DETERMINANTS OF CHANGE IN PRESIDENTIAL PAY AT PUBLIC COLLEGES AND UNIVERSITIES

by

WILLIAM KYLE TSCHEPIKOW

(Under the Direction of James Hearn)

ABSTRACT

The purpose of this study was to examine determinants of change in presidential pay at public universities and colleges. While much attention has been paid to presidential pay in the popular press, formal studies of this phenomenon are much less common, and those that do exist point to opportunities for improved understanding. This study addressed gaps in the literature on presidential pay by examining presidential pay change rather than pay levels, focusing exclusively on public institutions across three major institution types, and drawing on data as recent as the 2010-2011 academic year. Prevailing theories of executive compensation framed the development of seven hypotheses that were tested through regression analysis. Change in presidential pay over a five-year study period was hypothesized to be a function of change in institutional complexity, academic quality, fiscal integrity, and dependence on state funding.

This study found that change in presidential pay was most strongly associated with institutional complexity. Change in measures of fiscal integrity and change in measures of academic quality had essentially no effect on change in presidential pay, suggesting that the relationship between pay and performance is tenuous at best among presidents at public colleges and universities. Additionally, this study provided little evidence to support the presence of principal-agent dynamics in higher education organizations, as board composition had no effect on the relationship between pay and performance. Finally, this study found that presidential pay was unrelated to institutional dependence on state funding. This finding suggests that pay for presidents in public universities and colleges may be less responsive to demands for increased accountability and efficiency as originally proposed for this study.

INDEX WORDS: College Presidents, Compensation, Higher Education, Presidential Pay, Performance Factors, Pay Differentials

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DEDICATION

To Marla, whose love, companionship, and sacrifice made this achievement possible. You are, and will forever be, my one and only. And, to my son Liam, who inspires my best work. You are my greatest teacher.

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CHAPTER ONE

INTRODUCTION

Compensation for presidents at colleges and universities continues to be an important issue in American higher education. Over the last ten years, the discourse surrounding this subject has elaborated in popular higher education publications. A rudimentary search of the archives maintained by The Chronicle of Higher Education or *Inside Higher Ed*, for instance, yields a myriad of news stories, blog entries, and opinion pieces concerning pay and benefits for presidents across different states, sectors, and types of institutional control. These publications include a variety of perspectives from higher education journalists, presidents, faculty members, lawmakers, trustees, and other stakeholders. Much of this popular literature converges around two general areas: a) the magnitude of compensation levels for presidents and the seemingly exponential rate at which median levels have increased in recent years, and b) the elements commonly included in benefits packages for presidents, such as deferred compensation, paid leave, and entertainment allowances (e.g., Nicklin, 2000; Basinger & Henderson, 2003; Moltz, 2011). This introduction begins with a review of the popular literature on these two areas, turns to a summary of the central arguments presently advancing the debate on presidential compensation, and ends with a statement of the problem.

Compensation Levels

In the 1990s, *The Chronicle* began compiling and publicizing compensation figures annually on a sample of private institutions using the Internal Revenue Service's

(IRS) Form 990, which is filed by most major nonprofit entities ("About These Data," 2011). Basinger (2002) was one of the first to draw on these data to document increases in pay levels for presidents at private institutions. Using data from *The Chronicle's* 2000-2001 survey, she reported that the number of presidents who earned over \$500,000 in annual compensation more than doubled from 12 in 2000, to 27 in 2001. The president at the University of Pennsylvania was the highest earner in 2001, bringing in \$808,021 in total pay and benefits. Data from the following year's survey included four presidents at private institutions with annual compensation exceeding \$800,000 (Basinger, 2003). The president at Rensselaer Polytechnic Institute was the highest earner in this year's sample; he received \$891,400 in pay and benefits.

At the time the *Chronicle* published these reports by Basinger, such compensation levels were unprecedented in higher education. In reaction to Basinger's essay on the growing "\$500,000 club," former Harvard president Derek Bok (2003) observed that "salaries of that magnitude are relatively new; two decades ago, almost no college president would have earned more than \$150,000." Five years after Bok provided this assessment, presidential pay had reached an even higher threshold among independent postsecondary institutions. Fuller (2010) pointed out that 30 presidents at private universities and colleges in *The Chronicle's* 2008-2009 survey received compensation surpassing \$1 million. The highest paid sitting president in this year's sample resided at Southern Methodist University and earned \$2,774,000 in total compensation, including \$1.5 million from a life insurance policy that had been cashed out.

In the early 2000s, *The Chronicle* began collecting and making available compensation data on four-year public institutions with total enrollments of at least

10,000 and a classification as either Research University or Doctorate/Research University by the Carnegie Foundation for the Advancement of Teaching ("Compensation of Presidents of Public Universities," 2011). A summary report published by *The Chronicle* in 2010 showed significant growth in median compensation of public research universities between 2004 and 2009. In 2004, the median compensation among presidents who participated in the survey was \$276,420; five years later the median was \$436,111, representing an increase of 43%. The president at Ohio State University was the highest earner among public presidents in 2009, earning \$1,576,825 in pay and benefits. This president represented the only chief executive among public institutions to earn over \$1 million in 2009, compared with 30 presidents at private universities and colleges whose salaries exceeded this level (Fuller, 2010).

The debate on compensation levels for presidents at public institutions, in particular, has intensified as economic conditions among states continue to decline, competition for state appropriations among state-funded organizations increases, and calls for greater accountability and efficiency in higher education persist. Public statements of disapproval from faculty, students, and lawmakers alike have attracted national attention in recent years. In 2009, faculty at George Mason University passed a resolution demanding the president return a \$108,000 performance bonus to the institution "in a spirit of solidarity and shared sacrifice" with faculty (Stripling, 2009). Similarly, in 2011 a campus labor union at Indiana University called for the president's most recent raise to be reduced from 12% to 1.5% to mirror the salary increase received by its members ("In 3 States," 2011). Students have expressed disapproval as well. The student senate at Ohio University attempted to pass a resolution requiring their president to return an \$85,000 raise to the institution (Stripling, 2009). The resolution was voted down, but it demonstrated, nevertheless, the extent to which the issue of presidential pay has pervaded campus communities.

The most intense criticism, however, has come from elected officials. In California, for example, trustees at San Diego State University recently gave a new president a contract with an annual salary worth \$100,000 more than his predecessor (Kiley, 2011). In response, current Governor Jerry Brown wrote a letter to the chairman of the board of trustees of the California State University System requesting reconsideration of the salary increase. Brown stated, "at a time when the state is closing its courts, laying off public school teachers and shutting senior centers, it is not right to be raising the salaries of leaders who—of necessity—must demand sacrifice from everyone else." In concert, California Senator Leland Yee pledged to introduce a bill that would disallow large salary increases for administrators in the university system during poor economic times. (Yee introduced a similar bill in 2009, which then Governor Arnold Schwarzenegger ultimately vetoed.) Other lawmakers in California threatened to reduce appropriations to the system once economic prosperity returns. A similar situation unfolded in the Pennsylvania State System of Higher Education in 2009 (Stripling, 2009).

Benefits Packages

Critics have challenged benefits packages for presidents in higher education as vehemently as pay levels. According to Fisher (1991), benefits packages typically include a combination of *golden handcuffs* and *golden parachutes* designed to attract and retain quality presidents. An entertainment allowance, or expense account, is a common golden handcuff, and this financial incentive was the subject of criticism at two community colleges in 2011 (Moltz, 2011). The Record, a newspaper in northern New Jersey, published a report detailing entertainment expenses by the president at Bergen Community College, which averaged \$30,000 a year since his arrival in 2007 (Alex, 2011). The report provided a sampling of the president's expenses, including \$1,145 on a commencement luncheon for 22 college trustees and executives, \$750 on a golf fundraiser for a local chamber of commerce, and \$220 on dinner with a trustee in Washington, DC. The president defended the entertainment expenses, claiming they were appropriate and necessary for fundraising and development. Local politicians, on the other hand, condemned the spending behavior as irresponsible during challenging economic conditions. The Daily Herald ran a similar story investigating the entertainment expenses by the president at Harper College in Chicago, which amounted to \$24,000 in 2010 (Lester, 2011). Opponents and supporters of the president's entertain expenses posited arguments akin to those surrounding the incident at Bergen Community College. Scrutiny over expense accounts is not exclusive to community colleges. In fact, a recent news story investigated the expense account of the president at the University of Hawaii, whose compensation package included \$150,000 in entertainment allowances in 2010 (Moltz, 2011).

Many presidents also receive golden parachutes, often called retreat packages, as part of the benefits package. Vermont Public Radio recently disclosed the retreat package for the outgoing president at the University of Vermont. Upon resignation, this president received 17 months of paid leave at a salary of \$27,000 per month and a tenured faculty appointment in the department of English. This case at the University of Vermont is one in a series of recent high-profile presidential departures that raised questions about the use of golden parachutes in higher education. Perhaps the most compelling case involves the outgoing president at Rutgers University (Kiley, 2011). The president there plans to transition to faculty in 2014 and will become the highest-paid faculty member on campus, making \$335,000 annually in total compensation. The president's contract guaranteed that upon resignation he would make no less than the highest-paid faculty member on campus. According to Kiley, many private institutions tailor retreat packages to the talents and predilections of each president, while many public institutions must comply with state-wide policies. In Florida, for instance, presidents at public institutions who return to faculty are entitled to 75% of their presidential pay. In the neighboring state of Georgia, the pay for public presidents who return to faculty is stepped-down gradually over time, until it is consistent with what a similar faculty member receives.

More than the pecuniary value of benefits packages, however, critics appear concerned about the lack of transparency regarding the items included in benefits packages. The IRS Form 990 does not require universities and colleges to itemize benefits packages for presidents completely. Schedule J of Form 990 requires compensation information to be disaggregated into the following categories: base compensation, bonus and incentive compensation, other reportable compensation, retirement and other deferred compensation, and nontaxable benefits. While one can ascertain total compensation from this form relatively easily, it is difficult to discern the exact makeup of a president's benefits, which may include an array of undisclosed financial incentives. According to Nicklin (2000), critics contend trustees may use benefits to increase presidential compensation surreptitiously, assuming this facet of a president's compensation will draw less attention than pay because of its relative ambiguity. Critics argue that this lack of transparency is unfair to stakeholders who cannot easily discern how and to what level institutions are compensating their senior leaders.

The Debate

This debate on compensation for presidents in higher education can be summarized as a clash between the traditions of academe and the need to recruit and retain top talent. Opponents argue that the magnitude of current compensation levels for presidents conflicts with academic values such as equity, community, and social responsibility, often described as integral to the mission of universities and colleges. Moreover, opponents, especially elected officials, question whether such compensation is appropriate for the special class of organizations of which postsecondary institutions are a part. Universities and colleges are 501(c)(3) nonprofit organizations—often referred to as charitable organizations—which, as mentioned above, maintain tax-exempt status. Organizations with this designation are prohibited by the IRS from providing excessive compensation to executives. According to the IRS, charitable organizations must not pay executives "more than reasonable compensation for services rendered" ("Governance and Related Topics," 2008). As one might imagine, the definition of "reasonable compensation" is debatable, and the IRS provides little guidance on the issue.

In his recent manual for college presidents, Bowen (2010) ponders the concerns shared by opponents of high compensation: "I wonder if the general level of salaries has not become higher than it should be, given the special place of these not-for-profit institutions in our society" (p. 33). He went on to describe potential consequences of excessive compensation. Noting the seemingly growing gap between presidential pay and

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faculty pay, he cautions that salary differences between faculty and administrators undermine the collegiality vital to a college's success. Bok (2002) underscored this position:

> When a strong voice is needed to urge faculty members to maintain appropriate teaching loads, reform the curriculum, or resist intemperate student demands, richly compensated leaders may find their words falling on deaf ears.

Bowen also cautioned that "damage can be done externally if a sense of greed is communicated" (p. 33, 2011). According to a recent article in *The Chronicle*, external damage may have occurred to a certain extent already. Stripling and Fuller (2011) report lawmakers have taken note of escalating presidential pay in public universities and colleges and the message it sends to the public at a time when most states struggle to balance budgets. Stripling and Fuller also report some presidents have acknowledged their pay has become a serious vulnerability in the battle to maintain state appropriations.

On the other side of the debate, many have publicly defended current practices of presidential compensation. Proponents have argued golden parachutes, such as tenure and salary provisions, give the president courage to protect academic freedom, institutional autonomy, and other academic values from challenges by governing boards and legislators (Kiley, 2011). The most common defense, however, views compensation as the most effective way to attract, motivate, and retain qualified candidates. Proponents argue that private corporations of similar size and complexity provide much better pecuniary benefits to chief executives and that competitive salary and benefits are necessary to draw top talent away from more lucrative leadership opportunities in the

private sector. Moreover, some proponents believe rising compensation levels reflect an impartial and competitive labor market for academic leadership in which there continues to be a greater demand for qualified and talented candidates than supply of such individuals (e.g., Fuller, 2010). This imbalance, it is argued, favors candidates who are able to demand higher compensation levels from universities and colleges.

Statement of the Problem

While much attention has been paid to presidential pay in the popular press, formal studies of this phenomenon are much less common, and those that do exist contain limitations that point to opportunities for improved understanding. For example, most studies in this area examine presidential pay levels rather than change in presidential pay. As a result, it is difficult to draw conclusions regarding the rate of change in compensation levels for presidents, which, as documented above, is a central issue in the debate on presidential pay. On a related point, many studies in this area relied on a crosssectional analysis of one time point. This limitation makes it difficult to discern how changes in the environment over time, such as economic conditions or institutional performance, affect presidential pay. The relationship between pay and performance is also a central thread in the debate on executive compensation in higher education.

Furthermore, most studies focus heavily on private institutions, providing little exploration of public institutions. In fact, of the six studies on presidential pay identified in the literature review for this study, only two examined pay at public universities (Pfeffer & Ross, 1988; Monks, 2007). Yet, as noted in this introduction, scrutiny of presidential pay at public universities and colleges has increased dramatically in recent years. In addition, previous studies provided little coverage across institution types. Most examined presidential pay at doctorate-granting universities or selective liberal arts colleges. Masters granting institutions have been neglected by and large; only two studies on presidential pay included these institutions (Pfeffer & Ross, 1988; Ehrenberg, Cheslock, & Epifantseva, 2001); yet these institutions comprise a significant portion of postsecondary institutions in the U.S.

In addition, with the exception of one study (Pfeffer & Ross, 1988), previous studies used compensation data from one source, *The Chronicle of Higher Education*, which maintains compensation data for a select number of universities and colleges. Researchers have yet to draw on other reliable sources of compensation data that may reinforce or challenge previous findings. As a final limitation, in general, the empirical literature on presidential pay is theoretically underdeveloped. Many studies lack a theoretical framework altogether, and those with guiding theories have produced inconsistent results. These limitations illustrate the need for further research on presidential pay in higher education.

Additional research in this area could take several directions. One might consider examining benefits packages for presidents, for example. This study might focus on the extent to which golden parachutes and golden handcuffs are used in benefits packages and how this use varies by institution. One might also consider examining pay structures within institutions of higher education. This study might focus on differences in pay levels and benefits packages between senior administrators and faculty. Considering the debate outlined above, however, the most important direction to take at this point in time is one that leads to a better understanding of change in salary levels for presidents at public universities and colleges. It is this phenomenon that appears to be the least understood among scholars of higher education and the most important to its stakeholders.

Purpose of This Study

The purpose of this study is to examine determinants of change in presidential pay at public universities and colleges. This study aims to improve upon previous work in this area in several ways. First, the present study concentrates exclusively on presidential pay change rather than pay levels. Previous studies have focused more heavily on the latter phenomenon, leaving gaps in our understanding of the relationship between institutional performance and change in presidential pay over time. Second, the researcher focuses exclusively on public institutions of higher education. As noted above, previous studies have neglected these postsecondary institutions by and large. This study also includes universities and colleges across three major institution types: doctorate-granting universities, master's colleges and universities, and baccalaureate colleges. Most studies of presidential pay to date have excluded master's colleges and universities.

Furthermore, compensation data for this study derive from the Faculty Compensation Survey administered annually by the Association of University Professors and Colleges (AAUP). This study is apparently the first on presidential pay to draw on administrative compensation data collected through this survey. These data include the 2010-2011 academic year, and, therefore, provided the most up-to-date empirical examination of presidential pay thus far. The statistical methods employed in this study arguably provide another improvement upon previous work. Longitudinal analysis of recent data better capture the relationship between change in presidential pay and change in institutional performance in the public sector than traditional cross-sectional models. As noted above, previous studies have relied heavily on the latter approach.

Finally, this study aims to contribute in new ways to the literature base on presidential pay in higher education by examining the extent to which prevailing theories of executive compensation explain change in presidential pay. In doing so, this study refocuses the discourse on presidential pay within a theoretical rather than descriptive framework. With a broader institutional profile, more recent data, and a longitudinal statistical approach, this study provides a fresh and theoretically grounded examination of the relationship between change in institutional performance and change in presidential pay at public universities and colleges.

CHAPTER TWO

LITERATURE REVIEW

Presidential pay in universities and colleges is a reflection of compensation practices and policies governing the nonprofit sector—of which universities and colleges are a part—as well as the corporate sector, comprised of businesses whose principle aim is to generate profit, often called for-profit organizations to draw contrast with their notfor-profit counterparts. To acquire a fuller understanding of presidential pay in higher education it may helpful to examine executive compensation in this broader context. To that end, this literature review begins with an examination of executive compensation in the corporate sector, turns to a survey of the literature base on executive compensation in the nonprofit sector, and ends with a narrower look at executive compensation in higher education specifically. The first two sections are organized in parallel. Each addresses the following areas: a) public opinion; b) the legal framework governing wage-setting practices; c) the role of boards of trustees; d) the special relationship between pay and performance; and e) existing empirical studies on determinants of pay germane to this study.

The last section on higher education takes a deeper look at public universities and colleges as distinct nonprofit organizations. It begins with a discussion of organizational dynamics. These dynamics are revealed through prevailing classification systems. From there, this section turns to presidential leadership, paying particular attention to definitions of success for a typical president, who must satisfy various constituents with

divergent, competing, and often irrational interests. Next, this section describes the responsibilities of trustees in higher education and gives emphasis to setting pay for presidents and monitoring organizational performance. This section concludes, like previous two, with a review of existing empirical studies on presidential pay germane to this study.

Executive Compensation in the Corporate Sector

Public Opinion

While concern over presidential pay is a relatively new phenomenon, the American public has long expressed dissatisfaction with executive compensation in the corporate sector. Milkovich and Rabin (1991) documented this enduring criticism through a review of fifty years of media accounts and opinion polls on corporate CEO pay dating back to the 1930's. The authors identified five recurring themes in the popular press:

- 1. American corporate executives are overpaid.
- 2. Compensation agreements shield executives from the sacrifices and risks faced by other employees and tend to conflict with the long-term interests of firms.
- 3. Executive compensation is not determined logically.
- 4. Corporate policies involving executive pay ignore the interest of shareholders.
- 5. Changes in executive compensation are unrelated to changes in the performance of firms; pay levels increase even when firm performance declines.

Contemporary criticism mirrors these themes (e.g., Cho, Goldfard, & Tse, 2009; Martin, 2009; Gross, 2010; and Task, 2011). Recalling the first theme in Milkovich's and Rabin's list, *Forbes* recently published an opinion piece entitled "Billionnaires, Your Time Has Come," which recounted protests occuring on Wall Street to challengeamong other things-percieved income inequality between highly-paid executives and the average worker (Lenzer, 2011). Lenzer reported that CEO pay is up to 350 times the median wage in industry. In a similar vein, a report in the *The Economist* exclaimed "overpaid bosses are back," describing the sharp rise in median pay for executives at publicly traded companies from \$10.1 million in 2010 to \$12 million in 2011. According to the article, this increase occurred after a three year period of declines. The "days of eating at Taco Bell and wearing second-hand clothes are over," the author asserts facecitiously. Regarding the second theme in Milkovich's and Rabin's list, Task (2011), a writer for *The Daily Ticker*, documented the golden parachutes received by several executives deemed to have failed in their positions. Task noted several examples from 2011 alone: the CEO at Burger King received \$20 after leaving in April of 2011; the CEO at Bank of New York Mellon received \$17.2 million in severance after being ousted in June; and the CEO at Yahoo received \$10 million in cash and stock options after being fired in September.

Additional examples of outrage over executive compensation in the corporate sector abound in popular literature, and it is clear that the recurring themes identified by Milkovich and Rabin adequately characterize public opinion today. What is often left unclear in the popular press, however, is how compensation for executives is determined. Who is actually responsible for setting pay for executives? What rules and regulations, if any, exist to guide this activity? Who is responsible for ensuring compliance with any dictates? Finally, if pay for corporate bosses is unrelated to performance, as many media accounts imply, what factors, in fact, influence pay levels and change in pay. These questions are difficult to answer. They are imporant questions to raise here because they illustrate not only the complexity of the issues surrounding executive compensation in the corporate sector but also the importance of viewing pay for chief managers as a function of individual, orginazational, and environmental factors. After all, compensation for executives is hardly set in a vacuum. Boards of trustees determine contracts on a case by case basis within a highly regulated and highly competitive labor market. Factors such as an executive's personal attributes and preferences, a firm's size and ability to pay, industry norms, and IRS regulations all come into play. The remaining part of this section is devoted to exploring these factors and others with an emphasis on the role played by boards of trustees.

Boards of Trustees and CEO Pay in the Corporate Sector

Legal framework. States issue charters for companies to become legal corporations, and corporation law in most states requires companies operating under a charter to maintain an independent governing board, often called a board of trustees or board of directors (Balsam, 2002). For example, the General Corporation Law in the state of Delaware, which houses approximately 60% of the Fortune 500 companies and about 50% of the companies listed on the New York Stock Exchange, states that "the business and affairs of every corporation organized under this chapter shall be managed by or under the direction of a board of directors" ("Subchapter IV," 2011). When a company goes public—i.e., has an initial public offering—it becomes subject to additional regulation by the Securities and Exchange Commission and the specific exchange upon which it is listed. The New York Stock Exchange (NYSE), for example, requires companies to have an audit committee comprised of at least three directors

whose relationship with the company does not interfere with their ability to govern independently (Balsam, 2002). Similarly, NASDAQ requires each company's board to have a majority of independent directors and an audit committee consisting of at least three independent directors "who have the requisite financial experience and expertise" ("NASDAQ Regulatory Requirements," 2010). Ultimately, these requirements and regulations are intended to protect shareholders by establishing a relatively independent governing body with a legal responsibility to put owners' fiduciary interests first.

Setting compensation for executives. A typical board of trustees maintains a number of responsibilities. According to Ellig (2007), boards are responsible for approving long-term and short-term plans for the company, adopting or amending company bylaws, determining the size of the board and appointment of directors, approving any major organization changes, ensuring compliance with standards and regulations regarding shareholders' interests, and-perhaps, most importantly-hiring, firing, and setting compensation forms and levels for executives. Boards have several options in determining compensation packages. Common components in such packages include salary, bonus pay, stock options, stock grants, pensions, and perquisites (Balsam, 2002). Salary, the most common pay form, is a fixed amount of pay that does not typically vary with performance. Bonus pay, on the other hand, is generally contingent upon pre-determined performance indicators, e.g., sales, profit, net income, customer and employee satisfaction. Stock options allow the executive to purchase shares of stock at a fixed exercise price over a designated period of time. The value of stock options increases to an executive when the corporation's share price increases to a point beyond the executive's contracted exercise price. In theory, this compensation component serves

to align the interests of the CEO with the interests of the shareholders, who also benefit from increases in stock prices. In a similar vein, stock grants occur when a firm gives shares (with no exercise price) to an executive. Pensions are a form of deferred compensation. After retirement, the executive receives payment in some form, and this payment could be predefined or based on contributions to a personal retirement account. Finally, perquisites can include appointments on corporate boards, housing arrangements, a car, access to a company jet, memberships to social clubs, special insurance policies, and the ability to borrow money from the firm at low interest.

Balsam (2002) reviewed data over a nine-year period to understand the frequency with which boards included these common components in compensation packages for executives. The data were derived from ExecuComp, which is the executive compensation resource in Standard and Poors' Market Insights, and included approximately 1500 publicly-traded firms: the S&P 500, S&P MidCap 400, and S&P SmallCap 600. Table 2.1 illustrates the fraction of these firms including each form of pay in their CEOs compensation package by year. Salary and pension are the most commonly used form of compensation, with all firms in the sample using them all years in the study period. The use of annual bonuses and long-term bonuses remained relatively stable from 1992 to 2000, hovering around 80% and 15% respectively. The use of stock options and grants, however, increased remarkably. Half of firms in the study used stock options in 1992, and 79% did in 2000, representing an increase of approximately 30%. The use of stock grants also increased but less dramatically, rising from 17% to 22%.

Table 2.1

Fraction of Firms Paying Salary or Bonus or Granting Options, Shares, and Pension

Year	Salary	Annual Bonus	Long-term bonus	Stock option	Stock grants	Pension	
1992	1.00	0.81	0.16	0.50	0.17	1.00	
1993	1.00	0.81	0.14	0.62	0.17	1.00	
1994	1.00	0.82	0.13	0.64	0.17	1.00	
1995	1.00	0.82	0.16	0.63	0.18	1.00	
1996	0.99	0.81	0.15	0.67	0.19	1.00	
1997	0.99	0.83	0.15	0.68	0.18	1.00	
1998	0.99	0.80	0.15	0.71	0.19	1.00	
1999	0.99	0.79	0.15	0.75	0.19	1.00	
2000	0.99	0.81	0.17	0.79	0.22	1.00	
Same Palace 2002							

Benefits to Their CEOs by Year

Source: Balsam, 2002.

Using the same dataset, Balsam (2002) looked at the median proportion of executive compensation represented by each component by year. Table 2.2 shows a sharp decrease in salary as a proportion of executives' total compensation package. In 1992, half of the average executive's compensation package was in the form of salary. By 2000, this figure had dropped to 20%. Annual bonus fell as well, dropping from 20% to about 15% of the average executive's total compensation. Stock options, on the other hand, increased as a proportion of executive compensation over the study period. In 1992, this component comprised less than a quarter of the average executive's compensation package. By 2000, this figure had increased by 20%. Taken together, Table 2.1 and Table 2.2 suggest trustees are increasingly relying on stock options to compensate executives in lieu of more traditional pay forms like salary and bonuses.

Table 2.2

		Annual Bonus	Other annual	Long- term	Stock	Stock grants	
Year	Salary			bonus	option		All other
1992	0.43	0.20	0.02	0.04	0.21	0.04	0.04
1993	0.44	0.21	0.01	0.03	0.23	0.04	0.04
1994	0.42	0.21	0.01	0.02	0.26	0.04	0.04
1995	0.41	0.21	0.02	0.03	0.24	0.04	0.04
1996	0.38	0.20	0.02	0.04	0.29	0.04	0.04
1997	0.35	0.20	0.03	0.04	0.32	0.04	0.04
1998	0.34	0.18	0.03	0.03	0.35	0.04	0.04
1999	0.31	0.18	0.02	0.03	0.38	0.04	0.04
2000	0.27	0.18	0.02	0.03	0.42	0.05	0.04

Proportion of Compensation Package Represented by Components by Year

Source: Balsam, 2002.

Pay and performance in the corporate sector. An important question to examine is why this shift toward stock options occurred. One explanation may be found in pay reforms that occurred in the 1990s. Bachelder (2007) provided a helpful list of rule changes over the last two decades. In 1992, for example, the SEC broadened requirements concerning the disclosure of executive pay on companies' proxy statements (these requirements were expanded again in 2006). This new reporting requirement was designed to make executive pay more transparent to shareholders. In response, trustees may have become more sensitive to the mix of components in compensation packages. Increasing the portion linked to shareholder value, like stock options, would be one strategy to deflect criticism regarding pay levels. Additionally, in 1993, Congress enacted Code §162(m), which imposed a limit of \$1 million on deduction of pay unrelated to performance. Performance-based pay was defined as pay contingent upon the accomplishment of performance goals. According to Bachelder, "stock options with an exercise price of no less than fair market value of the stock on the date of grant generally have been treated as 'performance-based pay' and thus are eligible for the exception." Viewed together, it appears that regulators were interested in more closely aligning pay and performance. In response, trustees may have increased the use of stock options in compensation packages, as one clear measure of firm performance.

Along this line of thought, Foulkes (1991) described a rise in "strategic compensation," in which boards began more intentionally building compensation packages for executives to reflect the goals, vision, and mission of the firm. In other words, boards began aligning pay and performance more intentionally. This approach involves connecting the time frame and nature of rewards in the compensation package to the nature of the business and its primary measures of success. It also involves finding the right mix of short-term and long term rewards as well as fixed and variable pay. Balsam described this process well:

Corporations normally include multiple forms of fixed and variable compensation because each component has a different effect on employee motivation and risk and different costs to the corporation. Executives have bonus plans based to some extent on controllable variables to offset the risk of stock-based compensation, which is in part driven by uncontrollable market forces. (p.45, 2002)

For these reasons, decisions about the components in a compensation package may be viewed as reflection of a firm's short-term and long-term strategies as well as the board's interest in certain performance indicators, such as growth in market share or increased shareholder value (Milkovich & Rabin, 1991). A company highly interested in increasing shareholder value in the short term might build a package with a relatively larger portion of compensation based in stock options and bonus pay in order to incentivize behaviors that foster those immediate goals. On the other hand, a company looking for long-term growth and stability might tie a larger proportion of the compensation package to the executive's tenure with the company through bonus pay and deferred compensation. This mix might encourage the executive to remain with the firm for a longer period of time.

Of course, as Malkovich and Rabin observed, the design of the compensation package also signals the firm's values to a potential executive. If risk taking behavior is valued, the board may include more fixed forms of compensation, such as salary and defined benefits, to protect the executive against fluctuations in firm performance resulting from experimentation in emerging markets. Conversely, if the board has a clearly defined set of goals for firm performance and desires a narrow business strategy, compensation may be tightly coupled to performance on indicators or benchmarks aligned with these goals exclusively. The latter approach includes much more variability and risk in the executive's compensation than the former but may ultimately reward the executive with greater remuneration if the company performs well.

The take home point here is that the relationship between firm performance and executive compensation in the corporate sector has become more important in recent years, as it has in higher education. This trend is being driven by public opinion, reform attempts by regulators, and academic literature. This trend can be seen in shifts that have occurred in how trustees configure compensation package, relying progressively more heavily on variable pay options that reflect firm performance. Considering these points, it should not be surprising that much of the recent empirical work on executive compensation, introduced next, examined the relationship between pay and performance.

Determinants of Executive Compensation in the Corporate Sector

A wealth of scholarship has explored determinants of executive compensation in the corporate sector. Much of this work can be categorized into three broad categories: characteristics of the board and CEO, firm size, and pay-performance link. Of course, these areas are highly interrelated and difficult to disentangle and test empirically. Nevertheless, it may be helpful to organize this part of the literature review by these categories, beginning with board characteristics.

Characteristics of the board. Boards are comprised of outside and inside trustees, often called directors (Balsam, 2002). Inside directors are individuals employed with the corporation on a full-time basis, such as the CEO, who often serves as the chairmen of the board. Outside directors, on the other hand, are individuals for whom the company is not a primary means of employment. These individuals are expected to maintain a certain degree of independence from the company in order to fulfill obligations related to shareholders' interests. (One may recall the exchange regulations discussed above, which describe the board's responsibility to protect the fiduciary interest of shareholders.) Yet, outside directors are often hired by the CEO, creating the potential for a relationship that undermines directors' ability to maintain independence. Critics in this area contend that trustees are, in fact, easily influenced by the CEO and, therefore, unable to set compensation for executives in a way that promotes the interests of shareholders (Core, Holthausen, & Larcker, 1998). To test this contention empirically, Core et al. examined whether there is an association between the level of CEO pay and the composition and quality of corporate governing boards. They found that board characteristics have a significant effect on the level of CEO compensation. Specifically, pay was higher when the CEO acted as the chair of the board, when the board was larger, in cases where outside directors were appointed by the CEO, and when a greater proportion of outside directors sat on the board. Core et al. concluded that weaker corporate governance structures led to higher pay for executives.

This study by Core et al. (1998) is one in a growing body of literature exploring the relationship between board characteristics and executive composition in the corporate sector. Many of these studies view this issue from a social psychological perspective. One of the earliest studies in this vein was conducted by O'Reilly, Main, and Crystal (1988), who used social comparison theory (Festinger, 1954) to examine the association between executive compensation and the salary level of board members. O'Reilly et al. found a positive correlation between CEO pay and the mean salary of outside directors who served on the firm's compensation committee. An extra \$100,000 in mean salary for outside directors on the compensation committee was associated with an increase in \$46,000 in expected salary for the CEO. Moreover, they found that an additional \$100,000 in salary for the highest paid outside director on the committee resulted in an increase of \$36,000 for the chief executive. These findings suggested that the salary level of the individuals setting compensation is significantly related to the pay level determined for executives. In a more recent study, Fredrickson, Davis-Blake, and Sanders (2010) looked at the effect of social comparisons on pay dispersion among members of the CEO's internal management team and found convergent results.
In a related study, O'Reilly and Main (2010) looked at how the CEOs' ability to exert influence over their boards shaped the wage-setting process. They hypothesized that two common psychological processes enacted by CEOs, reciprocity and social influence, would render a board less able to remain independent and promote shareholders' interests. O'Reilly and Main found a positive relative relationship between the fees provided to the chairmen of the board and the salary set for the CEO. They concluded that reciprocity and social influence explained additional variance in CEO pay beyond that accounted for by more commonly tested economic predictors. Other studies have examined CEO influence as well and, collectively, they suggested that social interaction between CEOs and board members influenced the wage-setting process. Examples included a study by Fiss (2006), which looked at social influence effects in German firms, and an earlier study by Belliveau, O'Reilly, and Wade (1996), which examined the effect of differences in social capital between the CEO and the board.

Firm size. The relationship between executive compensation and firm size has been well documented in the literature (e.g., Argawal, 1981; Gomez-Mejia, Tosi, & Hinkin, 1987; Kostiuk, 1990; Lambert, Larcker, & Weiglet, 1991; and Tosi, Werner, Katz, & Gomez-Mejia, 2000). Size is often defined as sales volume, assets, or number of employees (see Tosi et al. for a more extensive list of measures for size). In an earlier study, Argawal (1981) measured company size as sales volume and found this measure explained about 62% of the variance in executive compensation among 168 US life insurance companies. O'Reilly, Main, and Crystal (1988) also found sales volume to be related to executive compensation, but with less explanatory power. Gomez-Mejia, Tosi, and Hinkin (1987), on the other hand, examined how a firm's type of ownership affects its CEO's compensation. They found that size, measured as sales volume and total dollar profits, was a statistically significant predictor of pay in manager-controlled firms but not in owner-controlled firms, suggesting that stockholders and executives valuate organizational characteristics differently when establishing pay for executives.

One of the more extensive examinations in this area was carried out by Kostiuk (1990), who used several data sets across different industries, time periods, and countries to test the effect of firm size on executive compensation. The author drew three samples from three different time periods: 1934-1939; 1980; and 1969-1981. Firms in the sample ranged from petroleum manufacturers, to food producers, to utilities providers, and were located in the US and Britain. For most analyses, size was measured as a firm's assets. Kostiuk found remarkable stability in the relationship between size and executive compensation over time, across firms, and between the two countries. In fact, in the primary regression analyses, the coefficients for assets across three different samples from different time points varied narrowly from .247 to .295. Further support for the strength of this relationship can be found in a more recent meta-analysis conducted by Tosi et al. (2000). They analyzed 137 articles and unpublished manuscripts and found that indicators of firm size accounted for about 40% of total CEO compensation.

CEO Pay Change and Firm Performance. It is worth mentioning again that the relationship between performance and pay has been the subject of much scrutiny in recent years, and recent signals from regulators (Bachelder, 2007), the public (Task, 2011), and critics (Martin, 2009) suggest that this issue may only grow in significance. As pay for executives has escalated over the years, stakeholders have demanded justification—often pointing to a need for pay to align more closely with individual and

firm performance. Academicians have also given this subject great consideration, especially in the 1990s, at which point empirical studies in this area proliferated. The findings from these studies rarely converged, however. To a certain extent, inconstancy can be explained by definitional variation; like the size variable, scholars have operationalized firm performance in numerous ways. In their meta-analysis, Tosi et al. (2000) provided a list of common measures including the market value of the assets relative to book value, return on equity, return on investment, changes in the market value of the firm, and net profit—just to name a few. Definitional variation makes it difficult to compare studies. It also reveals the complexity and subjectivity involved in examining the relationship between change in firm performance and change in executive pay among corporate firms. Nevertheless, a review of the literature in this area can uncover important themes regarding this relationship in the corporate sector while, at the same time, setting the stage for an examination of this same phenomenon among presidents in public higher education.

A study by Gomez-Mejia, Tosi, and Hinkin (1987) looked at differential effects of performance on change executive compensation in owner-controlled and managementcontrolled firms. They measured performance as a factor containing nine variables ranging from earnings per share to dollar profits. They found that CEOs pay is more responsive to performance in owner-controlled firms with dominant stakeholders. The performance factor explained seven times the amount of variance in the percent change in total compensation for the owner-controlled firms than the management-controlled firms. They did, however, find that performance was a weak predictor of CEO pay in management-controlled firms. They cited these findings as one explanation for inconsistent results in previous studies that did not control for ownership.

Leonard (1990) examined executive pay change and firm performance among 20,000 executives at 439 businesses between 1981 and 1985. Using a fixed-effects model, the author found, by and large, that change in executive pay was not related to change in firm performance, as measured by corporate sales, profits, or unit sales. The elasticity of pay with respect to corporate sales was only .122 and to unit sales was only .028. Moreover, a typical firm whose sales fell by half could expect to see CEO pay reduced by 9%. Leonard did find that executive pay was more strongly associated with profits; yet, the effect was still modest. The value of rights to stock options was not included in these calculations, which represents a major limitation in this study. As noted above, deferred compensation can alter pay sensitivity greatly.

In a more recent study, Hall and Liebman (1998) included CEO holdings of stock and stock options. Their analysis spanned a period from 1980 to 1994 and included data on 478 large US firms. Contrary to Leonard (1990), the researchers found a strong relationship between firm performance and executive compensation, and they attributed much of the sensitivity between these two variables to changes in the value of CEO stock holdings and stock options. Specifically, they found that the median total compensation for a typical CEO is about \$1 million if the firm's stock has a thirtieth percentile annual return and \$5 million if the return is in the seventieth percentile. Hall and Liebman also showed that the responsiveness of executive compensation to firm performance rose dramatically over the study period. The median elasticity of CEO pay vis-à-vis firm market value tripled from 1.2 to 3.9 between 1980 and 1994. They concluded that the use of stock options may reflect attempts by boards to more closely align CEO pay with firm performance.

Taken together, these studies provide mixed evidence regarding the strength of the relationship between change in executive compensation and firm performance in the corporate sector. Thus, while signals from regulators and the like continue to emphasize the need for closer alignment between performance and pay for executives, the empirical evidence remains unclear as to whether or not corporate trustees have shifted wage-setting practices in this direction.

Executive Compensation in the Nonprofit Sector

Public opinion

Public criticism of executive compensation in the nonprofit sector has been similar to that aimed at the corporate sector. In *Forbes.com*, for example, Bell (2009) called into question the "saintly salaries" received by America's "nonprofit millionaires," a term used to describe well-paid executives who run major nonprofit organizations. Referencing a recent report by *The Chronicle of Philanthropy*, Bell reported the highestearning nonprofit executives in 2008. The CEO of Partners HealthCare System topped the list receiving \$3.4 million in compensation. The director for the Museum of Modern Art in New York City was second on the list, earning \$2.7 million. In a moment of journalistic freedom, Bell quipped, "There's nothing quite like driving your Ferrari home to your 6,000 square foot mansion after a long, hard day of fighting for the cause." Writing more recently for the *Huffington Post*, Harris (2010) reported that in 2010 nearly 30% of nonprofits gave raises to executive staff, even as donations to nearly every nonprofit fell due to a persistent economic recession. The criticism of presidential pay was documented in the introduction to this study. Critics have written a good deal about executive compensation at nonprofit hospitals as well. Such criticism led Zingheim, Schuster, and Thomsen to proclaim an executive compensation crisis in nonprofit hospitals and medical groups in 2005. They detailed the consequences for nonprofit organizations of failing to ensure that executive compensation is reasonable, peer-based, and aligned with performance. A couple of recent incidents suggested their advice may have been ignored by some. Asinof (2011), for instance, reported on recent uproar from the union at Rhode Island Hospital over compensation levels for executives. According to the report, the president and CEO received \$1.1 million in salary and benefits, including \$573,675 in base salary, \$379,376 in bonuses, and \$92,035 in retirement or deferred compensation. A member of the labor union captured a common position taken by critics of executive compensation in health care organizations:

It looks like another example of corporate greed. When you look at their executives' salaries, bonuses and supplemental retirement, compared to that of what employees are making – and the sacrifices we've been asked to make during the last several years.

The chairman of the board defended the CEO's compensation, pointing to the size and complexity of the organization as well as a need to hire and retain skilled executives as rationale.

Buettner (2011), a writer for the *New York Times*, reported on a similar case at the Young Adult Institute Network, a Medicaid-financed nonprofit organization established to serve developmentally disabled individuals. The top two executives, who happen to be brothers, earned approximately \$1 million each in compensation in 2010 and maintained homes in the Hamptons, Sutton Place, and Palm Beach Gardens. According to the report, one of the brothers charged the Network \$50,400 for his daughter's living expenses during one year of graduate school at New York University. The executive retired two days after the *Times* inquired about this particular expenditure.

This incident at the Network led Governor Cuomo to establish a task force to investigate executive compensation at nonprofit organizations that receive subsidies from tax payers in the state. The Governor declared that "executives at these not-for-profits should be using the taxpayer dollars they receive to help New Yorkers, not line their own pockets." Just a few months earlier, Governor Christie, of neighboring New Jersey, moved to restrict salaries to \$141,000 for CEOs at social service agencies that receive state subsidies (Firstenberg & Frederick, 2011). These efforts on the east coast follow earlier legislation in California. In 2004, this state passed the Nonprofit Integrity Act of 2004 in response to several high-profile cases of fraud involving nonprofit organizations (Neely, 2011). Among other regulations, the bill required boards of trustees to approve the compensation of executives and to ensure pay levels are just and reasonable.

These examples reveal similarities in the issues relating to executive compensation between nonprofit and corporate organizations. Pay is deemed excessive. Executives are seen as greedy. Trustees are considered inept. And pay levels are seen as tenuously associated with performance, if at all. Yet, corporate firms and nonprofit organizations are categorically different in many respects. Nonprofits, for instance, are not established to generate returns to shareholders; rather, they are established for charitable purposes. Additionally, while nonprofit organizations can generate a profit (revenue over expenses) at the entity level, returns cannot be redistributed for the benefit of executives—or any employee, for that matter. These differences and others have implications for executive compensation in the nonprofit sector as well as presidential pay in higher education. The remainder of this section is devoted to exploring these differences with an emphasis, again, on the role played by boards of trustees. It should be noted that much of what follows applies to public universities and colleges; however, a more detailed look at these organizations, specifically, will be provided in the last section of this chapter.

Boards of Trustees and Executive Compensation in the Nonprofit Sector

Legal framework. Before examining boards specifically, it may be helpful to review briefly some defining elements of the nonprofit sector. Like corporate firms, nonprofits operate within a legal framework that is normally established and regulated by states. Approximately 70% of nonprofit organizations are classified as 501(c)(3) by the IRS (Worth, 2009). Organizations in this classification—often called charitable organizations—are exempt from paying federal taxes on income and are eligible to receive private gifts that are tax deductible for the donor. Common examples of a 501(c)(3) include churches, public universities and colleges, and hospitals. In order to receive the 501(c)(3) classification, an organization must be devoted to one or more of the following eight purposes: a) charitable; b) religious; c) educational; d) scientific; e) literary; f) testing for public safety; e) fostering amateur sports competition; and f) prevention of cruelty to children or animals. In addition, the organization must comply with the private inurement doctrine. According to Hopkins and Gross, this doctrine is the

"substantive defining characteristic that distinguishes nonprofit organizations from forprofit organizations for purposes of the law" (p. 43, 2010).

The private inurement doctrine prevents an employee or other individual who has an association with the organization from benefiting unduly from the income or assets of a tax-exempt company. In essence, the purpose of this doctrine is to ensure the taxexempt organization is serving exempt rather than private interests (Hopkins & Gross, 2010). This doctrine does not prevent charitable organizations from turning a profit, however, as long is any profit is redistributed into the company's principal activities for which the company has received exempt status (defined as entity-level profit). Nor does this doctrine prevent companies from compensating employees appropriately, as long as any compensation is considered reasonable and not excessive. In theory, a violation of this doctrine occurs when a company redistributes profits to the undue benefit of individuals (defined as ownership-level profit) through excessive compensation. Many critics draw on this point in their analysis of executive compensation in the nonprofit sector, especially in higher education organizations.

It is the responsibility of the governing board to ensure compliance with the private inurement doctrine. Similar to the corporate sector, state law usually requires each charitable organization to establish a governing board of at least three individuals—often called a board of trustees among universities and colleges (Worth, 2009). Most nonprofit boards are self-perpetuating, meaning current board members select new members according to criteria and standards developed by the board itself. Some boards are elected by the membership of the organization, and others are appointed by an authority outside of the organization. The latter is typical for a public university or college, in which a

state's governor appoints board members. (This selection method will be discussed in more detail later in this chapter.) The standards of legal responsibilities for a nonprofit board were outlined in 1974 in a landmark case often referred to as "The Sibley Hospital Case." The standards include care, loyalty, and obedience (Worth, 2009). The standard of care obligates boards to exercise due diligence in monitoring the nonprofit's finances and in supervising its management. Loyalty, on the other hand, calls trustees to put the interests of the organization and its designated purpose ahead of their own fiduciary interests or the fiduciary interests of another organization of which they are a part—this speaks to private inurement. Obedience compels boards to ensure the organization is in line with law and acts in the interest of the company's stated purpose.

Setting compensation for executives. The Sibley case established the standards of legal responsibilities for boards in the nonprofit sector. The functional responsibilities of nonprofit boards mirror those maintained by their corporate counterparts. Worth (2009) provided a helpful list of general responsibilities, including hiring and evaluating the CEO, establishing a clear mission for the organization, approving programmatic initiatives, ensuring fiscal integrity, and establishing standards for organizational performance and accountability. Renz (2010) provided a comparable list with a few additions, such as securing essential resources and engaging with constituents. Similar to the corporate sector, nonprofit boards set the salary form and level for executives. Common components found in compensation packages for executives across the nonprofit sector include salary, bonus pay, health care, retirement plans, paid time off, tuition reimbursement, and flexible expense accounts (Twombly & Gantz, 2001; MacDonald & Knox, 2007; and Renz, 2010).

Twombly and Gantz (2001) explored the extent to which nonprofit boards included some of these common elements in compensation packages for executives. They used data from the National Center for Charitable Statistics on 55,000 nonprofits that reported compensation for their executive officers in 1998 on the Form 990. Table 2.3 shows the distribution of organizations contributing in any way to employee benefits plans or deferred compensation to their chief executives. About 21,000 organizations in the sample use benefits and deferred compensation. There was a certain degree of variability in use among subsectors. Boards at institutions of higher education and hospitals used these components most regularly in the sample, with about 75% of organizations in both subsectors doing so. Only about 25% of religion related organizations and organizations in the arts, culture, and humanities used benefits and deferred compensation in 1998. The reader will recall that 100% of firms in Balsam's (2002) sample used deferred compensation in 1998, representing a marked difference between the two sectors. Table 2.3 also shows the median value of payment as a percentage of the executive's base pay. The median value has little variability across subsectors, ranging from 7.4% in arts, culture, and humanities, to 12.8% in religion related organizations. Of course, these statistics must be interpreted with differences in total compensation in mind. According to Twombly and Gantz, in 1998 the median salary was \$169,000 for executives in hospitals, \$114,000 for executives in higher education, \$31,000 for executives in the arts, culture, and humanities, and \$24,000 for executives in religion related nonprofits.

Table 2.3

Distribution of Organizations Paying Employee Benefits and Deferred Compensation to

Type of organization	Number of organizations	Percentage of organizations	Median value of payment as a percentage of base salary
Arts culture and humanities	1 280	25.7	74
Education (excluding higher	1,892	33.5	8.6
education)			
Environment and animals	562	32.8	7.5
Health (excluding hospitals)	3,844	46.3	7.5
Higher education	926	73.4	10.4
Hospitals	1,467	75.9	7.5
Human services	7,675	37.4	7.6
International, foreign affairs	244	37.9	10.0
Public, societal benefit	1,696	37.7	8.7
Religion related	981	24.6	12.8
All organizations	20,896	38.1	8.0

Their Chief Executives

Source: Twombly and Gantz (2001).

Twombly and Gantz (2001) also looked at the distribution of organizations paying expense accounts and other allowances to their chief executives to purchase housing, food, clothing, and other items. This pay form is relatively unpopular in this sector, with only about 6,000 of the nearly 55,000 organizations in the sample using it. Table 2.4 shows that just over 25% of executives in hospitals, universities and colleges, and religion related organizations received expense options. These subsectors are at the top of the frequency distribution, and organizations identified in the environment and animals and the arts, culture, and humanities were at the bottom, with 6.8% and 6.7% of

executives in these subsectors receiving this pay form, respectively. Table 2.4 also reveals the median value of payments as a percentage of base compensation. Expense accounts and other allowances amounted to about 53% of pay at religion related organizations and 2.4% at hospitals. Because compensation levels are so low for religion related organizations (\$24,000 at the median), expense accounts and other allowances represented a much higher proportion of compensation relative to other subsectors.

Table 2.4

Distribution of Organizations Paying Expense Accounts and Other Allowances to Their Chief Executives

Type of organization	Number of organizations	Percentage of top executives receiving	Median value of payment as a percentage of base compensation
Hospitals	540	27.9	2.4
Higher education	331	26.3	7.7
Religion related	1,038	26.0	52.7
International, foreign affairs	77	12.0	12.4
Health (excluding hospitals)	855	10.3	3.7
Human services	1,734	8.5	5.8
Public, societal benefit	374	8.3	6.2
Education (excluding higher education)	448	7.9	6.0
Environment and animals	117	6.8	5.8
Arts, culture, and humanities	336	6.7	6.0
All organizations	5,956	10.9	6.3

Source: Twombly and Gantz (2001).

State and federal regulations shape how trustees of charitable organizations design compensation packages for top leaders. In terms of state regulation, the examples provided in the introduction to this section—e.g., the Nonprofit Integrity Act of 2004 illustrated well the extent to which states are intervening to control compensation for executives. On the federal side, the private inurement doctrine stands as the most important regulation; as mentioned above, this dictate prohibits excess benefit transactions of any kind between a nonprofit organization and its associates. Other regulations can be found in the IRS code as well. MacDonald and Knox (2007), for example, described the IRS regulations governing the use of deferred compensation for executives in the nonprofit sector. They contended that trustees at charitable organizations are subject to more austere regulation by the IRS regarding deferred compensation than their corporate counterparts.

Hallock (2002) illustrated the effect of the Taxpayer Bill of Rights 2, passed in 1996, on wage-setting practices among charitable organizations. This bill required boards of nonprofit organizations to carefully document how much executives are paid as well as the method through which compensation is determined, echoing the move by the SEC in 1992 to broaden requirements concerning the disclosure of executive compensation in the corporate sector. If pay levels are deemed to be excessive, executives could be fined and forced to return a defined proportion of compensation. The IRS may fine individual trustees as well if pay levels are judged to be excessive. In 2008, the IRS took one step further with its redesign of Form 990, which is the annual return filed by most nonprofits for tax purposes, including universities and colleges. The revision included additional requirements regarding the reporting of executive compensation. According to Hopkins and Cross (2010), no other act has done more to shape the governance practices of charitable organizations than the redesign of Form 990. **Pay and performance in the nonprofit sector.** Like the policies that emerged in the 1990s aimed at compensation for corporate executives, these regulations and others have exerted pressure on trustees in the nonprofit sector to align pay with performance more closely. As a result, boards are increasingly turning to variable pay forms, such as bonus pay, that are contingent upon the achievement of pre-determined standards for success. Day (2010) estimated that about half of all charitable organizations included a bonus pay plan of some sort in the compensation packages for their executives. In their article on the "executive compensation crisis in nonprofit hospitals and medical groups," Zingheim, Schuster, and Thomsen praised the shift toward paying for performance. They asserted that:

Following a normal business-focused process so compensation varies with the performance of the organization based on concrete and pre-established metrics is the only way boards can add value to the organization and protect it and themselves from embarrassment. (p. 33, 2005)

They went on to list more specific reasons for aligning pay with performance, including enabling the organization to attract and retain top talent, aligning the success of the CEO with the success of the organization, reinforcing the organizations mission and goals, and—perhaps most importantly—avoiding intermediate sanctions by the IRS.

Aligning pay with performance, however, can be difficult in the nonprofit sector. A typical corporate firm has one goal, and it is very clear: maximization of economic value. Owners and managers can use readily-available financial indicators, such as net profit, market value, or return on investment, to establish specific measures for success and track firm performance. This clarity allows trustees to design enforceable incentive contracts that tie executive compensation to firm performance. Charitable organizations, on the other hand, are not established to maximize profit. Their goals typically concern social welfare, which is much more abstract and difficult to define than traditional economic indicators. As a result, nonprofits may find it difficult to establish specific success measures with respect to stated goals, and trustees may find it difficult to evaluate executive leadership with respect to organizational performance.

A simple example illustrates these points. The goal of a typical religious organization might be to enrich the spiritual lives of its individual members. While certainly a worthy goal, how does one define and measure enrichment? Moreover, if this term could be operationalized in a measurable way, how would one determine a specific benchmark for success related to it? Is there a common standard or median level of enrichment among religious organizations in the US, for instance? Further, if a standard or median did exist, how would one determine the most effective process by which a religious organization enriches an individual's spiritual life? In other words, what is the production function for enrichment? What is an output? Reflecting on these challenges, Worth asked "without the simple measure of results that the bottom line provides to business, by what standards should a nonprofit's effectiveness be evaluated, and who should determine those standards?" (p. 67, 2009).

These questions certainly reveal challenges faced by nonprofit boards in aligning executive compensation with organizational performance. In fact, based on the example above, performance based contracts appear impractical for a majority of organizations in the nonprofit sector, and it is no surprise that the many boards who do use incentive pay evaluate executive performance on subjective standards rather than pre-determined and clearly delineated criteria (Day, 2010). Challenges aside, regulators, stakeholders, and critics continue to demand a closer relationship between performance and executive compensation for charitable organizations, as is the case for corporate firms. In response to this demand, scholars and practitioners have developed performance indicators specifically for nonprofit organizations to measure effectiveness. Worth (2009) and Murray (2010) provided extensive literature reviews in this area. Worth, for example, described the indicators of organizational efficiency employed by Charity Navigator, a prominent group that specializes in evaluating the financial health of nonprofits. Among others, these indicators included a measure of fundraising efficiency, defined as the amount a charity spends to raise \$1; a measure of fundraising expenses, defined as the percent of total functional expenses spent on fundraising; a measure of program expenses, defined as the percent of total functional expenses spent on programs and services; and a measure of primary revenue, defined as a charity's average annual growth of primary revenue over its three to five most recent fiscal years. To illustrate the applicability of this model, one might imagine that a board could base a portion of executive compensation on pre-determined measures of fundraising efficiency and program expenses, as indicators of organization performance.

Worth (2009) also described a program outcome model of organizational performance, based on inputs, activities, outputs, and outcomes. This model has grown in popularity through the efforts of the United Way of America, which applies it in evaluating its supported organizations. Inputs are defined as the resources dedicated to programs, e.g., human resources, facilities, and equipment. Activities describe the programs using the resources. Outputs are the direct products from the activities, such as the number of children tutored, the number of classes taught, or the number of hours of community service delivered. Outcomes are defined as changes that occur within an individual as a result of a given program. In this model, executive compensation would be tied to the effectiveness of programs as measured by the achievement of predetermined outcomes. According to Worth, this model provides significant advantages over other approaches to measuring organizational performance, because it allows trustees to establish indicators based on the unique mission and goals of the organization. At the same time, he observed that this model overlooks other important aspects of organizational performance—most notably, those indicating financial performance.

Worth (2009) and Murray (2010) reviewed additional models for measuring performance. While different in many respects, each provides opportunities for boards to link executive compensation to organizational effectiveness in ways that honors the idiosyncrasies present among charitable organizations. It is clear that trustees in the nonprofit sector now have a myriad of options with which to align executive compensation to performance. What is less clear is whether these options are being used. Much of the recent empirical work on executive compensation, introduced in the next section, explores this question; however, like similar studies on the corporate sector, the findings in this area do not converge.

Determinants of Executive Compensation in the Nonprofit Sector

This section is devoted to reviewing empirical research on the determinants of executive compensation in the nonprofit sector. This literature base is much less developed than the scholarship concerned with executive compensation in the corporate sector. This may be due to a dearth of compensation data on pay for executives at charitable organizations (Carroll et al., 2005). It may also be due to inherent challenges in applying traditional economic theories, based in neoclassic economics, to the nonprofit side of the economy. Either way, scholars have conducted fewer salary studies on the nonprofit side, and those that do exist often lack sound theoretical underpinnings. These limitations can make it difficult to draw conclusion regarding the determinants of pay levels and pay change in this sector. Nevertheless, it is possible to identify themes across studies that point to plausible explanations for variation in compensation among executives at charitable organizations. It should be noted that studies on higher education, specifically, are excluded from this section; they will be discussed in detail later in this chapter.

Size. Like research on the corporate side, many nonprofit studies emphasized the influence of size on executive compensation. A study by Oster (1998) represented one of the earliest examples. She examined several small samples of nonprofits across four major subsectors: hospitals, higher education, social services, and foundations. She measured size by annual revenues and found a statistically significant effect on executive compensation across subsectors. She also found that the magnitude of this effect varied between subsectors, with those engaged in more business like activities, such as hospitals and foundations, having the highest size elasticity. A study by Twombly and Gantz in 2001 confirmed Oster's findings. They examined executive pay across a much large sample of 55,000 nonprofit organizations and found a Spearman correlation of .75 between executive pay and annual revenue. Twombly and Gantz also found significant variation in the size effect between subsectors. More support for the relationship between size and executive compensation in the nonprofit sector can be found in a study by

Hallock (2002). Hallock used panel data from IRS returns on organization between 1992 and 1996. Again, size was a robust predictor, even when measured as the natural log of a company's assets and controlling for industry effects. In a more recent study, Carroll et al. (2005) measured size by assets and derived similar results. Among the studies in this area, size appeared to be the most significant and stable predictor of pay for executives in the nonprofit sector.

Organizational support. Scholars have also have examined the relationship between reliance on private support and executive pay. Oster (1998) found a negative relationship between the two variables, i.e., as an organization increased its dependence on private support, compensation for executives fell. Specifically, an executive lost approximately \$1,000 for every percentage point increase in reliance on private donation. Oster also found that executives in organizations with a religious affiliation make about \$100,000 less than their peers, *ceteris paribus*. Twombly and Gantz (2001) also examined the reliance of nonprofits on private revenue sources. Their findings suggested more variability among nonprofits. They found that greater dependence on direct public support was associated with higher salaries among organizations in the arts, education, and human services subsectors with revenues of less than \$500,000. For larger organizations, on the other hand, reliance on direct public support was associated with lower salaries. Additionally, they found that higher pay was associated with greater dependence on direct public support regardless of size in the human service subsector. Hallock (2002) looked at the relationship between executive compensation and support from government grants. He found a negative and insignificant association between these variables. Executives in his sample were not rewarded for generating additional

grants to any extent. Taken together, the findings from these studies suggested a variable relationship between executive compensation and an organization's reliance on various revenue streams. Further research is needed to elucidate this association.

Executive compensation and organizational performance. As with the corporate sector, the relationship between pay and performance in the nonprofit sector continues to be a subject of much scrutiny among the public, regulators, and critics, who often call for closer alignment between the two. Academicians, however, have contributed relatively little empirical research to this discussion, especially as it relates to the relationship between pay change and organizational performance. As noted above, theoretical and practical limitations present serious challenges to scholars interested in study the pay-performance link. Outside of the few studies on higher education specifically (reviewed below), Hallock (2002) and Carroll et al. (2005) represent the most frequently cited examples of studies in this area among executives at charitable organizations. Both of these studies focus on predictors of pay levels rather than pay change and their findings do not converge.

Hallock (2002) measured performance in a variety of ways and found little evidence in support of a pay-performance link. First, he measured performance as the fraction of expenses spent on program services. This measure was not statistically significantly associated with pay level after controlling for organizational fixed effects. Hallock then turned to fundraising as a measure of performance, calculated as the natural log of the sum of government grants, public direct support, and public indirect support. Here, Hallock found a statistically significant relationship with pay level, but the magnitude of the effect was minimal (the coefficient ranged from .011 to .064, depending on the controls in the model). Hallock also looked at profits, which he defined in two ways: a) total revenue minus expenses and b) return on assets. These variables were not statistically significantly related to pay level. These mixed results led Hallock to conclude that the most appropriate measure of performance for nonprofits is size, which (as noted above) was a robust predictor in his fixed effects regression models.

The study by Carroll et al. (2005) reported contradictory findings. The authors assumed that executives were rewarded through compensation when they increased revenue efficiently, that is, when the ratio of revenue to expenses increased. They used a fixed effects model to examine separately the compensation received by managers between 1992 and 1996 in three specific areas of responsibility: program services, management and general, and fundraising. They found a positive association between pay and performance for managers in all areas of responsibility for organizations in the arts subsector; this relationship declined in strength, however, as organizations grew in size. Similar findings emerged in the education subsector, with the exception of managers in fundraising, whose pay was not statistically significantly related to efficiency. Findings in the health subsector were consistent with the results for arts and education by and large. The findings for religious organizations, however, were anomalous in this study. Carroll et al. found a statistically significant relationship between pay and performance in the general area but no relationship between these variables for executives in the areas of fundraising and program services. Ultimately, the authors concluded that performance, as measured by revenue efficiency, had a significant and positive effect on executive compensation, but this effect diminished as organizational size increased. They also concluded that executives in the areas of program services and general management, in

particular, were rewarded for achieving "their lofty goals with reasonable efficiency" (p. 40).

Executive Compensation in Higher Education

Executive compensation in higher education is largely a reflection of the compensation practices, policies, and trends governing the corporate and nonprofit sectors discussed in the previous two sections of this chapter. There are, however, important differences in how university and college presidents are paid. These differences are a function of the unique organizational dynamics operating in the public higher education system. The purpose of this section is to elucidate these dynamics in order to better understand the determinants of change in presidential pay among public universities and colleges specifically. To that end, this section begins with a review of the debate around presidential pay, presented first in the introduction to this study. A discussion of organizational dynamics and presidential leadership follows. This discussion reveals the challenges in defining success for a typical president and aligning compensation with institutional performance. This section concludes with a review of existing empirical studies on presidential pay germane to this study, laying emphasis on the few that examine the relationship between pay change and institutional performance in higher education.

The Debate

The debate on compensation for presidents at public institutions has intensified in recent years, as economic conditions among states continue to decline, competition for state appropriations among state-funded organizations increases, and calls for greater accountability and efficiency in higher education persist. Public statements of disapproval from faculty, students, and lawmakers were well documented in the introduction to this study. Criticism of presidential pay centers around two issues primarily: a) the magnitude of compensation levels for presidents and the seemingly exponential rate at which median levels have increased in recent years and b) the elements commonly included in benefits packages for presidents, such as deferred compensation, paid leave, and entertainment allowances.

The debate on these two issues has unfolded as a clash between the traditions of academe and the need to recruit and retain top talent. Opponents argue that current compensation practices conflict with academic values, such as equity, community, and social responsibility, often depicted as integral to the missions of public universities and colleges. This position often cites the growing gap between presidential pay and faculty pay as evidence of a departure from tradition. In his recent manual on the college presidency, Bowen (2010) noted this gap and cautioned that salary differences between faculty and administrators undermine the collegiality vital to a college's success.

Opponents also question whether current practices violate regulations governing compensation in the nonprofit sector. The private inurement doctrine, for example, expressly prohibits any employee of a tax-exempt organization from receiving excessive compensation. Many would argue that the magnitude of compensation levels for presidents today qualifies as excessive. A report by *The Chronicle* showed that the median compensation for presidents among public research universities was \$436,111 in 2009, which represented an increase of 43% over a five-year period. That year, the president at Ohio State University was the highest earner among public presidents, bringing in \$1,576,825 in pay and benefits. As noted earlier, such drastic change in presidential pay has not been disregarded. Stripling and Fuller (2011) reported that lawmakers have taken note of escalating presidential pay in public universities and colleges as well as the message it sends to the public at a time when many states struggle to balance budgets. Stripling and Fuller also reported that some presidents have acknowledged their pay has become a serious vulnerability in the battle to maintain state appropriations.

On the other side of the debate, proponents view compensation as a tool to attract, motivate, and retain qualified candidates for presidencies. Proponents argue that private corporations of similar size and complexity provide much better pecuniary benefits to chief executives and that competitive salary and benefits are necessary to draw top talent away from more lucrative leadership opportunities in the private sector. Support for this argument can be found in an essay by Gibelman (2000), in which the author illustrated vast differences between the magnitude of executive compensation in the corporate and nonprofit sectors. It is clear that executives in the private sector have higher earning potential than their counterparts in the nonprofit sector. Gibelman argued that this reality must be acknowledged and addressed by nonprofit boards. She asserted that:

> Those who demonstrate superior performance potential or realization in past jobs are in high demand in the marketplace. Compensation for the best CEOs, no matter what sector of the economy, means that organizations must successfully bargain to capture the higher performers. (p. 73)

Proponents also maintain that rising compensation levels reflect an impartial and competitive labor market for academic leadership, in which there continues to be a greater demand for qualified and talented candidates than supply of such individuals (e.g., Fuller, 2010). This imbalance, it is argued, favors high-performing candidates, who are able to demand higher compensation levels from universities and colleges. From this perspective, compensation may continue to escalate until more talented individuals enter the pipeline to become president. Proponents would argue that such an influx in talent may not happen until compensation packages for presidents are more competitive with the private sector.

Implicit in the arguments on both sides of the debate are statements about the association between pay and performance in higher education. Opponents seem to view compensation for presidents first as a reflection of an institution's commitment to academic traditions. Excessive pay is a contradiction of these values. Proponents, on the other hand, view compensation for presidents first as a reflection of human capital, i.e., a president's knowledge, attributes, and competencies that can be converted into value for the organization. The latter perspective assumes a president can influence institutional performance. It is also assumes that institutional performance is a function of presidential talent. The more talented the president, the better the university or college will perform over time. These assumptions are apparent in Gibelman's quotation above regarding high performers. Gibelman essentially correlated organizational success with the acquisition of "those who demonstrate superior performance potential." Because of this correlation, "organizations must successfully bargain to capture the high performers." Trustees, then, should work to recruit the most talented president possible in order to maximize institutional performance and compensate that individual with a package that reflects his or her marginal productivity.

The problem with this logic was introduced earlier in the discussion on pay and performance in the nonprofit sector. A typical corporate firm has one goal, and it is very clear: maximization of economic value. This clarity allows trustees to easily evaluate firm performance and tie success and failure to decision-makers, namely executives. Nonprofit organizations, on the other hand, strive to improve social welfare, which is much more abstract and difficult to define. As a result, trustees may find it difficult to evaluate executive leadership with respect to organizational performance. Institutions of higher education are not different from other nonprofits in this respect. In fact, some may argue these dynamics operate to a greater degree in universities and colleges, which generally have multifaceted missions coupled with high goal ambiguity. Considering these dynamics is critical to understanding this debate on executive compensation in higher education.

Organizational Dynamics in Public Higher Education

The purpose of this section is to continue defining the organizational context in which determinants of change in pay for presidents may be understood. To that end, the researcher discusses in further detail some organizational dynamics uniquely associated with presidential leadership in higher education. Cohen's and March's (1974) seminal work on presidential leadership sets the stage for this discussion. From there, the researcher identifies presidents' primary constituent groups and describes how differences among these groups present challenges in terms of defining success for a typical president and aligning pay with institutional performance. This section concludes with a more in-depth look at boards of trustees at public universities and colleges.

Trustees deserve special treatment in this literature review because—at the end of the day—these individuals have responsibility for hiring, paying, and evaluating presidents.

Anarchical tendency. Cohen and March (1974) were among the first to describe universities and colleges as anarchical organizations, because they exhibit three principles. First, these organizations operate with high *goal ambiguity*. The overarching mission for a typical university or college includes commitments to teaching, research, and service. This mission is multifaceted, nebulous, and—as a result—practically useless for faculty and staff. This ambiguity is due in large part to what system theorists call *suboptimization*, which characterizes the tendency of subunits (e.g., academic departments) to focus on unit-level goals rather than those of the broader organization (Bess & Dee, 2007). For example, a faculty member in a department of English may be more committed to growing program enrollment than supporting the president's new initiative around first-year retention. As a result of suboptimization, the goals of teaching, research, and service are often more symbolic than operational for a majority of employees in the organization.

Cohen and March (1974) also noted that a typical college or university suffers from *unclear technology*, meaning these organizations do not understand the process by which learning is produced efficiently. To understand this point, one might contrast higher education organizations with an automobile manufacturer. A typical automobile manufacturer strives to produce automobiles as efficiently as possible in order to maximize profit. Naturally, this goal is supported by a well-defined production process in which inputs (materials) are converted into outputs (cars). This output and the process by which it is produced are tangible and lucid. Colleges and universities, on the other hand, maintain highly convoluted production functions, in which a primary actor in a given institution—a student, for example—can serve simultaneously as an input, a key part of the production process, and an output. As Johnstone (2005) concluded, producing learning, which is the primary output for a university or college, becomes practically impossible to understand or influence in any meaningful way.

The final principle exhibited by universities and colleges is *fluid participation*. This principle illustrates the fact that key actors within a given university or college devote varying levels of time and effort to achieving organizational goals. A student and a legislator, for example, engage in the education system in vastly different ways. A student may live on campus, take a number of classes, and participate in co-curricular activities on campus, while a legislator may never set foot on campus, making decisions from a far with little interaction in the university's formal environment. Fluid participation is possible because of the relatively *open nature* of most higher education institutions, which means that the environmental boundaries of a given university or college are ever-changing and, as a result, nearly impossible to define at a given moment in time (Bess & Dee, 2007).

There is variation among institutions in terms of the extent to which they exhibit these principles. This variation can be seen through common classification systems for postsecondary institutions. The Carnegie Foundation for the Advancement of Teaching, for example, organized institutions into four primary groups based on institutional scope and mission. The groups are as follows: associates colleges, baccalaureate colleges, masters colleges and universities, and doctorate-granting universities. One might imagine, for instance, that the goals of a typical doctorate-granting university, which grants degrees at all academic levels, would be more extensive in scope than those in a typical associates college, which only grants associates degrees. The former institution may have competing goals related to undergraduate education, professional education, outreach and service, improvements to its physical plan, and major athletics programs. The latter, on the other hand, may have a few technical degrees, a limited physical plant, and no co-curricular capacity. The goals at this institution may be much narrower in focus and conceptually consistent.

As another example, one might imagine that participation would be less fluid at a baccalaureate college relative to a college that grants associates degrees only. The latter institution may have many part-time students and a faculty comprised primarily of part-time instructors who limit their involvement on campus to teaching responsibilities only. The former, on the other hand, may have a high proportion of students living on campus, a faculty comprised of full-timers, and a wide-range of programs and services designed to render the college a home-away-from-home to its members.

These anarchical tendencies have implications for presidential leadership. For example, goal ambiguity and sub-optimization may make it difficult—if not impossible—for a president to articulate and execute a meaningful strategic plan for his or her institution. Spending time in this area, therefore, may not be a productive use of time for a typical president. A typical corporate CEO, on the hand, generally has one goal in mind, profit maximization, and deals with much less sub-optimization. As a result, strategic planning may be a more productive exercise in a corporate setting. As another example, fluid participation shapes how a typical president spends his or her time. Because of the open nature of higher education organizations, presidents are held accountable by a variety of stakeholders, who at times engage in the education system in vastly different ways and have vastly different interests. To manage this dynamic, a president—as the figurehead— must spend considerable time building consensus, negotiating, and enhancing public relations. A typical corporate CEO, on the other hand, operates in a much more closed system and, as a result, may spend less time on these activities. At the end of the day, a president's ability to manage this dynamic may one of the most important factors in his or her success. The next section provides a deeper examination of president's role as public relations extraordinaire.

Various constituents with divergent interests. Regardless of an institution's anarchical tendencies, a president must placate various constituents with divergent, competing, and sometimes unclear interests in order to be successful. A president's primary constituents can be grouped as internal and external. Internal constituents include trustees, students, staff, faculty, and alumni. External constituents include legislators, the public, and accrediting agencies. These constituent groups apply different definitions to a university's goals, missions, and authority roles (Fleming, 2010). This lack of homogeneity in understanding of higher education engenders conceptual ambiguity in which each constituent group defines these important organizational aspects in terms of their own interests, values, and perceptions. As a result, a president is held accountable to multiple standards and held responsible for achieving a myriad of goals, many of which diverge from his or her own vision and values. This conflict makes defining success for a typical president difficult. It also makes casting and achieving a vision for change an arduous exercise. The awareness of this reality is what prompted Fisher (1991) to label presidential leadership an oxymoron.

Recent literature illustrates well the different demands placed on a president by different constituent groups. Legislators (federal and state) represent an important external constituent for presidents, and one does not have to look far to find the issues of most importance to this group. A quick glance through *The Chronicle*, *Inside HigherEd*, or any introductory book on higher education shows that legislators are interested in issues that fall into three broad categories: accountability, productivity, and cost. Tschepikow (2010) demonstrated that calls for accountability from government officials have increased over the past decade. McGuiness (1999) noted that the definition of accountability applied by governing agencies changed drastically in the 1990s. Prior to that time, accountability was viewed as a function of fiscal management. In the 1990s, accountability became associated with student learning outcomes. Schmidtlein and Berdahl (2005) pointed out the difficulty in meeting these new demands for accountability due to the fact that learning outcomes are difficult to identify, agree upon, and articulate to elected officials. In terms of productivity, Immerwahr and Johnson (2007) argued that legislators are pushing institutions to be more productive in order to increase the affordability of higher education. As noted above, goal ambiguity in many institutions makes defining an output unit nearly impossible (Johnstone, 2005), and unclear technology makes defining productivity similarly futile. Nevertheless, governments continue to demand higher levels of productivity. These demands can be seen clearly in the Spellings Report, commissioned in 2006, in which strategies are posited for improving productivity (The Secretary of Education's Commission on the Future of Higher Education, 2006).

As one might imagine, faculty define the challenges facing higher education quite differently from legislators. Faculty represent an important internal stakeholder for the college president, and recent literature suggests that this group is most interested in issues of pay and staffing patterns. Each year, the Association of American University Professors (AAUP) publishes a report entitled *The Annual Report on the Economic Status* of the Profession, which focuses on salary and compensation issues for faculty. According to the most recent version of this report, the trend of employing more contingent faculty continues ("It's Not Over Yet," 2012). The authors stated that graduate employees and contingent faculty now make up over three-quarters of the total instructional staff among higher education institutions. They also highlighted some continuing effects of the recession on faculty pay. For example, the average salary among faculty increased at a rate lower than inflation for a second consecutive year, marking the fifth year during the last seven years in which overall faculty salaries declined in purchasing power. The recession also worsened the salary disadvantage for faculty in public universities and colleges relative to private institutions. It is clear that faculty have different concerns from legislators regarding the future of higher education. Legislators appear to be more interested in organizational efficiency, while faculty appear to be more concerned with the function and compensation of the professoriate.

Another place of divergence can be found among presidents and trustees, whose interests diverge from each other and from legislators and faculty. Green (2011), a writer from *Inside HigherEd*, recently published results from a survey of presidents, titled *Presidential Perspectives*. The survey asked presidents in 2010 to identify the most important issues facing higher education institutions over the next three years. The top five issues across sector and control in order of importance were as follows: budget shortfalls, rising tuition, changes in state support, increasing competition for students, and remediation for students. A similar survey was conducted by the Association of Governing Boards (AGB) with trustees, arguably a president's most important internal constituent (2010). AGB surveyed over 700 trustees and asked these individuals to identify the top-five most important agenda items over the last year. The top-five items across sector and control in order of importance were as follows: finance, enrollment, strategic planning, facilities, and academic programs. It is clear from these two lists that differences exist between presidents and their trustees regarding challenges facing higher education today.

Presidents are highly concerned about financing their institution's operations in the short-term. This concern can be seen in items one through four in the presidents' list. Presidents are also concerned with increasing demand for remediation, which has a subtle financial component as well. Trustees are certainly concerned about financing higher education, as seen in their top agenda item, but they seem to be interested in the long term viability of the institution more than its immediate financial health. Interest in facilities, strategic planning, enrollment, and academic programs points to a longer-term vision. This disparity reveals important difference in the roles and responsibilities between presidents and trustees. Trustees are appointed to protect the long-term viability of an institution, while presidents are hired, in many instances, to achieve immediate goals over a much narrower time period (AGB, 2011).

Boards of Trustees and Presidential Pay in Higher Education

Woven throughout this section is the idea that a president's success depends on his or her ability to build relationships with multiple constituent groups. No relationship is more important than the one with his or her board of trustees (Taylor, 1987). At the end of the day, the board is responsible for charting a course for the institution, while the president is charged with steering it. This nautical metaphor points to the paradoxical nature of this relationship. On one hand, the board is responsible for ensuring the viability of the institution and employing a president to manager day-to-day operations, on the other hand, the board relies heavily on the president for information regarding how well the institution is meeting objectives defined by the board.

The composition of boards of trustees varies among universities and colleges. Taylor (1987) asserted that the size and composition of the board is a function of the diversity in an institution's sources of support (financial and otherwise). He argues that private institutions rely on many different sources for support and therefore have larger, more diverse boards than their public counterparts, which rely predominantly on state and federal governments. Private boards, on average, include about 32 trustees, while public boards include approximately 11. These differences in size and composition have implications for presidential leadership. As one might imagine, a larger, more diverse board would include a more diverse set of interests and goals to navigate. On the other hand, private boards may be easier to work with because its members are not appointed by a governor through a political process, like many who serve on public boards. In addition, private boards are generally responsible for overseeing operations at one institution only. Many publics, on the other hand, report to a coordinating board responsible for multiple institutions. In fact, according to Taylor, by 1985 over 50% of public universities reported to multi-campus boards. He points out that multi-campus boards rarely have time to develop an understanding of the unique issues that exist on any given campus and therefore approach campus-specific problems with system-wide solutions.

The Association of Governing Boards listed eight responsibilities for boards of trustees across sector and type of control. These responsibilities included establish and maintain institutional mission, oversee strategic planning, ensure fiscal integrity and growth, ensure educational quality in academic programs, protect academic freedom and institutional autonomy, update institutional policies, engage with the public, and hire, support, and evaluate the president. AGB also provided a list of additional responsibilities shared by public boards in particular. These responsibilities included serving the interest of the public, advocating for the value of higher education, and remaining independent from personal interests and the interests of public officials.

Trustees employee presidents to carry out the day-to-day activities related to these responsibilities. Ergo, effectiveness for presidents—i.e., high performance—may be defined within a framework of trustees' most important responsibilities. Michael, Schwartz, and Balraj (2001) provided support for this line of thought in their examination of how trustees determine college and university presidents' effectiveness. They found that trustees considered skills and knowledge in four areas to be indicative of effectiveness. First, presidents were expected to have sharp knowledge of higher education, including the national system in general, sector differences, and political dynamics. Presidents were also expected to be able to influence organizational dynamics
to the advantage of the university or college, including influencing campus constituents and attracting resources to the institution. Third, trustees viewed a president's ability to build productive relationships with members of the board, faculty, and students as an important element of effectiveness. Finally, and perhaps most import to this study, trustees placed high value on a president's ability to provide academic leadership, including recruiting high-quality faculty and student; to facilitate long-range planning; and to manage the pecuniary affairs of the institution prudently.

The four areas of performance identified by Michael, Schwartz, and Balraj (2001) are clearly correlated, at least conceptually, with the eight responsibilities defined by AGB for boards of trustees. This conceptual correspondence supports the argument that, in general, trustees value in presidents knowledge and skills that are related to their own responsibilities. In other words, trustees seemingly have developed performance indicators specifically for presidents to measure effectiveness. This can be seen, for example, in the emphasis on fiscal integrity and academic quality between the two texts. Whether presidential pay in public universities and colleges is a function of these indicators is the subject of subsequent chapters. Suffice it to say here that effectiveness for presidents, like executives in other sectors, is defined at least in part by organizational performance.

Determinants of Presidential Pay in Universities and Colleges

The previous section outlined the organizational context in which determinants of change in pay for presidents may be clearly understood for this study. This section turns from conceptual framing to empirical studies on presidential pay in higher education. Pfeffer and Ross (1988) were among the first to study this phenomenon. They examined

presidential pay at public and private universities at two time points, 1978 and 1983. Their sample included universities, four-year colleges, and junior colleges. Crosssectional models at both time points showed that measures of institutional control, size, complexity, and resources were statistically significant predictors of presidential pay levels. Gender and tenure of the incumbent also had significant effects on pay levels at the cross-section. Models at both time points explained approximately 50% of the variance in pay levels among the presidents in their sample. Pfeffer and Ross also explored change in presidential pay for presidents who remained at the same university or college over the five-year study period. The researchers regressed the difference in the independent variables between the two time points on presidential pay in 1983 and found that only one change variable had a statistically significant effect on change in salary: change in size. Pay did, however, change more rapidly for presidents in private universities, in general, and for presidents in public institutions in which resources had increased at greater levels. In addition, measures of human capital did not have an effect on change in presidential pay. In summary, institutional size and control were the most stable predictors of salary in this study by Pfeffer and Ross, explaining not only crosssectional variation in pay levels but also variation in pay change during the five-year period.

Over a decade later, Tang, Tang, and Tang (2000) studied the relationship between institutional characteristics and presidential pay levels at private, doctorategranting institutions in 1993. Like Pfeffer and Ross, this group of researchers found that institutional resources and complexity explained significant cross-sectional variation in presidential pay levels. They also found that reputation rankings and undergraduate tuition had statistically significant effects. Their best model of institutional-level variables explained approximately 57% of the variation in presidential pay levels among doctorate-granting institutions in 1993. Shortly after this study was published, Ehrenberg, Cheslock, and Epifantseva (2001) published a study also examining the relationship between measures of performance and presidential pay levels at private, doctorate-granting institutions. This study covered the period from 1993 to 1997. Comparable to previous studies, Ehrenberg, Cheslock, and Epifantseva found that measures of institutional resources, size, and complexity had statistically significant effects on presidential pay levels. They also found that academic quality, as measured by standardized test scores, and presidential tenure had statistically significant effects on presidential pay levels.

Ehrenberg, Cheslock, and Epifantseva focused much of their study on the relationship between performance and pay change, using a statistical approach similar to Pfeffer's and Ross's. The researchers estimated regression models in which the changes in performance variables between 1993 and 1997 were regressed on change in presidential pay over the same time period. Performance was defined in this study as a president's fundraising success and measured by the total dollar amount in gifts provided to an institution, divided by the institution's full-time equivalent enrollment. Enrollment growth, average professor salary growth, and growth in research and development expenditures were statistically significantly associated with change in presidential pay; however, growth in annual giving was not. This finding led the researchers to conclude that change in presidential pay is only tenuously related to institutional performance as defined by fundraising success. In addition, like Pfeffer and Ross, the researchers did not

find a significant relationship between measures of human capital and change in presidential pay.

In 2005, Bartlett and Sorokina re-examined this link between performance and presidential pay. They focused on predictors of pay levels among selective, private liberal arts college over a three year period, from 1999 to 2001. Bartlett and Sorokina were the first to use panel data analysis to examine presidential pay levels. They were also the first to include measures of short- and long-term financial risk as measures of performance. Again, in harmony with other studies, the researchers found that measures of institutional size, resources, and quality were statistically significant predictors of presidential pay levels; however, the effects of these variables on pay levels were quite nominal in this study. Bartlett and Sorokina also organized their sample into three selectivity tiers based on academic ranking in order to explore structural differences in the compensation of presidents at institutions with differing levels of prestige. A random effects model was estimated for each tier and showed that presidents in more prestigious liberal arts colleges were rewarded more for human capital than individual or institutional performance. These findings led Bartlett and Sorokina to echo Ehrenberg, Cheslock, and Epifantseva in concluding that presidential pay level is only tenuously related to performance.

O'Connell (2005) also examined presidential pay levels at private liberal arts colleges. This study relied on a traditional cross-sectional approach and included data from sample of institutions in 1995. O'Connell found that reputation, faculty salary, and net price were statistically significant predictors of presidential pay levels. Interestingly, measures of institutional size and resources did not have statistically significant effects on pay, as was the case in the earlier studies cited above. O'Connell did find that alumni giving rate had a negative and significant effect on pay levels. This finding represented one of the more unique contributions to the literature from this study. O'Connell concluded that strong alumni support may make a president's job easier and, therefore, less valuable in terms of remuneration.

In 2007, Monks examined pay levels among presidents at public and private doctorate-granting institutions. This study by Monks included cross-sectional analyses of data from 2001 and 2002. As expected, measures of institutional resources, size, type, and quality were statistically significant predictors of presidential pay level. Institutional control had the strongest effect in this study. In fact, the cross-sectional model developed for the private sector explained about 80% of the variation in pay level, while the same model for the public sector explained about 33%. Human capital variables, such as years in office, prior presidency, and total presidential experience were not effective predictors of pay. Monks concluded that institutional variables, such as size, resources, and control, were much more important in determining presidential pay level at public and private doctorate-granting institutions than measures of human capital.

Central Research Question

Collectively, these studies have greatly improved our understanding of presidential pay in universities and colleges. There are, however, several limitations in these studies that point to opportunities for further research. For example, most studies in this area examine presidential pay levels rather than change in presidential pay. As a result, it is difficult to draw conclusions regarding the upward trend in pay for presidents over the last decade. It is also difficult to draw conclusions regarding the relationship between pay and performance among presidents in higher education. As noted throughout this chapter, the relationship between performance and pay for executives has been the subject of increased scrutiny in recent years. Yet, gaps in our understanding of this relationship in higher education still persist.

Furthermore, most studies focus heavily on private institutions, providing little exploration of public institutions. In fact, of the six studies on presidential pay identified in the literature review for this study, only two examine pay at public universities (Pfeffer & Ross, 1988; Monks, 2007). Yet, as noted in this introduction, scrutiny of presidential pay at public universities and colleges has increased dramatically in recent years. In addition, previous studies provide little coverage across institution types. Most examined presidential pay at doctorate-granting universities or selective liberal arts colleges. Masters granting institutions have been neglected by and large; only two studies on presidential pay include these institutions (Pfeffer & Ross, 1988; Ehrenberg, Cheslock, & Epifantseva, 2001); yet these institutions comprise a significant portion of postsecondary institutions in the U.S.

In addition, with the exception of one study (Pfeffer & Ross, 1988), previous studies relied on compensation data from *The Chronicle*. Researchers have yet to draw on other reliable sources of compensation data that may reinforce or challenge previous findings. As a final limitation, in general, the empirical literature on presidential pay is theoretically underdeveloped. Many studies lack a theoretical framework altogether, and those with guiding theories have produced inconsistent results.

These limitations illustrate the need for further research on presidential pay in higher education. Additional research in this area could take several directions.

Considering these limitations and the current debate regarding presidential pay, however, the most important direction to take at this point in time is one that leads to a better understanding of the determinants of pay change among presidents at public universities and colleges. It is this phenomenon that appears to be the least understood among scholars of higher education and the most important to its stakeholders. To that end, the central research question examines determinants of change in presidential pay at public universities and colleges. The following chapter describes the theoretical underpinnings intended to guide this examination.

CHAPTER THREE

THEORETICAL FRAMEWORK

The purpose of this study was to examine determinants of change in presidential pay at public universities and colleges. A set of four propositions were developed to direct this study. These propositions derive from a conceptual framework comprised of four discrete theoretical perspectives: a) pay-for-performance; b) principal-agent theory; c) institutional theory; and d) functional theory of stratification. Each theory suggests different—and at times competing—explanations for variation in change in pay levels among higher education leaders in the public sector. This chapter includes an orientation to the major tenets of each of these theories, a review of empirical studies involving their applications to compensation issues, and a description of the propositions guiding this study. It should be noted that pay-for-performance theory and principal-agent theory receive extended treatment because of growing interest in the relationship between pay and performance among presidents in higher education.

Pay-for-Performance

As noted in Chapter 1 and Chapter 2, interest is growing among researchers, policy makers, and the public in the relationship between pay and performance among executives, and there is good reason to postulate a positive relationship between institutional performance and presidential pay. This line of thought begins with understanding the dynamics between presidents and their governing boards. As discussed at length in Chapter 2, trustees in the public sector are appointed to ensure that the mission of their university or college maintains its alignment with public interests (AGB, 2011). This responsibility is often described in an institution's charter, from which trustees derive their authority. Trustees are responsible for operationalizing this mission into more concrete institutional goals and for hiring a president to implement educational programs and services to achieve them. It is worth mentioning again here that public boards of trustees share a set of core responsibilities (AGB, 2011). These responsibilities included overseeing strategic planning, ensuring fiscal integrity and growth, ensuring educational quality in academic programs, serving the interest of the public, advocating for the value of higher education, and remaining independent from personal interests and the interests of public officials. These responsibilities may signify the primary goals of the institution as defined by a typical board. Pay-for-performance theory assumes that trustees will expect their president to work toward achieving these goals primarily. It also assumes that trustees would reward a president for steering the institution toward the achievement of these goals.

To summarize, in public universities and colleges, boards of trustees are responsible for establishing goals and standards of performance for their institution and for employing a president to manage day-to-day operations related to these goals and standards of performance. One may expect that tying the president's compensation to progress in areas of performance deemed important by trustees would be an effective way of accomplishing this task. In other words, one may expect pay change to be a function of improved performance over time. The first proposition affirmed the presence of pay-forperformance models in presidential pay in public higher education. **Proposition 1:** *Trustees at public universities and colleges tie* presidential pay to progress in established areas of institutional *performance.*

Principal-agent Theory

Principal-agent theory is one of the most common theories employed in studies on executive compensation in the corporate sector to explain the relationship between pay and performance (e.g., Tosi & Gomez-Mejia, 1989; Green (1994); and Tosi, Werner, Katz, & Gomez-Mejia, 2000). Principal-agent theory attempts to explain conflict that arises when the ownership and management functions in a firm are bifurcated, as is the case in a typical corporate firm (Balsam, 2002). This theory rests on the assumption that owners (principals) and executives (agents) pursue divergent interests, which results in cost to the firm—often called agency cost. These costs include economic losses to the principal as well any cost associated with monitoring the activities of the agent.

In a corporate firm, the ownership function is represented by shareholders and trustees. Their primary goal is maximizing profits. Owners employ a CEO to manage the business so as to realize this goal. The executive, however, maintains his or her own interests, which may not always align with the primary goal of the shareholders and trustees. Executives, for example, may be more interested in maximizing personal utility, which is a function of firm size rather than firm profits. As Tosi and Gomez-Mejia (1989) noted, increased firm size permits diversification of the executive's employment risk, leads to greater prestige for the firm and CEO, and correlates with higher executive compensation. To take the example one step further, the CEO may pass up investment moves that are potentially profitable to shareholders because pursuing these investments

would increase employment risk for the executive without providing any direct, extrinsic reward. This decision by the executive to put his interests ahead of the owners' could potentially result in a loss of profits to the company as well as increased monitoring costs.

For this reason, owners seek to prevent executives from making decisions that conflict with the owner's interest. Information asymmetry makes this effort difficult. The executive controls most of the firm's resources and has better information regarding firm and managerial performance than the owners (Tosi & Gomez-Mejia, 1989). Owners must find ways to counter this asymmetry and align the actions and decisions of the executive with their interests and goals. This point speaks to the heart of principal-agent theory, which is motivating the executive to act in the best interest of the owners, thus reducing agency cost. Proponents of this theory contend that incentive-based contracts that tie pay to performance are a highly effective strategy for accomplishing this endeavor. Balsam (2002) explained that, when designed with proper performance incentives, compensation packages can be great tools for mitigating agency cost by rewarding executives for performing actions that increase economic value for owners. Including a large proportion of stock options in the compensation package is one example of this approach. When the firm performs well, the result is a net benefit to both the principal and the agent.

The applicability of principal-agent theory to executive compensation in the corporate sector is apparent. Firms in this sector naturally separate ownership and management functions, and it make sense that owners would structure compensation for executives in ways that maximize their own profits. The applicability of this theory to higher education, however, is less convincing. Universities and colleges do not have shareholders or owners—at least in the corporate sense of the word—and they are

designed to improve social welfare rather than maximize profit. In addition, the reader may recall the discussion in Chapter 2 regarding anarchical tendencies in higher education institutions (Cohen & March, 1974). Goal ambiguity, unclear technology, and fluid participation make incentive contracts difficult to design for executives in this sector. Nevertheless, scholars have explored the applicability of principal-agent theory to presidential pay in certain sectors of higher education, e.g., Bartlett and Sorokina (2005) in selective, private liberal arts colleges; and Ehrenberg, Cheslock, and Epifantseva (2001) and Tang, Tang, and Tang (2000) in doctorate-granting institutions. The studies by Bartlett and Sorokina and Ehrenberg, Cheslock, and Epifantseva found little evidence to support the applicability of principal-agent theory in these higher education settings. Tang, Tang, and Tang (2000), on the other hand, concluded that agency problems do exist in doctorate-granting institutions and that they dictate a tighter coupling between pay and performance among presidents.

It is clear that findings from major studies in higher education are mixed. To address this conflict in the literature, this study provided a different approach to testing principal agency theory that focuses less on the nature of performance-based contracts and more on how the composition of boards of trustees may influence a president's pay. In the corporate literature, it is apparent that board characteristics influence agency problems within a firm. As noted in Chapter 2, Gomez-Mejia, Tosi, and Hinkin (1987) found that CEOs pay is more responsive to performance in owner-controlled firms with dominant stakeholders. The performance factor explained seven times the amount of variance in the percent change in total compensation for the owner-controlled firms than the management-controlled firms. Additionally, a similar study by Tosi and GomezMejia (1989 found differences in the level of monitoring and incentive-alignment activities between owner-controlled and management-controlled firms. They showed that executives in owner-controlled firms bear more compensation risks than their counterparts in management-controlled firms. Taken together, these studies indicated the relationship between executive pay and performance strengthens as the separation between the ownership and management functions of the firm increases.

Chapter 2 suggested that boards of trustees in public universities and colleges also vary in terms of composition. For example, some boards govern one institution, while others are responsible for multiple institutions. In fact, according to Taylor, by 1985 over 50% of public universities reported to multi-campus boards (1987). Taylor asserted that multi-campus boards rarely have time to develop an understanding of the unique issues extant on any given campus and therefore approach campus-specific problems with system-wide solutions. This assertion by Taylor points to a critical difference between multi-campus boards and single-institution boards that may have implications for agency problems. Trustees who supervise multiple institutions have less time to monitor specific institutions due to a broader and more complex set of responsibilities. A logical extension is that these individuals will also have less time to monitor the performance of individual presidents and institutions. As a result, these individuals may be faced with more severe information asymmetries and, in turn, rely more heavily on performance-based contracts than their counterparts whose responsibilities lie with one institution and one president. One may expect, therefore, that change in presidential pay will be more strongly coupled with improved institutional performance for presidents who report to a multi-system board. The second proposition affirmed that board characteristics influence the

relationship between pay change and institutional performance in a typical public university or college.

> **Proposition 2:** *Trustees on multi-campus boards more strongly couple* presidential pay to progress in established areas of institutional *performance than their counterparts who sit on single-campus boards.*

Institutionalism

Institutional theory suggests that organizational behavior is shaped more by a pursuit of legitimacy than competitive forces. Legitimacy occurs when an organization adopts prevailing institutionalized practices that govern the organizational field of which it is a part. Meyer & Rowan explained:

Organizations are driven to incorporate the practices and procedures defined by prevailing rationalized concepts of organizational work and institutionalized in society. Organizations that do so increase their legitimacy and their survival prospects, independent of the immediate efficacy of the acquired practices and procedures. (p. 41, 1991)

This quote by Meyer and Rowan points to the central tenet of institutional theory, which is organizational elements (positions, policies, procedures, wage structures, etc.) reflect myths in society—often called institutions—that are binding on particular organizations. The risk of failing to incorporate environmentally legitimated elements into their structures may have serious implications for an organization. Meyer and Rowan further explained that organizations that fail to achieve legitimacy may be condemned by society as negligent, irrational, and unnecessary, and ultimately may not survive. For these reasons, Dimagio and Powell (1991) argued that organizations are becoming more homogeneous without operating more effectively.

It is in this conceptual framework that executive compensation is understood by institutional theorists. Institutionalists view compensation as a shadow price reflecting institutionalized values and norms (Rowan & Meyer, 1991). Institutional theory postulates that productivity is nearly impossible to discern and measure in most modern firms. As a result, managers assign compensation levels based on externally legitimated criteria of worth rather than an equilibrium wage rate or internal productivity measures. Determining compensation in this way serves to legitimate the organization and the specific position to which the worth has been assigned with internal and external stakeholders. Rowan and Meyer suggested that this tendency to assign externally defined worth is higher in organizations with an ambiguous production functions. Cohen and March (1974), Hearn (1999), Johnstone (2005) and others have shown how institutions of higher education fit this description. Chapter 2 provided a fuller discussion on this topic. Along a similar line of thought, Pfeffer and Davis-Blake (1987) argued that this tendency is particularly likely to be true for administrative positions in higher education that are not commonly represented in other labor-market sectors. They listed the athletic director position and alumni director position as meeting this criterion. Considering the unique nature of the college presidency, also discussed in Chapter 2, it is not unreasonable to view this position similarly. Based on these arguments by Rowan and Meyer and Pfeffer and Davis-Blake, it appears that institutional theory may provide a helpful perspective on presidential pay in universities and colleges.

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This theory suggests that presidential pay is a reflection of prevailing notions of organizational work that are institutionalized in society. Ergo, an important question to ask is: what institutionalized notions influence compensation practices in this context? And, just as important, *how* do these notions shape compensation practices? Answers to the former question were introduced in the first two chapters of this study. Discussions in these chapters showed that one important notion surrounding public higher education is that pay for executives at these institutions is grossly out of balance with their charitable purposes and tax-exempt status. Another notion is that public higher education needs to improve in terms of accountability, affordability, and productivity in order to win back the trust of state governing agencies and the public in general. Excessive compensation for presidents is an important component of this issue. Outcry by the public, state lawmakers, and other external stakeholders, documented heavily in Chapter 1, demonstrates the extent to which these notions have become institutionalized within society.

In terms of the second question, it is logical to assume that these notions will act as constraints on presidential pay at public universities and colleges. It is also possible that this constraint will vary based on the extent to which an institution depends on the public for support (financial and otherwise). After all, it is the public (i.e., taxpayers and elected officials) who has in part defined the prevailing concepts of presidential pay described above to which institutions must conform for legitimacy. Public universities and colleges that rely heavily on public support might face more pressure conform to these concepts—i.e., to constrain presidential pay— in order to maintain legitimacy and survival prospects than less-dependent public universities and colleges. One would expect the latter group of institutions to have the ability to fashion contracts for presidents without as much concern for prevailing notions of presidential pay. Less-dependent institutions, therefore, may have the freedom to assign criteria of worth reflecting institutionalized values and norms outside of public higher education—perhaps from other, more entrepreneurial industries, such as corporate firms. Following this line of thought, it could be argued that presidential pay at a given institution will be a function of that institution's dependence on the state for support, with greater dependence resulting in lower compensation levels. In other words, one might expect change in presidential pay to reflect change in state support. The third proposition affirmed the applicability of institutional theory to presidential pay change in public higher education.

Proposition 3: Presidential pay in public universities and colleges is a function of an institution's dependence on state funding, with greater dependence resulting in lower compensation levels and vice versa.

Functional Theory of Stratification

As noted in Chapter 2, firm size is one of the most robust predictors of executive compensation in both the corporate and nonprofit sectors. Functional theory of stratification is commonly used to explain this relationship (e.g., Kushing & Broom, 1977; Argawal, 1981; Pfeffer & Ross, 1988). Davis and Moore (1945) are attributed with developing functional theory. They posited that hierarchical differentiation is present in every formal social collection. The functional necessity of this differentiation, they argued, is placing and motivating individuals in social structure. They discussed motivation at two points: motivating the proper individuals to fill certain positions, and, once in these positions, motivating these individuals to complete their responsibilities

effectively. To these ends, rewards, material (pay) and psychic (status), are provided to capable individuals. Greater rewards are given to more talented individuals and to positions of greater importance. Correspondingly, inequalities exist in the distribution of rewards among individuals in an organization.

According to functional theory, differential rewards can be determined by the functional importance of a position in the organization and the relative scarcity of potential incumbents for the position. Relative scarcity is viewed as a function of supply and demand factors. Functional importance, in contrast, is seen as a reflection of a position's expected contribution to its firm's output (Abrahamson, 1979). This concept of functional importance is difficult to measure, for reasons described in Chapter 2. As a result, scholars have used proxies. For corporate chief executives, specifically, scholars have drawn on measures of job responsibility to operationalize functional importance. Cushing and Broom (1977), for example, examined the relationship between CEO's job responsibilities and compensation. In this study, the job responsibility variable was measured by company assets. Argawal (1981) took a similar approach in his examination of executive compensation. He found that job responsibility was a much stronger predictor of pay for CEOs than measures of human capital. Job responsibility for corporate executives is commonly measured by firm assets. For college and university presidents, on the other hand, job responsibility has been measured by institutional complexity. Pfeffer and Ross (1988) used Carnegie Classification to operationalize institutional complexity and found a positive and statistically significant relationship between increased levels of complexity and presidential pay.

In sum, functional theory suggests a positive relationship between the compensation of individuals and their functional importance. The greater one's functional importance, the greater the rewards provided. Functional importance, as theorized, is difficult to measure. Scholars of higher education have viewed functional importance for presidents as a measure of institutional complexity. Institutional complexity, like assets, speaks to the scope of an executive's responsibility. One would expect a president to be paid more as this scope increases, all else equal. Said differently, one would expect change in presidential pay to reflect change in institutional complexity. The fourth proposition affirmed the applicability of functional theory to presidential pay change in public higher education.

Proposition 4: *Presidents at public universities and colleges with higher levels of complexity receive higher levels of compensation.*

Theoretical Model

The purpose of this study was to examine determinants of change in presidential pay at public universities and colleges. A set of four propositions were developed to direct this study. These propositions derive from a conceptual framework comprised of four discrete theoretical perspectives: a) pay-for-performance; b) principal-agent theory; c) institutional theory; and d) functional theory of stratification. The conceptual framework can be expressed diagrammatically as in Figure 3.1. The next chapter describes the research methodology used to operationalize this framework. This methodology includes a statement of seven hypotheses that more specifically define the research questions driving this study.



CHAPTER FOUR

RESEARCH DESIGN

The previous chapter described four propositions developed to direct this study. These propositions derive from four distinct theories that offer different—and at times competing—explanations for variation in pay change among presidents in public universities and colleges. This chapter describes the research methodology used to operationalize and test these propositions. This description begins with a review of the sample and data sources for this study. Next, the researcher states the specific hypotheses that were tested under each proposition. This section is followed by a description of dependent and independent variables included in the hypotheses. The chapter then turns to a description of the statistical methods used for testing purposes and concludes with some limitations surrounding the study.

Sample

The final sample for this study consisted of 202 four-year public universities and colleges who participated in the American Association of University Professors (AAUP) Faculty Compensation Survey in 2006 and 2010. The focus of this study was on typical four-year public institutions. To that end, only public institutions identified as doctorate-granting universities, master's colleges and universities, and baccalaureate colleges in the Carnegie Foundation for the Advancement of Teaching's Basic Classification Methodology were included in the sample for this study ("Basic Classification," 2011). Institutions identified as associate's colleges, tribal colleges, and special focus institutions

were excluded from this study. In addition, institutions included in this study met the following criteria: a) the institution provided presidential compensation information on the AAUP Faculty Compensation Survey at both time points in the study period, i.e., 2006 and 2010; and b) the institution had complete data for the independent and control variables listed below. Institutions with any missing data were excluded. Finally, an inspection for possible outliers led to the removal of one doctorate-granting institution. Cook's distance measures were calculated for all institutions. This calculation revealed several institutions with extremely influential data points. Data for these institutions were more closely examined for accuracy and verified through external documents (e.g., annual reports) as necessary. Financial data for the institution with the highest Cook's distance measure appeared dubious after a review of public documents maintained on the institution's website. As a result, this institution was removed from the sample. Table 4.1 displays the final sample of institutions organized by Carnegie classification.

Table 4.1

Distribution of	f Institutions l	by Carnegie	? Classification
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Institution type	п	%
Baccalaureate colleges	16	8.0
Master's colleges and universities	107	52.9
Doctorate-granting universities	79	39.1
All Institutions	202	100.0

Data Sources

Data for this study derived from two sources. All presidential compensation data were collected through AAUP's Faculty Compensation Survey. This survey is administered annually to institutions of higher education and solicits compensation information on faculty and key administrative positions. All institutional data were gathered from the Integrated Postsecondary Education Data System (IPEDS). This system includes annual data on every institution of higher education that participates in the federal student financial aid programs.

Hypotheses

Proposition 1: pay-for-performance

Proposition 1 examined the applicability of pay-for-performance models to presidential pay change in public higher education. Public universities and colleges maintain boards of trustees who are responsible for establishing goals and standards of performance for their institution and for employing a president to manage day-to-day operations related to these goals and standards of performance. This proposition assumes that in order to effectively accomplish this task trustees at public universities and colleges will tie presidential pay to progress in established areas of institutional performance. As a result, one may expect pay change to reflect improved performance over time. As noted in Chapter 2 and Chapter 3, AGB asserted that trustees at public universities and colleges share a set of responsibilities related to institutional performance. Data were available from IPEDS related to two of these performance areas: a) ensuring the fiscal integrity and growth of the institution; and b) promoting academic quality. With data available, hypotheses were developed to examine the relationship between change in presidential pay and change in these institutional performance areas. More specifically, the researcher theorized that presidential pay would be positively related to advancements in fiscal integrity and growth and improvements in academic quality over the five year study period. Two hypotheses were designed to test this proposition:

Hypothesis 1a: Presidential pay will increase as the academic quality of an institution increases over time.

Hypothesis1b: Presidential pay will increase as the fiscal integrity and growth of an institution increases over time.

Proposition 2: principal-agent theory

Proposition 2 examined the applicability of principal-agent theory to presidential pay change in public higher education. It states that trustees on multi-campus boards face greater information asymmetries and therefore rely more heavily on incentive-based contracts to reduce agency problems than their counterparts on single institution boards. Trustees who supervise multiple institutions have less time to monitor specific institutions due to a broader and more complex set of responsibilities. A logical extension is that these individuals will also have less time to monitor the performance of individual presidents. As a result, these individuals may be faced with more severe information asymmetries and, in turn, rely more heavily on performance contracts than their counterparts whose responsibilities lie with one institution and one president. One may expect, therefore, that change in presidential pay will be more strongly coupled with improved institutional performance for presidents who report to a multi-system board. The following hypotheses were designed to test this proposition:

Hypothesis 2a: Pay change will be more strongly associated with change in academic quality for presidents who report to a multi-campus system.

Hypothesis 2b: Pay change will be more strongly associated with change in fiscal integrity and growth for presidents who report to a multi-campus system.

Proposition 3: institutional theory

Proposition 3 examined the applicability of institutional theory to presidential pay in public higher education. It states that institutionalized notions constrain pay for presidents at public universities and colleges. The level of constraint varies across institutions and reflects an institution's dependence on public support. This theory predicts greater dependence on public support to result in greater constraint and lower pay for presidents. Dependence on public support could be measured by proxy as the proportion of an institution's budget deriving from state sources, such as state appropriations, which was available through IPEDS. Following this line of thought, one might expect change in presidential pay to reflect change in state appropriations over time, with greater appropriations resulting in lower pay levels. The following hypothesis was developed to test this proposition:

Hypothesis 3a: Presidential pay will increase as the proportion of an institution's budget deriving from state revenues decreases over time.

Proposition 4: functional theory of stratification

Functional theory suggests a positive relationship between the compensation of individuals and the functional importance of their position. Although difficult to measure, scholars have drawn on measures of an executive's job responsibility to operationalize his or her functional importance. For college and university presidents, job responsibility is often measured by institutional complexity. Proposition 4 examines the applicability of functional theory to change in presidential pay, stating that presidential pay in public universities and colleges is positively related to increases in institutional complexity over time. Institutional complexity can be understood through measures of an institution's

academic programs levels as well as through measures of institutional size. Both

measures were available through IPEDS. The following hypotheses were developed to

test proposition 4:

Hypothesis 4a: Presidents at institutions with broader academic programs

will be compensated at higher levels over time.

Hypothesis 4b: Presidential pay will increase as institutional size

increases over time.

Table 4.2

Theory	Proposition	Hypothesis
Pay-for- performance	1	Hypothesis 1a: Presidential pay will increase as the academic quality of an institution increases over time.
	1	Hypothesis1b: Presidential pay will increase as the fiscal integrity and growth of an institution increases over time.
Principal-agent theory	2	Hypothesis 2a: Pay change will be more strongly associated with change in academic quality for presidents who report to a multi-campus system.
	2	Hypothesis 2b: Pay change will be more strongly associated with change in fiscal integrity and growth for presidents who report to a multi-campus system.
Institutional theory	3	Hypothesis 3a: Presidential pay will increase as the proportion of an institution's budget deriving from state sources decreases over time.
Functional theory	4	Hypothesis 4a: Presidents at institutions with broader academic programs will be compensated at higher levels over time.
	4	Hypothesis 4b: Presidential pay will increase as institutional size increases over time.

Variables

Dependent variable

Presidential pay. The dependent variable in all analyses for this study was change in the natural log of total pay for presidents in the study between the academic years 2006-2007 and 2010-2011. Presidential pay was defined as the sum of salary and supplemental pay delivered to a president in a given academic year. Salary was defined in the AAUP Annual Faculty Survey as the contractual base salary provided by the institution. Supplemental pay was defined as the cash value of any supplemental compensation provided by the institution or a private foundation. Before calculating the difference between academic years, the raw presidential pay value in unadjusted U.S. dollars was converted to a natural log value in order to normalize the distribution of the compensation data, while at the same time accounting for any exponential growth resulting from regular percent increases that might occur on a yearly basis (e.g., Tang, Tang, & Tang, 2000; Ehrenberg, Cheslock, & Epifantseva, 2001; Bartlett & Sorokina, 2005).

Independent variables

Fiscal integrity and growth. To measure fiscal integrity and growth over time, the analysis included three variables that measured financial change between the academic years 2005-2006 and 2009-2010: a) change in the log of core revenues, b) change in the log of total assets, and c) change in the log of total endowment. The core revenues variable was defined in IPEDS as any revenue received by an institution in a given year from the following sources: tuition and fees; state, local, and federal appropriations; state, local, and federal operating and nonoperating grants and contracts;

gifts, excluding those earmarked for an endowment; investment income; and other nonoperating revenues. The total assets variable was measured as the sum of current (e.g., cash and equivalents) and noncurrent assets (e.g., assets expected to be realized in cash, sold, or consumed during the next fiscal year. The total endowment variable was defined as the value of endowment assets at the end of the fiscal year, including gross investments of endowment funds, term endowment funds, and funds functioning as endowment for the institution and any of its foundations and affiliated organizations. Similar to the presidential pay variable, before calculating differences between academic years, the raw values for these independent variables were converted to natural logs in order to correct for non-normality (Gujarati & Porter, 2010).

Collectively, these variables were viewed as indicators of change in an institution's fiscal integrity and growth, which is a performance area of primary interest to trustees at public universities and colleges. These variables were selected from among the financial indicators maintained by IPEDS because they represented institutional performance areas over which a president has some influence over time. For example, growth in an institution's endowment value reflects, to a certain degree, a president's ability to represent the institution to its primary stakeholders effectively through fundraising and development. Growth in an institution's core revenues and assets, on the other hand, may reflect a president's ability to maintain the short-term and long-term financial health of his or her institution through sound investing, revenue diversification, and the acquisition and maintenance of capital assets over time.

Academic quality. To measure academic quality over time, the analysis included two variables that measured change between the academic years 2005-2006 and 2009-

2010: a) change in 75th percentile SAT composite score and b) change in six-year graduation rate. SAT score captures the quality of an institution's primary input, students, while reflecting—to a certain extent—the perception of the quality of an institution by its primary consumers (Tang, Tang, & Tang, 2000; Bartlett & Sorokina, 2005). Change in this variable may be viewed as a reflection of a president's ability to maintain and articulate the academic quality of the institution to the public and other external stakeholders. IPEDS provided the 75th percentile score for the critical reading and math sections of the SAT for the most recent group of first-time, degree seeking students admitted to the institution. These two scores were combined to form a composite score. For cases in which SAT scores were not provided, the researcher converted the 75th percentile scores for the English and math sections of the ACT to SAT equivalents using a concordance table provided by the College Board ("SAT-ACT Concordance Tables," 2011). Like standardized test scores, graduation rate also captures the academic quality of an institution. Change in graduation rate may reflect change in the quality of an institution's faculty and staff as well as improvements in programs and services designed to facilitate a students' progress toward degree achievement. Graduation rate was defined in IPEDS as the total number of first-time, full-time students completing a bachelor degree or equivalent within six-years (150% of normal time), divided by the bachelor cohort.

Together, these two variables were viewed as indicators of change in an institution's academic quality, which is another performance area of primary interest to trustees at public universities and colleges. The president has the potential to influence these areas over time by attracting and retaining quality personnel, allocating financial and human resources to areas that influence academic standards and degree completion e.g., first-year seminars, learning communities, remedial programs—and enhancing or creating systems to track and improve institutional performance in these areas.

Governing board structure. Board structure was measured by a dichotomous variable indicating whether an institution was part of a multi-campus system. IPEDS defined a multi-campus system as an organization of two or more institutions of higher education under the control or supervision of a common administrative governing body. Institutions that fit these criteria were coded "1" in the dataset, while institutions that do not were coded "0."

State sources. The state sources variable was measured as change in the proportion of an institution's budget deriving from state appropriations between the academic years 2005-2006 and 2009-20120. According to IPEDS, state appropriations represented the amounts received by an institution through acts of a state legislative body, with the exception of grants, contracts, and capital appropriations. Before the difference was calculated, the amounts from these appropriations were summed for each institution and divided by the institution's core revenue to determine the proportion of an institution's budget deriving from state sources for each academic year in the study period.

Institutional complexity. Institutional complexity was captured by two variables in this study: a) academic program scope and b) change in institutional size. The Carnegie Foundation for the Advancement of Teaching's 2005 Basic Classification Methodology was used to measure the scope of an institution's academic program ("Basic Classification," 2011). This classification system included three subsectors of interest: doctorate-granting universities, master's colleges and universities, and baccalaureate colleges. The researcher used this classification system, in particular, to align with previous studies (e.g., Pfeffer & Ross, 1981; Ehrenberg, Cheslock, & Epifantseva, 2001) and because it serves as a long-standing framework for classifying variation in institutional complexity. According to the methodology, doctorate-granting universities included institutions that awarded at least 20 research doctorates in a given year; master's colleges and universities included institutions that awarded at least 50 master's degrees but fewer than 20 research doctorates in a given year; and baccalaureate colleges included institutions that awarded fewer than 50 master's degrees and at which bachelor's degrees accounted for at least ten percent of all undergraduate degrees conferred. Dichotomous dummy variables were created for each subsector (e.g., 1=doctorate-granting universities; 0=otherwise). Baccalaureate colleges served as the referent group in all regression analyses.

Change in institutional size was measured by change in full-time equivalent enrollment (FTE) between the academic years 2005-2006 and 2009-2010. This variable was derived in IPEDS by estimating the full-time equivalent of an institution's part-time enrollment and adding this number to the full-time enrollment of the institution. Change in full-time equivalent enrollment may elucidate additional variation in institutional complexity not captured by Carnegie classification alone. This variable was used in previous studies of presidential pay to measure institutional size as well, again allowing for comparison with previous studies in this area (e.g., Pfeffer & Ross, 1988; Ehrenberg, Cheslock, & Epifantseva, 2007).

Control variable

Region. As noted by Tang, Tang, and Tang (2000), pay rates and structures for presidents may vary in different parts of the United States as a result of differences in regional economic conditions. The regression analysis for this study included geographic region as a control variable in order to account for this variation. The IPEDS database provided the region definition for each institution based on the following regional categories: Far West, Mideast, New England, Great Lakes, Plains, Southeast, Southwest, Rocky Mountains, and. Dichotomous dummy variables were created for each region (e.g., 1=Great Lakes; 0=otherwise). New England served as the referent group in all regression analyses.

Statistical Methods

The researcher used ordinary least-squares (OLS) regression analysis to test the hypotheses developed for this study. This statistical approach allowed the researcher to assess the effects of change in the predictor variables on change in presidential pay. The researcher estimated regression models in which the changes in each institutional level variable between the academic years 2005-2006 and 2009-2010 were regressed on the change in presidential pay between the academic years 2006-2007 and 2010-2011. This approach closely mirrors the one taken by Ehrenberg, Cheslock, and Epifantseva (2001) in their examination of presidential pay change, in which differences over a five-year period were modeled. The researcher did depart, however, in one important way from the statistical methods used in that study. A one-year lag between presidential pay and the institutional level data was established in all models to investigate more acutely the

relationship between change in presidential pay and change in institutional profile and performance, e.g., size, dependence on state sources, academic quality, etc.

It was assumed in this study that a board would use the most recent institutional data available to evaluate a president and determine the appropriate pay level. Considering contracts are often negotiated in advance of the beginning of a new academic year, trustees would most likely base a decision regarding pay on institutional data from the current or previous academic year, depending on the nature of the data included in the decision-making process. Following this line of thought, a president's pay for the 2010-2011 academic year may be based on performance measures captured at the conclusion of the 2009-2010 academic year, as these data would represent the most recent available to decision-makers. Previous studies on the relationship between pay and performance for presidents in higher education have not attempted to address this important point by lagging institutional variables by a specified period of time.

In the end, the researcher estimated three OLS regression models to test the seven hypotheses guiding this study. The base model was designed to directly test five of these hypotheses: 1a, 1b, 3a, 4a, and 4b. The dependent variable in this model was the change in the log of presidential pay between the academic years 2006-2007 and 2010-2011. In order to test hypothesis 1a regarding academic quality, this model included as explanatory variables the change in six-year graduation rate between the academic years 2005-2006 and 2009-2010 and the change in 75th percentile SAT composite score during that same time period. The change in the logs of core revenues, endowments, and total assets between the academic years 2005-2006 and 2009-2010 were included in order to test hypothesis 1b regarding fiscal integrity and growth. The change in the proportion of

core revenues deriving from the state between the academic years 2005-2006 and 2009-2010 was included to test hypothesis 3a regarding dependence on state support. Carnegie classification was included to test hypothesis 4a regarding the effect of institutional complexity on presidential pay change; master's universities and colleges and doctorategranting institutions were included, and the baccalaureate group was used as the reference category. The change in FTE enrollment was included to test hypothesis 4b related to the effect of change in institutional size. Geographic region and board composition were included as control variables in this model. The New England region was used as the reference group for geographic region, and, in terms of board composition, institutions that reported to multi-campus systems were coded "1."

The second OLS regression model was estimated to test hypothesis 2a regarding the effect of board composition on the relationship between change in presidential pay and change in academic quality. In addition to the variables described in the base model, this model included parameters that estimated the interaction between board composition and each of the performance measures related to academic quality, i.e., change in 75th percentile SAT composite score and change in six-year graduation rate. This approach mirrored the one taken by Pfeffer and Ross (1988) to estimate the effect of the interaction between change in resources and institutional control on change in presidential pay over time.

The third OLS regression model was estimated to test hypothesis 2b regarding the effect of board composition on the relationship between change in presidential pay and change in fiscal integrity and growth. In addition to the variables indicated in the base model, this model included parameters that estimated the interaction between board

composition and each of the performance measures related to fiscal integrity and growth, i.e., change in the logs of core revenues, endowment, and total assets. Again, this approach paralleled the one taken by Pfeffer and Ross (1988).

The researcher completed a series of regression diagnostics on each model to ensure the data for this study met basic assumptions for regression analysis. As noted in a previous section in this chapter, a thorough examination of influential data was conducted and led to the removal of one institution from the sample for this study. The Durbin-Watson test was used to examine the data for issues of autocorrelation and found no evidence of an association between errors in any of the models reported for this study (Gujarati & Porter, 2010). In addition, collinearity diagnostics revealed no evidence of multicollinearity in the data for each model. The variance inflation factors (VIF) and tolerance statistics met accepted standards for social science research. In addition, the researcher reviewed condition indices for each regression model. An examination of variance proportions for dimensions with small eigenvalues provided no evidence of multicollinearity.

To check for heteroscedasticity, the researcher examined scatter plots of standardized residuals and regression residuals. The scatterplots for each model showed some evidence of variability in the residuals as the predicted values increased slightly along the x-axes. Figure 4.1 displays the scatterplot for the base model. To examine this issue further, the researcher ran the Breusch-Pagan test for each regression model reported in this study. The null hypothesis of constant variance was rejected at the alpha .01 level for each model, which suggested violations of the assumption of homoscedasticity. To correct for this problem, the researcher estimated the final regression models with robust standard errors. All results from the regression analyses reported in Chapter 5 involve the corrected models with robust standard errors.

Figure 4.1

Scatter Plot of Standardized Residuals and Regression Residuals for the Base Model



Limitations

Before proceeding to the findings presented in the next chapter, the reader should keep in mind several limitations in this study. First, this study relied on a relatively small, non-random, and unrepresentative sample of public universities and colleges. Only those institutions that, for reasons unknown to the researcher, elected to participate in
AAUP's Annual Faculty Salary survey in 2006 and 2010 were included in this study. It is possible these institutions differed in meaningful ways from other public universities and colleges that did not participate in this survey during the five-year study period.

In addition, the distribution of institutions across Carnegie classification in this study was heavily weighted toward doctorate-granting institutions, relative to the actual population of four-year colleges and universities. According to the Carnegie Foundation, doctorate-granting institutions make up about 16% of the total population of four-year universities and colleges, excluding tribal colleges and special focus institutions ("Summary Table," 2012). Yet, doctorate-granting institutions comprised about 40% of the sample used for this study. Furthermore, baccalaureate colleges represent about 44% of four-year universities and colleges in the actual population. This group of institutions represented only 8% of the total sample in this study. Because the sample from this study is not representative of the actual population of four-year universities and colleges, the findings from this study—even those that reached statistically significant levels—should be generalized beyond this text only with an appropriate level of caution.

A third limitation involves the duration of the study period. The researcher was able to gather compensation data across only a five-year timeframe. This timeframe, while standard in previous longitudinal studies on presidential pay, may be too narrow to illustrate clearly any relationship between institutional change and change in presidential pay. A twenty-five year study period, for example, may be less sensitive to transitory changes in the environment, such as a one- or two-year downturn in economic markets or an unanticipated spike in enrollments, than the this study which covered only a five-year period. It is safe to say that a longer study period would have the potential to provide a much less biased and more efficient estimation of the pay-for-performance phenomenon in public universities and colleges at the very least.

The salary data also represented a possible limitation in this study. As noted in Chapter 2, most university and college presidents receive pay and benefits, which in combination define total compensation. Chapter 1 described the lack of transparency regarding the benefits side of total compensation. The IRS Form 990 does not require universities and colleges to itemize benefits packages for presidents completely. While it is possible to ascertain total compensation from this form relatively easily, it is difficult to discern the exact makeup of a president's benefits, which may include an array of undisclosed financial incentives. Critics have contended that trustees use benefits to increase presidential compensation surreptitiously, assuming this facet of a president's compensation will draw less attention than pay because of its relative ambiguity in the Form 990. Following this line of thought, trustees may rely on benefits rather than salary to reward presidents for performance. Such a compensation model would reflect common practices in the corporate sector in which performance is often tied to variable compensation forms, such as stock options. This study included data on presidential pay only; data on benefits were not available. As a result, the relationship between performance and benefits and performance and total compensation were not estimated. Therefore, it was possible that the final model misrepresented the true pay-performance link for presidents at public colleges and universities.

On a related point, the reader may recall that pay for presidents at public universities and colleges is often legislatively capped. To augment a president's income deriving from state sources, many institutions have established a separate private

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foundation with funds from donors. Such foundations provide additional income to presidents whose salary may be capped at a level deemed unsatisfactory. As a result, presidents at public institutions may receive income from at least three different sources: a) a salary and benefits defined and delivered by the state; b) a salary and benefits supplement provided by a private foundation; and c) income deriving from board membership, consulting, and other services rendered outside of the university. This mix of income sources makes determining a president's actual compensation very difficult. While pay from the state and private foundations was included in this study, any income deriving from board membership, consulting, and other services was not.

Discerning any relationship between change in pay (however it is measured) and change in institutional performance is difficult when the tenure of a president is unknown, as is the case in the present study. As Ehrenberg, Cheslock, and Epifantseva (2001) pointed out, incentive payments for presidents may occur at discrete points in time, such as the end of a president's tenure. For example, a president may receive a large retirement payout at the conclusion of twenty years of quality service. This payout may be unrelated to institutional performance, as defined here. On the other hand, trustees may provide a large compensation increase as a way to encourage a president to resign from his or her position. In this example, the change in pay may be the result of poor performance over time. Yet, for this hypothetical institution, a drastic increase in pay may appear to be related to poor performance. In both examples, not being able to control for whether a point in time is the last year of a president's tenure presents challenges in teasing out the relationship between pay and performance. For similar reasons, knowing whether a point in time is the first year of a president's tenure would also be helpful. Often, a new president is paid at a different rate than his or her predecessor. In cases like these, the relationship between changes in institutional performance and changes in pay may again be obscured. Unfortunately, individual level data were not available for this study, so tenure was not captured. It is safe to assume, however, that the sample included institutions with presidents at different tenure levels—from new to longstanding. It is also safe to assume that some institutions maintained the same president over the entire study period, while others employed several different presidents from 2006 to 2010. These different employment scenarios could influence the relationship between pay and performance in potentially significant ways.

An additional limitation related to pay delivery systems in higher education involves the lag theorized in each of the regression models. It was possible that the oneyear lag embedded in the models described above actually misrepresented the calculus behind salary decisions among trustees. Trustees at different institutions may choose to evaluate performance over a longer or shorter period of time according to uniquely established criteria. As a result, the lag established in the final model for this study may not capture accurately the effects of change in the explanatory variables on change in presidential pay. The lag may confound, overestimate, or underestimate this relationship depending on the nature and extent of any inconsistencies between the estimated lag and any lag occurring in reality. This estimation problem was complicated by the relatively narrow study period. For example, if a set of trustees at in institution in this study based pay decisions on longer-term institutional performance indicators—e.g., three or five years—the president may not receive the rewards of his or her good performance until well beyond the last year for which data were collected for this study. It would be difficult to determine the most appropriate lag for each institution without reviewing the contracts for individual presidents. Contracts were not available for review for this study.

A final limitation related to model misspecification involves the absence of measures of human capital. Human capital theory hypothesizes a positive relationship between pay and marginal productivity, which can be observed through differences in individuals' education, rank, and experience. Chapter 2 showed that many studies have used this classic theory to explain variation in compensation across corporate and not-for-profit sectors. An examination of human capital theory in this study was not possible due to an inability to acquire human capital data on presidents. That said, it is worth recalling that the findings reported in Chapter 2 suggested that measures of human capital were not effective predictors of pay change (e.g., Pfeffer and Ross, 1988; Ehrenberg, Cheslock, and Epifantseva, 2001). Nevertheless, it is possible that measures of human capital may have a statistically significant effect on pay change in public universities and colleges during the five-year study period. It is also possible that controlling for human capital variables would influence the effects of other predictors in the models in significant ways.

CHAPTER FIVE

RESULTS

The previous chapter described the research design that guided this examination. The researcher stated seven specific hypotheses and reviewed the statistical methods used for testing each. This chapter is devoted to reporting the results from those tests. The results are divided into three major sections. The first section provides descriptive statistics for the institutions included in this study. The second section provides descriptive statistics related to pay for presidents in this sample and change in pay over the five-year study period. The third section describes the results from the final change equations, which estimated the effects of change in institutional variables on change in presidential pay.

Descriptive Statistics for Public Universities and Colleges

Table 5.1 illustrates the characteristics of the public universities and colleges included in this study by academic year. Regarding academic quality, the mean six-year graduation rate for institutions in the sample was 48% during the academic year 2005-2006 and 50% five years later. As shown in Table 5.2, the difference in graduation rate between the two academic years represented a percent change of 4%. Table 5.2 also displays the percent change in indicators of academic quality by institution type. The highest percent change in graduation rate during the study period occurred at doctorate-granting universities (4.6%), followed by master's colleges and universities (3.9%).

Table 5.1

Descriptives for Public Universities and Colleges by Academic Year

	Academic year				
	2005-2	2006	2009-2	2010	
Variable label	Mean	SD	Mean	SD	
Academic indicators Graduation rate	48.0	14.2	50.0	14.8	
SAT composite score	1,146	85.2	1,148	89.4	
Financial indicators Core revenues	\$274,322	\$387,660	\$305,926	\$377,650	
Endowment	\$115,897	\$401,801	\$168,126	\$539,983	
Total assets	\$517,342	\$976,386	\$681,096	\$1,201,322	
% core revenues from state sources	35.0%	8.6%	34.4%	9.0%	
Size and complexity FTE	11,802	8,851	12,623	9,260	
Baccalaureate colleges	0.08	0.27	-	-	
Master's colleges and universities	0.53	0.50	-	-	
Doctorate-granting universities	0.39	0.49	-	-	
Board composition	0.65	0.48	-	-	
Region					
Far west	0.09	0.29	-	-	
Great lakes	0.18	0.38	-	-	
Mideast	0.11	0.32	-	-	
New England	0.03	0.18	-	-	
Plains	0.13	0.34	-	-	
Rockies	0.05	0.23	-	-	
Southeast	0.30	0.46	-	-	
Southwest	0.09	0.29	-	-	
n	202	202	202	202	

Note. Core revenues, endowment, and total assets are expressed in \$1,000.

The second measure of academic quality in this study was 75th percentile SAT composite score. The mean 75th SAT composite score was 1,146 in the academic year 2005-2006 and 1,148 in five years later. The difference in these values was nominal overall. In fact, as Table 5.2 demonstrates, the difference in this indicator between time points was nominal among different institution types as well. The greatest percent change occurred at doctorate-granting universities (0.7%).

Table 5.2

_	Institution type					
	All	Bachelor's colleges	Master's colleges and universities	Doctorate- granting universities		
Variable label	% change	% change	% change	% change		
Academic indicators Graduation rate SAT composite score	4.0% 0.0%	1.9% -0.9%	3.9% -0.1%	4.6% 0.7%		
Financial indicators						
Core revenues	10.3%	14.3%	20.4%	7.4%		
Endowment	31.0%	38.6%	27.3%	31.3%		
Total assets	24.0%	31.8%	30.2%	22.4%		
% core revenues from state sources	-1.7%	2.1%	-3.9%	0.4%		
FTE n	6.5% 202	9.8% 16	7.1% 107	6.1% 79		

Percent change in Mean from Academic Year 2005-2006 to Academic Year 2009-2010

Table 5.1 also displays descriptive statistics for measures of fiscal integrity and growth. The mean for core revenues was \$274 million in the academic year 2005-2006 and \$305 million in the academic year 2009-2010. This increase represented a percent change of 10.3%. As displayed in Table 5.2, the greatest percent change in mean core

revenues occurred at master's colleges and universities (20.4%). On average, the institutions in this study saw a slight decrease in the percent of core revenues deriving from state sources. The mean for this financial indicator was 35% in the academic year 2009-2010 and 34% five years later. This decrease represented a nominal and negative percent change of about 1.7% during the study period. Master's colleges and universities saw the greatest percent change on this financial indicator with a decrease of 3.9%.

The mean endowment at the beginning of the study period was \$115 million and \$168 million at the end of the study period, marking a percent change of 31% across public universities and colleges in this study. The greatest percent change in mean endowment occurred at bachelor's colleges (38.6%). Significant growth in total assets occurred during the five-year study period as well. The mean for this financial indicator for all institutions was \$517 million in the academic year 2005-2006 and \$681 million five years later, which represented a percent change of 24% during the study period. Bachelor's colleges witnessed the highest percent change in mean total assets with an increase of 31.8% on average.

In terms of institutional size and complexity, Table 1 reveals that the majority of the institutions in this study were master's colleges and universities. This group represented 53% of the total sample. Doctorate-granting institutions comprised about 40% of the sample, and approximately 8% of the institutions were baccalaureate colleges. In addition, 65% of the institutions were governed by a multi-campus board, and 35% of the universities and colleges in this study were governed by a single-campus board.

Full-time equivalent enrollment grew slightly across all institution types. The mean FTE for all institutions at the beginning of the study period was approximately

11,800 and approximately 12,600 at the end, marking a percent change in mean FTE of 6.5%. The greatest percent change in mean FTE during the study period occurred among baccalaureate colleges, which saw a percent change of approximately 10% on average.

Finally, the institutions included in this sample were located across the U.S. The region with the most representation was the Southeast region, in which 30% of the institutions were located. A relatively high number of institutions (18%) were located in the Great Lakes region as well. The region with the lowest representation was the Rocky Mountain region, which included only 5% of the public universities and colleges in this study.

Descriptive Statistics for Presidential Pay

Table 5.3 illustrates the mean presidential pay at the public universities and colleges included in this study for the academic years 2006-2007 and 2010-2011. The mean presidential pay was approximately \$252,600 for all institutions in the academic year 2006-2007 and approximately \$300,000 in the academic year 2010-2011. Table 5.4 shows that this increase in mean presidential pay represents a percent change of 15.5% over the five-year study period. Table 5.3 also examines presidential pay across the study period by selected categorical independent variables. In the academic year 2006-2007, mean presidential pay was highest for doctorate-granting institutions at \$317,436 and lowest for baccalaureate colleges \$202,314. The difference between these values is about \$115,000. Stated differently, in the academic year 2006-2007 presidents at baccalaureate colleges typically made about 36% less than their counterparts at doctorate-granting institutions. Presidents in the latter group also made about \$50,000 less than the average

across institution types, while presidents in the former made about \$65,000 more than the overall average in the academic year 2006-2007.

Table 5.3

Mean Presidential Pay at Public Universities and Colleges by Academic Year

	Academic year						
		2006-2007			2010-2011		
Variable label	n	Mean	SD	п	Mean	SD	
All institutions	202	\$252,643	\$84,718	202	\$299,056	\$98,630	
Carnegie classification Baccalaureate colleges	16	\$202,314	\$61,323	16	\$220,345	\$77,049	
Master's colleges and universities	107	\$212,329	\$41,332	107	\$253,059	\$59,271	
Doctorate-granting universities	79	\$317,436	\$91,921	79	\$377,297	\$93,697	
Board composition							
Multi-campus	132	\$238,400	\$78,135	132	\$281,359	\$91,250	
Single-campus	70	\$279,498	\$90,537	70	\$332,427	\$103,927	
Region Far west	18	\$266,024	\$99,888	18	\$308,395	\$114,267	
Great lakes	36	\$242,524	\$78,152	36	\$296,680	\$94,618	
Mideast	23	\$246,393	\$87,022	23	\$270,936	\$91,394	
New England	7	\$219,099	\$20,883	7	\$271,159	\$41,271	
Plains	27	\$232,307	\$52,375	27	\$282,533	\$81,159	
Rockies	11	\$237,067	\$77,953	11	\$284,649	\$83,016	
Southeast	61	\$259,685	\$92,216	61	\$309,001	\$106,053	
Southwest	19	\$294,363	\$100,578	19	\$338,917	\$115,406	

In that same academic year, presidents at master's colleges and universities made about \$212,000 on average, which is about \$105,000 (33%) less than the mean presidential pay at doctorate-granting institutions in this study. This pattern remained in the 2010-2011 academic year, in which, on average, presidents at doctorate-granting institutions made \$157,000 more than presidents at baccalaureate colleges and \$124,000 more than presidents at master's colleges and universities.

Table 5.4

Percent Change in Mean Presidential Pay from Academic Year 2006-2007 to

Academic Year 2010-2011

Variable label	n	% change
All institutions	202	15.5%
Carnegie classification		
Baccalaureate colleges	16	8.2%
Master's colleges and universities	107	16.1%
Doctorate-granting universities	79	15.9%
Board composition		
Multi-campus	132	15.3%
Single-campus	70	16.0%
Region		
Far west	18	13.7%
Great lakes	36	18.3%
Mideast	23	9.1%
New England	7	19.2%
Plains	27	17.8%
Rockies	11	16.7%
Southeast	61	16.0%
Southwest	19	13.1%

Table 5.4 shows that the percent change in mean presidential pay during the fiveyear study period was highest at doctorate-granting institutions and master's universities and colleges—15.9% and 16.1%, respectively. Percent change in mean presidential pay was only 8.2% at baccalaureate colleges. Taken together, these findings show that, on average, presidents at doctorate-granting institutions received more in pay during the five-year study period and that pay for presidents at those institutions increased at higher rates than pay for presidents at types of four-year public institutions included in this study.

Mean presidential pay was also disaggregated by governing board structure. In the academic year 2006-2007, presidents who reported to single-campus boards of trustees made \$279,000 on average, while presidents who reported to multi-campus boards of trustees made approximately \$238,000. This differential increased five years later, when presidents who reported to single-campus boards made about \$332,000 on average, and presidents who reported to multi-campus boards made approximately \$281,000. The percent change in mean presidential pay over the five-year study period was approximately 15 % for presidents who reported to multi-campus boards.

Table 5.3 also displays differences in mean presidential pay by region. In the academic year 2006-2007, presidents in the Southwest region received the most in pay on average. During this academic year, the mean presidential pay for this region was approximately \$294,000, which is about \$42,000 more than the average overall. The lowest mean presidential pay was in the New England region, where presidents received about \$219,000 on average, which is about \$33,000 less than the average across all regions. The difference between the highest mean and the lowest mean presidential pay was roughly \$75,000. Stated differently, typical presidents in New England made about

25% less in pay during the academic year 2006-2007 than their counterparts in the Southwest region on average. Presidents in the Far West region received approximately \$266,000 in that same year on average. This mean was about \$5,000 more than the mean salary for the Southeast region, which had the third highest mean, and about \$10,000 more than the mean salary for the Mideast region, which had the fourth highest mean in the sample.

These differentials shifted slightly in the academic year 2010-2011. Again, presidents in the Southwest region received the most in pay on average, bringing in just under \$339,000, but the region with the lowest mean shifted from New England to the Mideast, where presidents brought in approximately \$271,000. The difference between highest mean and lowest mean was slightly smaller at \$68,000. The region with the second highest mean was the Southeast region with a mean of \$309,000, followed by the Far West region, which had a mean of roughly \$308,000 in the academic year 2010-2011.

While the Southwest region had the highest mean presidential pay at both time points, Table 5.4 shows that the percent change in mean for this region was relatively low, at 13.1%. On the other hand, the mean for presidential pay in the New England region was relatively low at both time points, but the percent change in mean for this region was the highest, at 19.2%. In addition, the Far West region maintained relatively high mean values at both time points, but the percent change for this region was nearly the lowest, at 13.7%. These results show differences in presidential pay by region and provide additional support for including region as a control variable in the OLS regression models described in the next section.

Pearson correlations were calculated to better understand the relationships between change in the independent variables from academic year 2005-2006 to academic year 2009-2010 and change in presidential pay from academic year 2006-2007 to academic year 2010-2011. The correlation coefficients from these calculations are presented in Table 5.5. Change in presidential pay was most strongly correlated with change in endowment.

Table 5.5

Correlations Between Change Variable	?S
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Variable	1	2	3	4	5	6	7	8
Change in presidential pay	-	0.08	0.10	0.09	0.19**	0.05	-0.05	-0.02
Change in graduation rate	0.08	-	0.03	0.11	0.10	0.07	-0.09	0.16*
Change in SAT composite score	0.10	0.03	-	0.04	0.03	-0.06	0.04	0.02
Change in core revenues	0.09	0.11	0.04	-	0.13	0.30**	-0.78**	0.05
Change in endowment	0.19**	0.10	0.03	0.13	-	0.08	-0.08	0.10
Change in total assets	0.05	0.07	-0.06	0.30**	0.08	-	0.27**	0.15*
Change in % core revenues from state sources	-0.05	-0.09	0.04	-0.78**	-0.08	0.27**	-	-0.11
Change in FTE	-0.02	0.16*	0.02	0.05	0.10	0.15*	-0.11	-
Note. All financial variabl	les were	converte	ed to nat	ural logs	before cl	nange wa	is comput	ted,

including presidential pay, core revenues, endowment, and total assets. *p < .05. **p < .01.

This correlation was positive, relatively moderate, and highly statistically significant, p < .01. This correlation provides some support for hypothesis 1b concerning the relationship between change in presidential pay and change in fiscal integrity and growth.

Interestingly, however, change in endowment represented the only change variable with which change in presidential pay was statistically significantly correlated. Moreover, change in FTE enrollment was actually negatively associated with change in presidential pay. Though this particular association was relatively weak and did not reach statistical significance, it is interesting in light of hypothesis 4b, which suggests a positive relationship between the two variables over time. Change in presidential pay was also negatively associated with change in state appropriations. This association provided some support for hypothesis 3a, which suggests that presidential pay will increase as an institution's reliance on state appropriations decreases. Again, this association was weak and statistically insignificant. In the end, aside from change in endowment, it appears from Table 5.5 that change in the independent variables has virtually no association with change in presidential pay. Of course, it is difficult to discern from bivariate analysis the extent to which change in presidential pay is a function of change in the independent variables. More extensive multivariate analysis is needed to better understand these relationships. To that end, three regression models were estimated, and the findings from these models are reported in the ensuing section.

Determinants of Change in Presidential Pay

Base presidential pay change equation

While helpful in developing a comprehensive understanding of the data used for this study, the descriptive statistics described above reveal little regarding *determinants*

of change in presidential pay. To address this phenomenon, three OLS regression models were estimated. The base presidential pay change equation was designed to directly test five of the seven hypotheses guiding this study: 1a, 1b, 3a, 4a, and 4b. Results from the base model are displayed in Table 5.6. This model explained approximately 13% of the variance in change in presidential pay over the study period, $R^2 = .13$. The *F* test indicated that this model had a good fit overall, F(17, 184) = 3.02, p < .01.

The dependent variable in this model was the change in the log of presidential pay between the academic years 2006-2007 and 2010-2011. In order to examine the relationship between change in academic quality and change in presidential pay, the base model included as explanatory variables the change in six-year graduation rate between the academic years 2005-2006 and 2009-2010 and the change in 75th percentile SAT composite score during that same time period. Neither measure of change in academic quality had a statistically significant effect on change in presidential pay.

In order to examine the relationship between change in fiscal integrity and growth and change in presidential pay, the base model included as explanatory variables change in the log of core revenues, endowments, and total assets between the academic years 2005-2006 and 2009-2010. Change in core revenues and total assets did not have a significant effect on change in presidential pay. Change in endowment, on the other hand, did have a positive and statistically significant effect, p < .05. This effect was relatively weak, however. To better understand the effect of change in endowment on changes in presidential pay, the coefficient for this variable was exponentiated using the following formula: 100% * e^{β} -100%. The converted value indicated that for every 1% change in endowment presidential pay would be expected to increase by approximately

2% on average, all else equal.

Table 5.6

		Robust		
Variable label	В	SE B	t	р
Intercept	0.08	0.07	1.28	0.20
Change in graduation rate	0.00	0.00	0.63	0.53
Change in SAT composite score (*100)	0.02	0.03	0.56	0.58
Change in core revenues	0.09	0.07	1.31	0.19
Change in endowment	0.02**	0.01	2.03	0.04
Change in total assets	0.08	0.05	1.63	0.10
Change in % core revenues from state sources	0.00	0.00	0.70	0.49
Change in FTE (*1,000)	-0.01	0.01	-0.75	0.46
Board composition	-0.02	0.03	-0.91	0.37
Master's colleges and universities	0.10***	0.03	2.98	0.00
Doctorate granting universities	0.12***	0.04	3.11	0.00
Far west	-0.05	0.06	-0.84	0.40
Great lakes	-0.02	0.06	-0.36	0.72
Mideast	-0.10*	0.05	-1.91	0.06
Plains	-0.02	0.06	-0.37	0.71
Rockies	-0.04	0.07	-0.55	0.59
Southeast	-0.05	0.06	-0.80	0.43
Southwest	-0.08	0.07	-1.27	0.21
R^2	0.13			
F	3.02***			
<i>n</i>	202			

Base Presidential Pay Change Equation

Note. All financial variables were converted to natural logs before differences were calculated, including presidential pay, core revenues, endowment, and total assets. *p < .10. **p < .05. ***p < .01.

In order to examine the relationship between change in state support and change in presidential pay, the base model included as an explanatory variable change in the proportion of core revenues deriving from the state between the academic years 2005-2006 and 2009-2010. Change in state support did not have a statistically significant effect on presidential pay.

A measure of change in FTE enrollment and dummy variables for Carnegie classification were included in the base change equation to examine the effect of institutional complexity on change in presidential pay over the five year study period. Change in enrollment had no effect on change in presidential pay; however, institution type was significantly associated with pay change. The reader will recall that master's universities and colleges and doctorate-granting institutions were included in the equation, while baccalaureate colleges served as the reference category. The effect of master's colleges and universities on change in presidential pay was positive, relatively strong, and statistically significant effect, p < .01. This indicated that change in presidential pay increased at a higher rate in master's colleges and universities relative to baccalaureate colleges. All else equal, pay for presidents in the former set of institutions increased at 10% above the latter. The effect of doctorate-granting universities on change in presidential pay was also positive, relatively strong, and statistically significant, p < p.01. Pay for presidents in this group of institutions would be expected to increase 10% above the latter on average, all else equal.

Presidential pay change equation with interaction terms

The second OLS regression model was estimated to test hypothesis 2a regarding the effect of board composition on the relationship between change in presidential pay

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and change in academic quality. In addition to the variables included in the base model, this model included parameters that estimated the interaction between board composition and each of the performance measures related to academic quality, i.e., changes in 75th percentile SAT composite score and changes in six-year graduation rate. Results from this change equation are displayed in Table 5.7. This model explained approximately 14% of the variance in change in presidential pay over the study period, $R^2 = .14$. The *F* test indicated that this model had a good fit overall, F(19, 182) = 2.96, p < .01.

The interaction term for board composition and change in graduation rate was not statistically significant. On the other hand, the interaction term for board composition and change in SAT did have a significant effect on change in presidential pay, p < .05. This effect was negative and relatively large, indicating that pay increased less in institutions that reported to multi-system boards whose presidents had higher rates of change in SAT composite scores. In addition, including these interaction terms altered the base change equation in meaningful ways. First, in this model change in SAT had a positive, strong, and significant effect on change in presidential pay. The coefficient for this variable indicated that for every 100 point increase in 75th percentile SAT composite score, change in presidential pay would be expected to increase by 12% on average, all else equal in the model. This variable had no effect on presidential pay change in the base model. Moreover, change in endowment no longer had a significant effect on presidential pay change, as it did in the base model. The effects of the Carnegie classification variables, however, remained essentially the same in both models showing large, positive, and statistically significant percent increases in pay relative to baccalaureate colleges.

Table 5.7

Presidential Pay Change Equation with Board /Academic Quality Interaction

	D	Robust		
variable label	В	SE B	t	р
Intercept	0.07	0.06	1.07	0.29
Change in graduation rate	0.00	0.00	0.04	0.96
Change in SAT composite score (*100)	0.12**	0.00	1.92	0.05
Change in core revenues	0.08	0.07	1.20	0.23
Change in endowment	0.02	0.01	2.13	0.35
Change in total assets	0.06	0.05	1.35	0.18
Change in % core revenues from state sources	0.00	0.00	0.72	0.47
Change in FTE (*1,000)	-0.01	0.00	-0.84	0.40
Board composition	-0.02	0.03	-0.73	0.47
Master's colleges and universities	0.10***	0.03	3.13	0.00
Doctorate granting universities	0.12***	0.04	3.24	0.00
Board * change in graduation rate	0.00	0.00	0.37	0.71
Board * change in SAT composite score	-0.14**	0.07	-2.07	0.04
Far west	-0.05	0.06	-0.58	0.56
Great lakes	-0.01	0.06	-0.08	0.94
Mideast	-0.09	0.05	-1.65	0.10
Plains	0.00	0.06	0.01	0.99
Rockies	-0.01	0.07	-0.20	0.85
Southeast	-0.03	0.06	-0.55	0.58
Southwest	-0.08	0.06	-1.18	0.24
R^2	0.14			
F	2.96***			
n	202			

Note. All financial variables were converted to natural logs before differences were calculated, including presidential pay, core revenues, endowment, and total assets. *p < .10. **p < .05. ***p < .01.

The third OLS regression model was estimated to test hypothesis 2b regarding the effect of board composition on the relationship between change in presidential pay and change in fiscal integrity and growth. In addition to the variables in the base model, this model included parameters that estimated the interaction between board composition and each of the performance measures related to fiscal integrity and growth, i.e., change in the logs of core revenues, endowment, and total assets. Results from this change equation are displayed in Table 5.8. This model explained approximately 13% of the variance in change in presidential pay over the study period, $R^2 = .13$. The *F* test indicated that this model had a good fit overall, F(20, 181) = 2.59, p < .01.

Table 5.8

Presidential Pay Change Equation with Board /Fiscal Integrity Interaction

		Robust		
Variable label	В	SE B	t	р
Intercept	0.07	0.07	0.98	0.33
Change in graduation rate	0.00	0.00	0.68	0.49
Change in SAT composite score (*100)	0.02	0.03	0.53	0.60
Change in core revenues	0.09	0.08	1.16	0.25
Change in endowment	0.05**	0.04	1.25	0.21
Change in total assets	0.06	0.15	0.41	0.68
Change in % core revenues from state sources	0.00	0.00	0.67	0.50
Change in FTE (*1,000)	-0.01	0.00	-0.62	0.54
Board composition	-0.01	0.05	-0.23	0.82
Master's colleges and universities	0.10***	0.03	3.05	0.00
Doctorate granting universities	0.12***	0.04	3.18	0.00
Board * change in core revenues	-0.01	0.11	-0.13	0.90
Board * change in endowment	-0.03	0.04	-0.77	0.44
Board*change in total assets	0.01	0.17	0.08	0.94
		Γ]	able 5.8 cc	ontinues]

		Robust		
Variable label	В	SE B	t	р
Far west	-0.05	0.06	-0.84	0.40
Great lakes	-0.017	0.06	-0.31	0.75
Mideast	-0.11**	0.06	-1.98	0.04
Plains	-0.02	0.06	-0.38	0.71
Rockies	-0.03	0.07	-0.50	0.62
Southeast	-0.05	0.06	-0.78	0.43
Southwest	-0.08	0.07	-1.26	0.21
R^2	0.13			
F	2.59***			
n	202			

Table 5.8 continued

Note. All financial variables were converted to natural logs before differences were calculated, including presidential pay, core revenues, endowment, and total assets. *p < .10. **p < .05. ***p < .01.

The interaction term for board composition and change in core revenues did not have a significant effect on change in presidential pay, all else equal. Similar results were found in regards to the interaction between board composition and change in total assets and board composition and change in endowment. Including interaction terms for fiscal integrity and growth did alter the base change equation in one meaningful way: the effect of change in endowment increased from approximately 2% in the base model to roughly 5% in this model. Again, the effects of the Carnegie classification variables remained essentially the same in both models—showing large, positive, and statistically significant percent increases in pay relative to baccalaureate colleges.

CHAPTER SIX

DISCUSSION AND IMPLICATIONS

The purpose of this study was to examine determinants of change in presidential pay at public universities and colleges. The previous chapter described the results from a series of descriptive and regression analyses. This chapter is devoted to discussing these results within the context of the theoretical framework and hypotheses underpinning this study. This chapter includes four major sections. The first section provides a broader discussion of the key findings from Chapter 5 and describes some implications from these findings for compensation theories. The second section is devoted to discussing implications for practice in higher education. The third section illuminates opportunities for future research on presidential pay at universities and colleges. The final section provides concluding remarks

Discussion of Findings and Theoretical Implications

Pay-for-performance theory

The researcher postulated that in order to effectively accomplish assigned responsibilities, trustees at public universities and colleges tie presidential pay to progress in established areas of institutional performance. Data were available from IPEDS related to two of these performance areas: a) promoting academic quality; b) ensuring the fiscal integrity and growth of the institution. The researcher developed two hypotheses to examine the relationship between change in presidential pay and change in these key institutional performance areas. **Hypothesis 1a.** First it was hypothesized that presidential pay would increase as the academic quality of an institution increased over the five-year study period. In order to test this hypothesis, the researcher examined the relationship between change in presidential pay and change in six-year graduation rate and 75th percentile SAT composite score. The results from the base model indicated that change in these measures of academic quality had no significant effect on change in presidential pay. The coefficients for these variables, however, were directionally supportive of this hypothesis, though the associations were weak. The coefficients indicated that for every 1% change in graduation rate presidential pay increased by .1% on average, all else equal, and for every 100 point increase in SAT composite score, change in presidential pay increased by about 2%. Overall, the base model provided little support in favor of hypothesis 1a. *It does not appear from this study that presidents are rewarded with increased pay as institutional academic quality improves*.

This conclusion aligns with previous studies to a great extent. While this was the first study on presidential pay to include graduation rate as a measure of academic quality, others have examined the relationship between SAT scores and presidential pay level and pay change. For example, Tang, Tang, & Tang (2000) included mean SAT score as a measure of academic quality and performance in their cross-sectional analysis of presidential pay level at private universities and colleges. They found that this measure had a positive, weak, and statistically insignificant association with presidential pay. Conversely, Bartlett and Sorokina (2005) found that SAT score had a positive, moderate, and statistically significant effect on presidential pay level at selective liberal arts colleges (B=.042). The study by Ehrenberg, Cheslock, and Epifantseva (2001)

represents the only other study to examine the relationship between SAT score and presidential pay change. The results from their study were strikingly similar to the results from the present one: they found that the association between change in SAT scores and presidential pay change was positive, weak, and statistically insignificant (B=.0002).

Taken together, these previous studies provided mixed evidence regarding the relationship between presidential pay levels and SAT score at private institutions. It appears that SAT score may have an effect on pay level but, to date, researchers have yet to find evidence that change in this measure of academic quality effects change in presidential pay. Beyond SAT score, this study found that change in graduation rate was similarly disassociated with presidential pay change, leading the researcher to conclude change in presidential pay is not a function of change in academic quality among the public universities and colleges included in this study.

Hypothesis 1b. The researcher also hypothesized that presidential pay would increase as the fiscal integrity and growth of an institution increased over the five-year study period. In order to test this hypothesis, the researcher estimated the relationship between change in presidential pay and change in three financial performance indicators: a) core revenues; b) endowment; and c) total assets. The findings from the base model provided some evidence to support hypothesis 1b. While change in core revenues and total assets had no significant effect on change in presidential pay, change in endowment had a positive and small effect. The coefficient for this measure of financial integrity indicated that for every 1% change in total assets, change in presidential pay would be expected to increase by 2%, all else equal. Though endowment change was the only financial indicator with a significant effect on change in pay, all three were positively and

strongly associated with pay change. For example, the base change equation indicated that for every 1% change in core revenues presidential pay increased approximately 9% and for every 1% change in total assets, presidential pay increased by approximately 8%. Yet, change in endowment was the only financial indicator that that had a significant effect on change in presidential pay, and this effect was weak. *Taken together, these findings suggest that trustees reward presidents only nominally, if at all, for institutional improvements in fiscal integrity and growth.*

The study by Ehrenberg, Cheslock, and Epifantseva (2001) also examined the relationship between change in endowment and presidential pay change. Contrary to the current study, these authors that change in endowment had no effect on change in pay across subsectors of private institutions. Others have examined the relationship between endowment and pay levels. For example, Bartlett and Sorokina (2005) estimated this relationship for presidents of private, selective liberal arts institutions. They found that that endowment was not a significant predictor of pay level. In addition, O'Connell (2005) found no evidence of a relationship between endowment yield and presidential pay level at private liberal arts colleges.

The findings from these earlier studies have suggested that presidential pay and endowment are not associated in terms of level or change. It should be pointed out that previous studies have examined this relationship in private institutions only. It is possible that this relationship is different across different types of institutional control. Following this line of thought, it may be possible that trustees in public institutions consider endowment levels and growth a more important factor in determining pay for presidents than trustees at private institutions. The findings from this study provided some support for this position, as endowment growth was had a statistically significant but small effect on change in presidential pay over the five-year study period.

In terms of the other financial performance measures, the present study appears to represents the first empirical attempt to estimate a change equation including core revenues and total assets. As noted above, change in both measures had no effect on change in presidential pay. Monks (2007), however, did find that revenue per student had a strong and statistically significant effect on presidential pay levels in doctorate-granting public universities. Collectively, the work to date on presidential pay-including the present study—does not provide a lot of support for the hypothesis that presidents are rewarded for growing an institution's financial resources. It appears that trustees at institutions with higher levels of financial resources typically compensate presidents at higher levels, as this study by Monks and others cited in Chapter 2 suggested, but it does not appear that presidents are rewarded for *increasing* these levels. It is true that presidents in the sample for this study appeared to benefit from improved endowments over time, but this benefit was nominal. In addition, the other financial variables in this study, change in assets and change in revenue, had no effect on change in presidential pay.

Implications for pay-for-performance theory. In the end, this study joined its predecessors in providing mixed evidence regarding the relationship between measures of financial performance and presidential pay. The findings from this study were also consistent with previous studies in providing little evidence of a relationship between measures of academic quality and presidential pay. These conclusions point to several implications for pay-for-performance theory. First, it is possible that this theory has

limited applicability to higher education organizations. This may be due to the anarchical tendencies of universities and colleges; this tendency was discussed at length in Chapter 2 of this study (Cohen & March, 1974). Unclear technology and goal ambiguity may make it difficult for trustees to establish specific success measures with respect to stated goals, and, therefore, trustees may elect to evaluate executive leadership with respect to organizational performance to a limited extent only. Instead, trustees may elect to base contracts on other indicators unrelated to performance, such as experience, tenure, or peer comparison, in which case human capital theory or social comparison theory may provide better explanatory frameworks for presidential pay in higher education.

On the other hand, it may be possible that pay-for-performance is an appropriate framework for understanding presidential pay in higher education but that the researcher inaccurately defined performance in this study. The definitions of performance—i.e., academic quality and fiscal integrity and growth—in this study derived from a list of core responsibilities provided by AGB. It is possible that this list does not adequately represent performance for most public universities and colleges, in which case the hypotheses specified for this study would not capture the true relationship between pay and performance. Or, the list provided by AGB could be adequate but the specific variables selected as proxies for academic quality and fiscal integrity could be imprecise. Academic quality, for example, could be defined at many institutions by retention rate, yield rate, or even four-year graduation rate. At the same time, fiscal integrity could be defined by percent of alumni giving to the institution, a debt-equity ratio, or the institutions bond rating. Following this line of thought, the hypotheses related to pay-forperformance may be adequate but the variables selected to test them unfitting. These challenges in applying pay-for-performance are not unique to higher education organizations. Chapter 2 showed that the findings rarely converge from studies on the relationship between executive compensation and performance in corporate firms. Divergence in this literature base has been explained by definitional variability; like the studies on higher education organizations, scholars have operationalized performance in numerous ways for corporate firms (Tosi et al, 2000). Different definitions have made it difficult to examine the relationship between executive pay and performance in this sector as well. In fact, Tosi et al. (2000) found only a week relationship between firm performance and executive compensation in a meta-analysis across numerous studies of this phenomenon in the corporate sector. Indicators for firm performance in their final model accounted for less than 5% of the variance in total CEO pay.

The reader should also keep in mind the stickiness of wages in relation to market conditions over time. In their critique of neoclassic economic theory, Gerhart and Rynes (2003) noted that employers rarely reduce nominal pay rates for employees at any level in the organization, regardless of changes in market conditions, e.g., decreases in unemployment rates, decreases in demand for skilled labor, etc. In other words, wages are commonly elastic in an upward direction. This point by Gerhart and Rynes suggests that pay for presidents may rarely go down over time, even when market conditions lead to decreases in endowments, assets, revenues, and other measures of financial performance for universities and colleges. Accepting this line of thought, one may expect the relationship between pay and performance to be somewhat one-sided and in an upward direction. Pay will likely increase at higher rates during times of better performance, but pay may still increase at a certain rate even during periods of poorer institutional performance, especially as the performance relates to broader market conditions. Future research may consider an approach to estimating the relationship between pay and performance for presidents that more fully accounts for the stickiness in presidential pay. Looking at a longer time period—perhaps, 25 years—is one way to begin addressing this issue.

Operational challenges aside, pay-for-performance theory should still remain an important analytical framework for scholars. As noted in Chapter 2, regulators, stakeholders, and critics continue to demand a closer relationship between performance and executive compensation for universities and colleges, as is the case for corporate firms. Considering this reality, demands to understand this phenomenon empirically may only increase. It is critical, therefore, for scholars who study pay-for-performance issues in higher education to continue refining conceptual and statistical approaches to measuring the relationship between presidential pay and individual and institutional performance.

Principal-agent theory

As noted in Chapter 3, principal-agent theory is another common conceptual framework employed to examine the relationship between pay and performance for chief executives. This study provided a different approach to testing principal-agent theory that focused less on the nature of performance-based contracts and more on how the composition of boards of trustees influence a president's pay. The researcher postulated that trustees on multi-campus boards face greater information asymmetries than their counterparts on single institution boards. As a result, trustees on multi-campus boards more strongly couple presidential pay to progress in established areas of institutional performance than their counterparts who sit on single-campus boards. Data were available from IPEDS indicating whether an institution was part of a single-campus board or a multi-campus board. With these data, the researcher developed two hypotheses to examine the effect of board characteristics on the relationship between change in pay and change in institutional performance.

Hypothesis 2a. First, the researcher hypothesized that change in pay will be more strongly associated with change in academic quality for presidents who report to a multi-campus system over the five-year study period. In order to test this hypothesis, the researcher estimated the interaction between board composition and each of the performance measures related to academic quality, i.e., changes in 75th percentile SAT composite score and changes in six-year graduation rate. The interaction term for change in graduation rate had no significant effect on change in presidential pay. Moreover, this interaction term had only a nominal association with change in presidential pay, all else equal (B=.001). The interaction term for board composition, on the other hand, did have a relatively large and significant effect on pay change; yet, this effect was negative, contrary to this hypothesis. This finding suggested that the relationship between change in SAT composite score and change in presidential pay was actually weaker for institutions that reported to multi-campus systems. It does not appear from these findings that public presidents who report to a multi-campus system are rewarded at higher levels for improving academic quality over time.

This study is believed to be the first of its kind to examine the relationship between board characteristics and presidential pay, but several scholars have examined this relationship in the corporate literature. As noted in Chapter 2, Tosi and GomezMejia (1989), for example, found differences in the level of monitoring and incentivealignment activities between owner-controlled and management-controlled firms. They showed that the relationship between executive pay and performance strengthened as the separation between the ownership and management functions of the firm increases. The differences between the findings from this study and the findings from similar studies involving corporate firms suggest limitations in the applicability of principal-agent theory to higher education organizations; limitations in this area were introduced in Chapter 3 of this study and will be discussed in greater detail after the subsection.

Hypothesis 2b. The researcher also hypothesized that change in presidential pay would be more strongly associated with change in fiscal integrity and growth for presidents who report to a multi-campus system. In order to test this hypothesis, the researcher estimated the interaction between board composition and each of the performance measures related to fiscal integrity and growth, i.e., change in the log of core revenues, endowment, and total assets. These interaction terms did not have a significant effect on change in presidential pay. Additionally, the association between each of these interaction terms and pay change was relatively weak, all else equal. The interactions involving change in core revenues and change in endowment were negative as well, contrary to the hypothesis. Collectively, these findings provide no support for hypothesis 2a. *It does not appear from these findings that public presidents who report to a multi-campus system are rewarded at higher levels for improved levels of fiscal integrity and growth.*

Implications for principal-agent theory. Chapter 3 showed that the applicability of principal-agent theory to executive compensation in the corporate sector

is apparent. Firms in this sector naturally separate ownership and management functions, and it make sense that owners would structure compensation for executives in ways that maximize their own profits. Chapter 3 also showed that the applicability of this theory to higher education is less convincing. Universities and colleges do not have shareholders or owners—at least in the corporate sense of the word—and they are designed to promote learning rather than maximize profit. Nevertheless, scholars have explored the applicability of principal-agent theory to presidential pay in certain sectors of higher education and the findings from these studies are mixed.

The studies by Bartlett and Sorokina (2005) and Ehrenberg, Cheslock, and Epifantseva (2001) found little evidence to support the applicability of principal-agent theory in higher education settings. Tang, Tang, and Tang (2000), on the other hand, concluded that agency problems do exist in doctorate-granting institutions and that those problems dictate a tighter coupling between pay and performance among presidents at private research universities. To address this conflict in the literature, this study provided a different approach to testing principal-agent theory that focused less on the nature of performance-based contracts and more on how the composition of boards of trustees may influence a president's pay. The findings from this study align with the results derived by Bartlett and Sorokina (2005) and Ehrenberg, Cheslock, and Epifantseva (2001), in which hypotheses based in principal-agent theory were rejected.

Ultimately, the findings from this study provided further evidence to support the argument that agency issues are not empirically visible in higher education organizations. A logical extension from this argument is that principal-agent theory may not be a useful analytical framework in which to examine the relationship between pay and performance

for college and university presidents. That said, it is critical for scholars who study payfor-performance issues in higher education to continue refining conceptual and statistical approaches to measuring the relationship between presidential pay and individual and institutional performance. This study, however, seems to suggest that principal-agent theory is more effective at explaining compensation levels and change for executives within corporate firms than public universities and colleges.

Institutionalism

Institutional theory suggests that presidential pay is a reflection of prevailing notions of organizational work that are institutionalized in society. The literature review for this study underscored two such notions: a) pay for presidents is out of balance with the charitable purposes and tax-exempt status of public universities and colleges; b) public higher education needs improved accountability, and excessive pay for presidents is an important component of this need. The researcher postulated that these institutionalized notions would constrain pay for presidents at public universities and colleges and that the level of constraint would vary among institutions, with greater dependence resulting in lower pay for presidents over time. Data were available from IPEDS indicating the proportion of an institution's budget deriving from state appropriations. With these data, the researcher developed a hypothesis to examine the relationship between change in state appropriations and change in presidential pay.

Hypothesis 3a. The researcher hypothesized that presidential pay would increase as the proportion of an institution's budget deriving from state sources decreased over time. In order to test this hypothesis, the researcher estimated the relationship between change in presidential pay and change in state support. In the base model, change in state support had no significant effect on change in presidential pay. Furthermore, all else equal, the association between these variables was nominal (B=.002). The coefficient for this variable indicated that for every 1% change in the percent of core revenues from state sources, presidential pay would be expected to increase by roughly .2%, holding the other factors in the model constant. *These results led the researcher to reject this hypothesis and conclude that change in pay for presidents at public universities and colleges is not a function of change in an institution's reliance on state appropriations.*

Implications for institutionalism. This was the first study to examine the applicability of institutional theory to presidential pay in higher education. Considering the regression results, institutional theory may not be a useful analytical framework for understanding compensation practices at public universities and colleges. Further evidence for this position can be found in the descriptive statistics for presidential pay. Table 5.3 displayed the mean presidential pay by academic year. In 2006, the mean presidential pay across all institutions was \$252, 643, and the standard deviation was \$84,718. In 2010, the mean had increased to 299,056, across institutions, and the standard deviation had increased to \$98,630. The large standard deviations at both time points reflect great variability in presidential pay across institutions, and the increase of approximately \$14,000 in standard deviation between time points may suggest that this variability is increasing over time. This pattern remains when pay is disaggregated by Carnegie classification and by other categorical independent variables as well.

This variability stands against DiMaggio's and Powell's (1991) argument that organizations in institutionalized environments will become more homogeneous over time. Organizations, they argued, that fail to incorporate environmentally legitimated
elements into their structures may fail to achieve legitimacy, and, therefore, may not survive. To avoid this risk, organizations evolve in similar ways and exhibit similar organizational elements over time, such as compensation practices for executives. Accepting this argument, one would expect to find that pay for presidents at similar institutions would become more similar over time. In statistical terms, one would expect the value of the standard deviation to decrease over time to reflect movement toward homogeneity. Findings from this study suggest that universities and colleges are becoming more heterogeneous in terms of presidential pay, as the standard deviation for pay across all institutions increased by 14% over the five-year study period. This finding begins to call into question the applicability of DiMaggio's and Powell's conception of institutional isomorphism as relates to executive compensation in higher education.

Of course, it is possible that the model developed to examine this theory did not adequately capture the extent to which presidential pay at universities and colleges is shaped by institutionalized myths. For example, the researcher may have misrepresented the myths influencing the wage-setting practices for presidents in higher education. It is possible that the ideas of excessive pay and accountability do not operate as institutionalized myths in the way assumed for this study. Or, perhaps, excessive pay and accountability do operate as institutionalized myths, as posited, but the proportion of an institution's budget deriving from state appropriations is not an adequate proxy to capture the extent to which these notions actually constrain pay among presidents at public universities and colleges. Including a measure of federal appropriations in conjunction with state appropriations, for example, may provide a more accurate depiction of an institution's reliance on the public for financial support. In either case, model misspecification would result in erroneous conclusions regarding the applicability of institutionalism to change presidential pay.

Functional theory of stratification

Functional theory suggests a positive relationship between the compensation of executives and their functional importance. Being difficult to operationalize, scholars have drawn on measures of an executive's job responsibility to operationalize his or her functional importance to an organization. For executives in higher education, job responsibility has been measured by institutional complexity. Along this line of thought, the research postulated that over time presidential pay in public universities and colleges will be positively related to increases in institutional complexity as measured by academic program scope and FTE enrollment. Data were available from IPEDS that measured academic program scope and FTE enrollment. Accordingly, the researcher developed two hypotheses to examine the relationship between presidential pay and job responsibilities.

Hypothesis 4a. First, the researcher hypothesized that change in presidential pay would be greater at institutions with broader academic programs over the five-year study period. In order to test this hypothesis, the researcher estimated the relationship between academic program breadth, as measured by Carnegie classification, and change in presidential pay. The results from the base model showed that the scope of academic programs had a significant and positive effective on presidential pay change. Presidential pay increased at a much higher rate (10%) in master's colleges and universities relative to baccalaureate colleges. Presidential pay also increased at a much higher rate (13%) in doctorate-granting universities relative to baccalaureate colleges. Overall, the base model

provided strong evidence to support hypothesis 4a. *It appears from this study that presidents at institutions with more extensive academic programs are rewarded with greater pay over time.*

Previous studies have examined the relationship between the scope of academic programs and presidential pay. Pfeffer and Ross (1988), for example, found that this measure of institutional complexity had a large, positive, and statistically significant effect on pay level for a cross-section of public and private universities and colleges. However, their analysis of change in salary over a five-year period provided different results. Here, the association between these variables was much weaker, at times negative, and statistically insignificant. Ehrenberg, Cheslock, and Epifantseva (2001) included a measure of academic program scope in their presidential salary change equation as well. Along with Pfeffer and Ross, they found that institutional type, as defined by academic program breadth, was not statistically significantly associated with salary growth for presidents. As a final example, Tang, Tang, and Tang (2000) examined the relationship between the scope of an institution's academic programs and pay level among presidents at private research universities. They found that this measure of institutional complexity had a significant effect on presidential pay level.

It seems from previous studies that the breadth of an institution's academic programs is an effective predictor of pay level for presidents but not pay change. The present study is the first to date to find a positive, strong, and statistically significant relationship between the scope of an institution's academic programs and change in presidential pay. As mentioned previously, earlier studies in this area focused heavily on private institutions. It is possible that the relationship between these variables is one unique to public universities and colleges. The findings from this study provide some evidence to support this contention. It is also possible that the relationship between these variables is strengthening over time due to changes in the environment. The study of presidential pay change by Pfeffer and Ross was conducted over twenty years ago, and the study by Ehrenberg, Cheslock, and Epifantseva was conducted over a decade ago. Economic, political, and social conditions have changed in meaningful ways since those studies were completed. For example, the 2000's witnessed deep fluctuations in economic conditions and—as a result—funding for public higher education. It is possible that these fluctuations affected institutions with different academic programs in different ways. Of course, this line of reasoning is conjecture at best. It does, however, point to an opportunity for future researcher to which the researcher will return later in this chapter.

Hypothesis 4b. The researcher also hypothesized presidential pay will increase as institutional size increases over time. In order to test this hypothesis, the researcher estimated the relationship between change in FTE enrollment and change in presidential pay. The base change equation provided no support for hypothesis 4b. Change in FTE enrollment was not an effective predictor of change in presidential pay. Moreover, the association between these two variables in the base equation was nominal and negative. The coefficient for change in FTE enrollment showed that an increase of 1,000 students over the five-year study period for a given institution resulted in a decrease .8% in change in presidential pay, all else equal. *The researcher concluded from this finding that presidents are not reward with higher pay as institutional size increases over time.*

Previous studies have derived somewhat contradictory results in terms of pay levels. Bartlett and Sorokina (2005), for example, found that change in enrollment was a strong and significant predictor of presidential pay level at private, selective liberal arts colleges. Their analysis showed that an increase of 100 students was associated with an increase in pay of approximately 5%. Monks (2007) found similar results at the crosssection for presidents at private, research universities. This discrepancy points another difference between predictors of pay level and predictors of pay change. As noted earlier, previous studies have established clearly that institutions with greater resources pay presidents at higher levels, but the same institutions may not necessarily reward presidents for increasing those resources. It is possible that FTE enrollment can be interpreted similarly. In other words, institutions with higher enrollments may pay presidents at higher levels, but the same institutions may not necessarily reward presidents for increasing those enrollments. Furthermore, FTE enrollment may be an effective predictor of pay level because it is highly correlated with measures of institutional resources such as revenue, which is a function of enrollment. Or, perhaps this discrepancy between the findings from these studies and the findings from the present study may suggest differences between public and private institutions in terms of how trustees determine salary levels for presidents. The reader will recall a similar discrepancy related institutional complexity, in which the present study on public institutions contradicted the findings from previous studies on private institutions.

Implications for the functional theory of stratification. As noted in Chapter 2, measures of functional importance have proved to be some of the most robust predictors of executive pay level and pay change in both the corporate and nonprofit sectors. The results from this study provide additional support for the utility of functional theory in executive compensation studies. Carnegie classification as a measure of institutional

complexity was the strongest and most stable predictor of change in presidential pay across the three models described in Chapter 5. It appears from this study that pay increases at higher levels over time for presidents at public universities and colleges with more extensive academic program. Correspondingly, inequalities exist in the distribution of rewards among public presidents at different Carnegie classifications. Change rates were higher for presidents at doctorate-granting institutions and master's universities and colleges relative to their counterparts at baccalaureate colleges. At an abstract level, Davis and Moore (1945), the progenitors of functional theory, might attribute these inequalities to differences in talent and functional importance among presidents at different institutions. They argued in their seminal text on functional theory that greater rewards are given to more talented individuals and to positions of greater importance. In the context of this study, this logic may suggest that institutions with more extensive academic programs demand more talented presidents, who in turn require greater rewards. In other words, as institutional complexity increases so does the functional importance of the presidency and the level of talent required to fill it. Pay change for a given president, then, is a product of the functional importance of his or her position, which can be expressed by proxy as institutional complexity.

Summary of Key Findings

Table 6.1 provides a summary of key findings by theory and hypothesis. First and foremost, this study suggests that the relationship between pay and performance is tenuous at best among presidents at public colleges and universities. It does not appear that trustees reward presidents with increased pay for improvements in academic quality. The same conclusion can be drawn in terms of fiscal integrity and growth. Presidents receive a nominal pay benefit for increasing endowment size but no benefit for increasing assets and revenues. In addition, board composition appears to have no bearing on the relationship between pay and performance for presidents. It was proposed that presidents who report to multi-campus systems would be rewarded at higher levels for progress in the established areas of institutional performance than their counterparts who sit on single-campus boards. Both hypotheses related to this proposition were rejected, as the researcher found no evidence of an interaction between board composition and institutional performance measures. Ultimately, the researcher joined others in concluding that agency issues are not empirically visible in universities and colleges.

The results from this study also suggest that presidential pay is not related to an institution's dependence on state funding. It was argued that institutions with high dependence on state funding would be constrained by notions of equity and accountability and therefore pay less over time, while institutions with less dependence would adopt practices from more entrepreneurial industries, such as corporate firms, and therefore pay more. The researcher found no evidence to support this line of thought. The findings show that change in presidential pay is not significantly associated with change in an institution's dependence on state funds over time.

Finally, the study found mixed evidence related to the relationship between change in presidential pay and change in institutional complexity. On one hand, it appears that presidents at institutions with more extensive academic programs are rewarded with greater pay over time. Analyses show that presidential pay increases at a much higher rate in master's- and doctorate-granting institutions relative to baccalaureate colleges. In fact, Carnegie classification as a measure of institutional complexity was the strongest and most stable predictor of change in presidential pay across the three models

described in Chapter 5.

Table 6.1

Summary of Key Findings by Theory and Hypothesis

Theory	Hypothesis (conclusion)	Key Finding
Pay-for-	1a	Change in presidential pay is not related to
performance	(not supported)	improvements in academic quality over time.
-		
	1b	Change in presidential pay is tenuously related to
	(mixed)	improvements in fiscal integrity and growth over time.
Principal-	2a	Presidents who report to a multi-campus system are
agent theory	(not supported)	not rewarded at higher levels for improvements in
		academic quality over time.
	2b	Presidents who report to a multi-campus system are
	(not supported)	not rewarded at higher levels for improvements in
		fiscal integrity and growth over time.
Institutional	3	Change in presidential pay is not a function of change
theory	(not supported)	in an institution's dependence on state appropriations
		over time.
Functional	4a	Presidents at institutions with broader academic
theory	(supported)	programs are rewarded with greater pay over time.
	4b	Presidents are not reward with higher pay as
	(not supported)	institutional size increases over time.

On the other hand, change in FTE enrollment was not an effective predictor of change in presidential pay. Moreover, the association between these two variables in the base equation was nominal and negative. This finding suggests that presidents are not rewarded with higher pay as institutional size increases over time. Nevertheless, the study

provides some additional support for the utility of functional theory in executive compensation studies.

Implications for Practice

Although the present analysis was limited in several ways (see Chapter 4), a number of implications for practice may be suggested. The weak relationship between pay change and performance over time points to the most important one deriving from this study: increased transparency around the determination of pay levels for presidents is desperately needed. It is worth mentioning again that the relationship between performance and pay has been the subject of much debate in recent years. Institutions of higher education have not been immune to such scrutiny. To address escalating concerns, it may be necessary for trustees, presidents, and other institutional leaders to be more transparent—and even outspoken—about how compensation is determined for presidents. If performance is a factor, trustees may consider publicizing designated measures of success and how each is weighted within a president's contract. To the extent that these measures of success reflect values shared by faculty, staff, students, and other stakeholders, this strategy may mitigate concerns and increase buy-in around compensation levels as well as the elements included in benefits packages.

Along this line of thought, it seems that government agencies desire a stronger relationship between pay and performance for executives in the nonprofit sector generally. In Chapter 2 summarized a growing body of legislative efforts to reform executive pay in this economic sector. States such as California and Pennsylvania have already attempted to take legislative action aimed at higher education specifically. It may only be a matter of time before legislators in other states and at the federal level set their sights on presidential pay at universities and colleges. In light of this proposition, it may be beneficial for higher education leaders to be more proactive in moving toward more transparent performance-based contracts. And, where tight coupling already exists, leaders may need to consider improving efforts to broadcast this association publicly. Considering its mission, the AGB may be an appropriate organization to promote a more proactive course of action among trustees nationally. Professional organizations like the Association of Public and Land-Grant Universities (APLU) may provide additional support on such an initiative as it relates to public universities and colleges specifically.

If performance is not a factor in compensation decisions, as this study and previous studies suggest, it is still important for trustees and presidents to communicate what the factors are and why. Providing this information may go a long way in mitigating escalating concerns among stakeholders, even if pay is not clearly based in widely-accepted performance areas. For example, as this study suggests, trustees may strongly consider the level of job responsibility managed by the president in determining his or her compensation package. Perhaps job responsibility is measured by the level of the academic programs offered at the institution. In this case, trustees and the president could publicize the relationship between those responsibilities and the level and components of the compensation package in specific and measureable terms-assuming such a relationship actually exists. As a result, stakeholders may develop a clearer understanding of the president's role on campus, how his or her compensation package was determined vis-à-vis that role, and under what circumstances compensation will increase, decrease, or otherwise evolve. Simply increasing transparency in this way may go a long way in mitigating concerns among some stakeholders and critics.

Running throughout this section is the idea that increased transparency may be needed to improve the credibility of compensation practices for presidents in higher education. This idea is based on the assumption that a logical calculus underpins compensation decisions and that making this calculus accessible to stakeholders and critics may mitigate concerns. It is possible, however, that compensation decisions are made relatively arbitrarily. It is also possible that these decisions are based on criteria that may not align with the mission and values of a given institution. In these cases, it may be important for trustees to reconsider how the president is compensated and revise his or her contract to reflect institutional priorities more clearly. Of course, these priorities will be different at different institutions. Nevertheless, it seems critical in the current economic and political environments for trustees to be able to explain and defend compensation decisions to internal and external constituents, or, as Bowen (2011) cautioned, presidents may find it increasingly difficult to garner support for institutional priorities from faculty, staff, and government agencies.

Implications for Future Research

The purpose of this study was to examine determinants of change in presidential pay at public universities and colleges. Additional research in this area could take several directions. For example, one might consider a similar study that included presidents at community colleges. To date, scholars have yet to examine thoroughly executive compensation in this subsector of higher education. Or, one might consider a similar study with presidents at private institutions. This study could update work by Pfeffer and Ross (1998) and O'Connell (2005), which found that institutional control was a significant predictor of presidential pay. Any future study of determinants of change in

presidential pay, however, would benefit greatly from two considerations. First, a longer study period may better reveal the relationship between pay change and performance regardless of how performance is defined in the study. Second, controlling for individuallevel factors may provide a more unbiased estimation of the relationship between institutional characteristics and change in presidential pay.

This study also points to research in this area that departs from determinants of change. For example, one might consider examining pay equity within institutions of higher education. This investigation could focus on differences in pay between presidents and members of his or her cabinet, such as the provost, chief business officer, and senior vice presidents. Tournament theory could provide a theoretical framework for such a study. This theory assumes that presidential pay acts like a purse in a lottery, for which senior administrators compete. Because this purse represents a potential reward for these individuals in the future, senior administrators are willing to give up earnings initially in order to increase this purse. Based on this assumption, tournament theory suggests a relatively high ratio between presidential pay and pay for a president's cabinet members. Some research using this theory has been conducted in corporate literature already (e.g., O'Reilly, Main, & Crystal, 1988). The study by O'Connell (2005), in which determinants of salaries for college presidents and key senior administrators were examined, represents a beginning point for the application of this theory to compensation in higher education institutions.

Staying with pay equity within institutions, one could also focus on differences in pay between presidents and faculty members. As noted in the introduction to this study, critics have noted a growing gap between presidential pay and faculty pay. In his recent manual for college presidents, Bowen (2011) cautioned that salary differences between faculty and administrators undermine the collegiality vital to a college's success. To date, a formal study of this phenomenon has not been published. Such an examination, however, might focus on the ratio between pay for presidents and pay for full professors. An examination of change in this ratio over time may shed light on the extent to which pay for certain faculty has kept pace with the marked increases in presidential pay over the last decade. It may also shed light on any differences in pay structures among different actors in higher education organizations. As part of this study, one might also look at differences in benefits packages between presidents and faculty. Elements commonly included in benefits packages for presidents include deferred compensation, paid leave, entertainment allowances, and corporate board appointments. It would be interesting to examine the extent to which and under which circumstances golden parachutes and golden handcuffs are distributed among faculty as well, if at all.

One might also consider examining executive compensation across different nonprofit industries. This study might compare the salary of college and university presidents with that of executives in other nonprofit subsectors. As noted in the literature review for this study, critics have written extensively about executive compensation at nonprofit hospitals. Such criticism led Zingheim, Schuster, and Thomsen (2005) to proclaim an executive compensation crisis in the nonprofit medical field. A study that spanned multiple nonprofit subsectors may shed light on how differences in organizational dynamics shape variation in the determinants of executive compensation. This study may also shed light on the effectiveness of legislative efforts to promote a stronger relationship between pay and performance among executives in the nonprofit sector.

A similar study could examine executive compensation across different industries. The similarities between studies of presidential pay and studies of CEO pay in corporate firms have been an undercurrent throughout this study. In fact, as noted in Chapter 3, the theoretical framework for this study was designed using theories developed to explain executive compensation in the corporate sector primarily. In addition, all studies on presidential pay in higher education referenced in this study have drawn heavily on examinations of executive compensation in the corporate sector. These points demonstrate a commonly held assumption that executive compensation is structured-or should be structured—in similar ways for corporate firms and universities and colleges. Yet, to date scholars have not completed a comparative study of executive compensation between corporate firms and higher education institutions. Such a study could examine determinants of pay levels, determinants of pay change, or even pay differentials between executives and workers at lower levels in the organizations. These studies would have the potential to further elucidate similarities and differences in compensation practices between these unique organizations and— in doing so—evaluate the transferability of compensation practices in corporate firms to universities and colleges.

Conclusion

It is safe to say that pay for presidents at colleges and universities continues to be an important issue in American higher education. The ardent debate unfolding in the popular press on this issue was covered in Chapter 1. This debate was framed as a clash between the traditions of academe and the need to recruit and retain top talent. Chapter 1 also pointed up the need support this debate with additional empirical research. Chapter 2 described the limited number of studies on presidential pay and highlighted deficiencies in those studies that pointed to specific opportunities for improved understanding. These deficiencies provided the context for the central thesis of this study, which was to examine determinants of change in presidential pay at public universities and colleges.

Chapter 3 defined the theoretical foundation for this study. It included a discussion of prevailing theories of executive compensation and outlined a conceptual framework based on four discrete theoretical perspectives. Each perspective suggested different—and at times competing—explanations for change in pay among presidents at public universities and colleges. The research methods used to operationalize and translate these propositions into testable hypotheses were reviewed in Chapter 4. In total, seven hypotheses were developed and tested in OLS regression models. Chapter 5 provided the results from these models.

These results and related implications were discussed in this chapter. In summary, this study found that change in presidential pay was most strongly associated with the scope of an institution's academic programs between the academic years 2006-2007 and 2010-2011. Change in presidential pay was also tenuously related to change in institutional endowment. Change in the other measures of fiscal integrity and change in measures of academic quality had no effect on change in presidential pay. In the end, the findings provided little evidence of a relationship between pay and performance during the study period, even though a statistically significant relationship between change in endowment and change in pay was estimated. Additionally, board composition had no effect on the relationship between change in the designated

performance areas, providing little evidence to support the presence of principal-agent dynamics in higher education organizations. Finally, this study found that presidential pay was not related to an institution's dependence on state funding, which suggests that pay for presidents in public universities and colleges may be less responsive to institutionalized notions of accountability and efficiency as originally proposed for this study.

Presidential pay is an issue likely to remain prevalent in discourse surrounding higher education, especially if the high rate at which compensation levels increased during the last decade continues into the future. The persistence of challenging economic conditions may accentuate this issue and result in louder calls from stakeholders for closer alignment between pay and performance. Trustees and presidents alike may benefit to the extent they are prepared to answer these calls; this study and previous work suggest that many may not currently be prepared to do so. At the very least, the present study suggests that presidential pay at public universities and colleges is not clearly related to certain institutional performance areas commonly attributed to a president's purview. This statement, of course, does not imply that presidential pay at public universities and colleges is entirely unrelated to performance; it does, however, suggest that measures of performance may be difficult to capture with existing data. To address this issue from a practical standpoint, trustees may consider increasing transparency regarding contracts for presidents, especially where those contracts specify performance-based obligations. Failing to do so may result in public distrust, diminished morale on campus, or even legislative action. Considering these potential consequences, it may behoove institutional leaders to be assertive in addressing concerns regarding presidential pay.

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