance, may contribute to both, as in Andreoni & Payne (2011) we control for these potential confounds --- in our case, by using president fixed effects and observable measures of performance. Therefore, we arguably should be able to eliminate any correlation between same-year pay and the error terms of the regression. The theory behind the proportion of executives is that it measures factors, such as principal-agent slack and institutional complexity, that should correlate with pay but do not have any evident direct connection to donations. Both instruments are strongly correlated with lags of compensation in first-stage regressions.

As before, we control for a variety of institutional and other factors, including fundraising, fundraising squared, state, year, and Carnegie-category fixed effects. Because the literature suggests that funding from other sources may either crowd in or crowd out private contributions (e.g., Okten & Weisbrod 2000, Andreoni & Payne 2010), we control for both grants and liabilities. We attempt to capture variation in fund-raising skill using years in office. We also control for measures of mission success, institutional prestige, and wealth of the donors with U.S. News ranking, tuition, revenues, assets, mean faculty salary, and graduation rate. We control for the size of the alumni body with enrollment, and for the possibility that undergraduates have more intense connections to their alma mater with the fraction of enrollees who are undergraduates. Our results are presented in Table 3.

<Table 3>

In general, we find an economically substantial and statistically significant negative effect of reported compensation on giving in each specification, although in the 2SLS regression the effects of compensation on giving are just shy of the 5% significance level. For example, the OLS and GMM regressions suggest that in the aggregate, the first and second lags of compensation reduce donations by about $30 per dollar of pay.[34] Grants and borrowing appear to crowd in contributions in our sample.[35] And perhaps surprisingly, we find no evidence that longer-tenured presidents are more successful at bringing in funds. We note that result is consistent with our suggestion in 3.2 that presidential fixed effects largely capture the impact of presidential human capital.

Once more, our 2SLS estimates for the main variable of interest are larger than the others, although the difference here is not as large. We therefore interpret the 2SLS result as lending some support to the idea that the OLS estimates are biased upwards.

4. Discussion

4.1 Interpreting our Results

Again, our results are probably best understood as the determinants and effects of reported, rather than actual, compensation. To be sure, the fact that our compensation data are drawn from federal tax returns, and therefore that willful misstatements are punishable with jail time, adds to our confidence in the accuracy of the numbers. But prior to 2009, when the IRS revised its guidelines for reporting non-cash compensation, there were few established conventions for how organizations should account for the present-year value of deferred or in-kind payments. CHE's data for the 2009 academic year (the only publicly-available post-revision year so far) evince a larger fraction of payment in the form of benefits than we observe in our sample. In light of the empirical evidence of concealed pay in the for-profit context (see Bebchuk et al. 2002 for a review), it is reasonable to assume that universities generally reported lower annual compensation where that was possible within the existing rules.

Our hypothesis further suggests that the degree of under-reporting was likely not random. We would argue that concealment works to reduce outrage because the average stakeholder rationally free-rides on the efforts of others in acquiring compensation information. When there is agency slack, boards of directors can therefore respond to outrage constraints either through reductions in real pay or reductions in reported pay. To avoid tax-fraud prosecution, the board can camouflage pay by shifting cash compensation into other forms where reporting rules are looser. For example, the former president of one top research university was, according to its

[34] As before, we obtain similar results using GEE to double-check our FE results; the combined effect of lagged compensation in the GEE regression was a bit larger, at -45.

[35] Because the crowd-in/crowd-out question is not our focus here, we do not attempt to rule out increased demand for the university's output as a confounding factor in that result.

2010 tax return, still collecting over $100,000 per year for his past services, even while not retired and still earning a separate salary for serving on its faculty. (Guidestar.org: Harvard University 2010 Form 990). As best we can tell, that expected cost was not reported during his time in office as a cost of his employment.

Econometrically, the possibility that camouflage substitutes for real reductions means that our results are not fully reliable as evidence of the economic importance of compensation per se. If greater donor pressure creates increased incentives to camouflage, and if we were trying to measure the determinants of actual rather than reported compensation, then the error terms in our regressions would be correlated with the measures of donor pressure.

However, from a policy perspective, outrage-induced shifts in pay design and reported compensation may be as important as reductions in "real" compensation. As Bebchuk et al. (2002) argue in the public company context, compensation arrangements designed with camouflage in mind may fail to provide desirable incentives and may even provide perverse incentives.[36] Whether donor pressure constrains actual compensation, or instead only distorts the form in which pay is presented, we have provided evidence that pressure from donor outrage changes agents' behavior. Likewise, the fact that reported compensation impacts donors' willingness to support the university is significant for policy and for university planning, even if donors are not responding to fully accurate information.

4.2 Primary Results and Alternative Explanations

Reliance on current donations. We attribute our finding of a negative association between president pay and the fraction of university revenue derived from current donations as evidence consistent with the idea that the prospect of donor outrage would have a moderating influence on pay. We buttress this argument with evidence that donors care about and respond to president pay levels. As noted above, Langbert & Fox (2011) find a negative association between the percent of alumni who donate and president pay, and one would expect these two metrics – dependence on current donations and rate of alumni giving – to be correlated. Langbert and Fox label this result counterintuitive, but offer two explanations. They suggest it "plausible" that the alumni giving rate would be a proxy for a teaching orientation and that presidents of teaching-oriented schools would be paid at a lower rate. We control for this possibility using grants, Carnegie category and U.S. News ranking, and still find a negative influence of donation-dependence on pay. Second, they suggest that the alumni giving rate may reflect the level of alumni involvement in governance, "which may … moderate administrators' salaries." We agree. This latter view is consistent with the outrage hypothesis.

An early reader commented that unobserved negative shocks to the university's fortunes, such as a major scandal, might provide an explanation for the negative correlation we observe

[36] See also Saez et al. (2012) for an argument in the tax context that what appear to be second-order behavioral effects can have important efficiency consequences.

between pay and the fraction of revenue from current donations. The theory would be that universities are forced to pay a premium to a "fixer" president who will enter after a scandal and that the scandal would also depress donations. This possibility seems unlikely to explain our results. Major scandals are not common, and tests for the influence of outliers showed little impact, suggesting that our results are not caused by a few instances of scandal. This theory would also predict that, if the scandal effect is big enough to drive our regression results, then first-year presidents should on average receive a pay premium, but we find instead that mean compensation is strictly increasing with tenure.

Our findings on the relation between tuition and compensation lend some additional support to our agency-cost story. Again, we find a fairly sizable, statistically significant correlation between tuition and president pay. That relationship is not simply a measure of available resources, since we also control for total revenues and enrollment. We therefore believe the most likely explanations are various forms of free riding. One possibility is that, because of weak monitoring by students and parents, tuition dollars are a less-constraining source of funds than others. Or, similarly, both tuition and high president pay may be the result of high agency costs for the university's principals. Admittedly, a third story could be that tuition is or is perceived to be a measure of institutional quality or consumer demand. For example, we do find a modest correlation between gross tuition (i.e., not net of financial aid) and membership in upper-echelon U.S. news rankings in our sample.

Religious affiliation. Consistent with the work of others, we show that presidents of institutions with a religious affiliation tend to be paid less than presidents of completely secular schools. We argue that one explanation for this effect, consistent with the managerial power theory, is that observer thresholds for what constitutes outrageous compensation would be lower in the case of religiously affiliated institutions. But our data do not allow us to test or reject other plausible explanations for the association we observe, and it does seem likely to us that self-selection and substitution of "warm glow" for cash compensation would also contribute to this association. When we include interaction effects of religious affiliation and years in office, we see that the initial discount for religiously-affiliated pay is about half that in our other regressions, and that the increment for time in office is also smaller. This may somewhat favor the outrage constraint hypothesis, in that it seems as though religious affiliation holds down pay in part by reducing its rate of increase, rather than simply by matching managers with lower demand for cash to institutions that pay less.

4.3 Implications for the Managerial Power Theory of the Executive Pay Setting Process

As we described in the background section, to date researchers focused on public company executive pay have not found unequivocal proof that outrage constrains compensation. Prior evidence has generally been circumstantial; although the fact that boards of directors seem to take great pains to diminish the ease with which other stakeholders can add up total pay is

highly suggestive, commentators have suggested pro-efficiency explanations for many of these "hidden" pay structures. (E.g., Edmans & Gabaix 2009). In contrast, we find straightforward evidence that dependence on donors puts pressure on universities to reduce reported presidential compensation, and that contributor displeasure at high reported compensation is registered through lower donations. We also find evidence consistent with the outrage constraint being set at a lower level at institutions with religious affiliations.

However, even if one views our evidence as supporting the existence of an outrage constraint at nonprofit institutions, can we extrapolate to the for-profit sector? In other words, have we found evidence of a general phenomenon or a phenomenon specific to the nonprofit universe? To be sure, donors to universities are a different kind of stakeholder than shareholders in a firm. But the differences may be smaller than they appear at first glance. In both cases, these constituencies are "represented" by a board of directors that, for the reasons discussed above, may be disinclined or unable to negotiate vigorously with their chief executives. At the very top, there is a similarity of structure and a similarity in agency problems.

Moreover, prior research suggests that, just as charitable contributors are motivated in part by their emotional connection to their charity (see Bernheim & Rangel 2008 for a review), so too many shareholders have preferences for "sustainable" or "no sweat" firms, or other markers of their ideological preferences (see Campbell 2007 for a review). Firms donate to charity and shape their political participation in order to shape their image for investors, employees, and customers. In other words, both ideology and return on investment are part of the utility function for both nonprofit and for-profit stakeholders.

Admittedly, universities are also subject to legal limits on pay that do not bind most for-profit firms. Perhaps the responsiveness of university executive pay to donors could reflect fears that donor ire would trigger IRS scrutiny. That story is consistent with our results, but would not explain our finding that donors themselves respond to compensation news.

4.4 Implications for Tax Law

Our results also should be relevant to those interested in the governance and regulation of nonprofit entities. It is conventional wisdom among nonprofit theorists that principal-agent slack is pervasive in the sector, especially among large, complex organizations. Our evidence suggests, however, that contributors actually do change the behavior of the firms they support. We doubt that most donors *intend* to use their giving as a governance tool, since rational donors would typically free ride on the disciplinary efforts of others. Instead, we believe our findings imply that donors simply derive less warm glow from giving when they are dissatisfied with the behaviors they can readily observe.

If donor pressure does matter at least for some kinds of governance decisions, regulators can take steps to improve the usefulness of donor behavior. For example, nonprofit regulators with scare resources---which, in the United States, is all of them (Dukeminier et al. 2010)---may

prefer to focus their energies on organizations that are less dependent on donors. Or they may give closer attention to organizations where donations drop noticeably. Of course, that suggestion assumes that donor pressure reduces actual rent-seeking by firm managers, rather than simply increasing managers' efforts to shroud their rents. Regulations whose goal is to affect actual outcomes should ensure that firm disclosures reveal real information about the firm.[37]

Along these lines, recent revisions to the Form 990 instructions, if followed closely by firms, should reduce considerably organizations' ability to reduce reported compensation without also diminishing its value. For example, the new instructions require the firm to calculate the actuarial value of changes in a defined-benefit pension plan, and to report pensions and other deferred payments even if not yet vested. So far, the IRS has made available only one year of data under the new reporting regime, so it is too early yet to assess fully the changes' impact.

It is unclear to what extent the Form 990 Instructions provide firms with real incentives to report accurately. Failure to comply with the instructions has no consequences, except in the extreme case in which managers and preparers are subject to fraud or abuse penalties.

The IRS could potentially provide firms stronger incentives to report if the new disclosure rules were made part of the "4958 safe harbor." Organizations and managers that follow certain procedures, such as requiring CEO compensation to be set by independent board members after review of relevant comparable salary information for other CEO's, are presumptively insulated from statutory penalties for paying or authorizing excessive compensation. (Treas. Reg. 53.4958-6). Anecdotal evidence, such as Guidestar's prominent warnings about manager-level 4958 penalties side-by-side with links for their "comparables study" service, suggest that managers value the safe harbor. We propose making clear, public, and contemporaneous disclosure of the terms of each contract, along with valuations of the reasonably-expected costs of the contract terms computed along the lines of the revised 990 Instructions, a requirement of the safe harbor. That could help to ensure that donor pressure is directed towards the actual substance of each contract, not its reporting. Our data also suggest that contemporaneity is important, because delays in reporting appear to result in delays in donor behavior.

5. Conclusion

[37] A possible counter-argument to our suggestion here is that donor outrage is inefficient in some sense. For example, suppose that donors have an aversion to what they view as excessive payments without regard to whether a given compensation package allows the firm to obtain equal or greater value in the performance of their executive. In that case, outrage could be a negative externality imposed on other stakeholders of the firm. But even then we doubt that camouflage is the best solution, since camouflage also creates the opportunity for rents on the part of stakeholders who are not averse to high pay. Better and more transparent stakeholder democracy, among other options, seem like better choices.

We provide data suggesting that greater reliance on contributions puts downward pressure on the reported compensation of presidents of private colleges and universities, that higher disclosed compensation tends to discourage giving, and that compensation of presidents of institutions with a religious affiliation are lower than those of peers at wholly secular schools. These results lend support to the theoretical suggestion that stakeholder outrage may constrain executive pay and may require some updating of the verity that contributors to nonprofit organizations are ineffective monitors.

Table 1:
Descriptive Statistics
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Variable |	Observations	Mean	Std. Dev.
% of Revenue from Gifts |	2990	.177	.190
Annual Gifts |	2990	39984	91596
Full-time Equivalent Enrollment |	2991	4808.47	4646.90
F/T Execs. per 100 FTE Students |	2969	2.84	2.19
Fundraising	2641	9996	22440
Graduation Rate |	2128	.69	.16
Gross Assets |	2991	1191360	3814800
Hospital? (Indicator) |	2136	.05	.21
Liabilities |	2991	310080	1446360
Mean Faculty Salary |	2689	71.27	15.87
Reported Pres. Benefits |	3565	53.59	88.96
Reported Pres. Salary |	3578	286.88	180.76
Revenues -- All Sources |	2991	322320	756840
Revenues from Tuition |	2991	116484	139218
Revenues from Grants |	2919	40596	121788
Return on Investment |	2987	67728	359040
Religious Affiliation? (Indicator) |	3620	.46	.50
President's Years in Office |	3620	7.30	6.41
SAT - 75th %ile |	2263	1293	125.3
Staff Unionization (Indicator)	2811	.19	.39
Total Reported Pres. Compensation |	3336	364.96	214.20

Note: All dollar figures reported in thousands of 2007 dollars.
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Table 2:
Determinants of University President Compensation
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Table 3:
Determinants of Annual Contributions
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	OLS	Arellano-Bond	2SLS
Lags of comp. (total 1st & 2d)	**-30.55** **(12.27)***	**-28.36** **(5.79)*****	-61.74 (32.21)
Revenues	**0.062** **(0.0012)*****	**0.0420** **(0.0025)*****	**0.063** **(0.0028)***
Tuition	-0.13 (0.137)	**0.1226** **(0.021)*****	-0.043 (0.045)
Fundraising	1.86 (1.20)	**2.3488** **(0.3143)*****	**2.26** **(0.6017)***
Fundraising ^2	-6.95e-8 (4.70e-8)	**-6.37e-8** **(1.07e-8)*****	**-7.87e-8** **(1.97e-8)***
Grants	0.16 (0.126)	**0.044** **(0.0151)****	**0.28** **(0.023)****
Liabilities	0.0018 (0.0013)	**0.0041** **(0.0011)*****	**0.0036** **(0.0007)***
Log assets	3,222,737.78 (2,204,103.76)		1,267,480.71 (1,764,298.85)
Enrollment	2,573.90 (1708)	**-1,488.99** **(265.47)*****	882.58 (691.54)
Fac. salary	207.55 (231.91)		**526.38** **(222.65)***
US News Top 25	**27,414,397.74** **(12,987,490.09)***		9,855,543.69 (9,045,568.049)
Faculty:student	**-1,923,948.12** **(787,798.9)****		**-2,193,387.77** **(284,323.08)*****
Years in offc.	43,424.91 (157,480.11)		122,064.93 (120,069.21)
Constant	0.0000 (0.0000)	2,892,849.44 (931,521.70)**	-28,840,388.90 (27,520,096.32)
R-squared	.90		.92
N	1,185	965	1,185

Notes:
*: statistically significant at the 5% level against a two-sided test of the null
**: statistically significant at the 1% level against a two-sided test of the null
***: statistically significant at the .1% level against a two-sided test of the null
Robust standard errors clustered by president. Control variables insignificant in all specifications are not reported. Dollar figures reported in 1983 dollars.
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