

How Much are College Presidents Paid?

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We study college presidential compensation from 1997 to 2004. During the eight-year period, the annual growth rate of presidential compensation ranges from slightly over 5% to 8.5% depending on the types of institutions. These growth rates far outpaced the increasing rate of faculty salaries. Although presidential salaries have acquired the media, congressional and IRS attentions in recent years, they are substantially below that of the corporate CEOs, and most of the highly-paid presidents are affiliated with doctoral institutions, in particular, major research universities. We find college presidential salaries are related to job complexity and the human capital of these presidents. This relationship, however, is stronger for the liberal arts and master level universities, but noisier for the doctoral and research institutions. The labor market has priced college presidents in a similar way that professors are priced for bachelor (liberal arts colleges) and master institutions. However, presidents of doctoral institutions are priced differently from the faculty. Irrespective of college types, faculties are priced based upon the financial strength and the academic reputation of the institution. On the other hand, presidents of doctoral institutions are priced according to the physical size of the institution.

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Abstract

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How Much are College Presidents Paid?

1. Introduction

College presidents' compensation has recently caught the eyes of public media, Congress and the Internal Revenue Service. A recent survey conducted by the Chronicle of Higher Education indicates that five college presidents earn more than one million dollars during the 2003-2004 academic year. While the college boards compare research universities to multi-billion dollar businesses to justify college presidents' exorbitant compensation, others take a different view. Breneman, an economist, argues that large disparities in compensation between presidents and faculty and staff can lead to alienation between presidents and others on campus, in particular, during the time periods when faculty and staff have had minimal or no raise in salaries. "Now presidents think they are in another market, and that market is blessing them," says Breneman.¹ Patrick Callan, president of the National Center for Public Policy and Higher Education, expresses his concern, "We've created a cadre of hired guns whose economic interests are totally divorced from students and faculty. It creates a real problem for leadership, and does nothing to help higher education."² On the other hand, universities defend the compensation as crucial to their success in a market of shrinking qualified people.³

In the wake of rapidly increasing presidential compensation, a number of high profile scandals of college presidents further exacerbate the negative public opinion, which also attracts the attention of the US Senate and the IRS. Benjamin Ladner, the ex-

¹ Chronicle of Higher Education, November 14, 2004, p.B4.

² The New York Times, November 14, 2005.

³ The New York Times, November 14, 2005.

president at American University, had over half million dollars of questionable presidential expenses within a three-year period, which include \$43,892 expenses for a private party featuring 13-course meals and a private chef to travel on personal development trip.⁴ This has prompted Senator Charles Grassley, the chairman of the Senate Finance Committee to make inquiry. Senator Grassley provided the Chronicle of Philanthropy the following statement: “His spending and perks, and the very clear lack of understanding of what was necessary for university business versus his own enrichment, raise troubling questions about whether the governing board was doing its job.”⁵ John Shumaker at the University of Tennessee also faced similar scandals which involve using university aircraft for personal travel. A recent *Wall Street Journal* article reports additional story on college presidential compensation with the headline showing Vanderbilt board is trying to rein in its star chancellor Gordon Gee, but without running him off. Mr. Gee’s lavish spending on the top of his handsome salary includes a \$6 million renovation of his university-owned mansion with a conservatory, and over \$700,000 of annual expenses on parties and personal chef.⁶

Do these reports reflect a wide-spread practice in the academia, or are they merely special cases? Although college presidents’ compensation has been a hotly debated issue in the public opinion arena and there are more than 4,000 2-year and 4-year colleges nation-wide, surprisingly it has borne little academic scrutiny. Since many college presidents are promoted from provost or administrator who in turn holds a faculty position, in the past college presidential compensation did not deviate substantially from

⁴ The Chronicle of Philanthropy, October 6, 2005; and the Chronicle of Higher Education, November 18, 2005, p. B3.

⁵ The Chronicle of Philanthropy, October 6, 2005.

⁶ *Wall Street Journal*, September 20, 2006, P. A1.

faculty salaries. In the more recent years, however, the increasing rate of college presidential compensation far outpaces that of professorial salaries, and a distinctive class on the college campus may have formed. The lack of research and understanding of presidential salaries exacerbates the ill feelings of other stakeholders on campus, namely faculty and staff. Research in this regard, however, is hampered in many ways, including the lack of a well-defined compensation contract with a clear target, a well-structured board, and an objective performance measure. That is one of the major reasons why research in corporate executive compensation is abundant, but not for academic executives or executives of other not-for-profit organizations including hospitals.⁷ In the business world, CEOs are hired to create wealth for the shareholders, and such effort can be measured by some well-defined targets, such as corporate earnings and stock returns. The lack of accounting and/or market performance measures manifests the difficulties in designing compensation contracts for college presidents. In fact, the IRS commissioner, Mark Everson cited the laxity of nonprofit boards as a serious problem. The aide of the Senate Finance Committee commented that often the trustees of nonprofit boards think their primary role is for ribbon cutting ceremonies.⁸ Comparing college presidents to corporate executives of multi-billion dollar businesses is, therefore, misguided.

Given the above-mentioned difficulties, a number of issues related to presidential compensation are still interesting and worth exploration. First, have college presidential compensation, as the critics suggested, far outpaced those of the faculty and rivaled

⁷ For studies in corporate executive compensation, see Jensen and Meckling (1976), Jensen and Murphy (1990), Murphy (1985, 1986), Rosen (1990), Joskow, Rose, and Shepard (1993), Boschen and Smith (1995), Rose and Shepard (1994), and Hall and Liebman (1998), Core, Holthausen, and Larcker (1999), Prendergast (2002), Jin (2002), Aggarwal and Samwick (2003), Dee, Lulseged, and Nowlin (2005), Brick, Palmon, and Wald (2006), and Denis, Hanouna, and Sarin (2006).

⁸ Inside Higher ED, University of Houston, Feb. 8, 2006.

corporate CEOs? Second, is the much publicized enormous college presidential compensation simply sporadic or widespread? Third, what is the distribution of presidential compensation across different types of colleges? For example, do presidents of research universities make substantially more money than their liberal arts counterparts? If so, how much more? What are the compensation discrepancies among college presidents of different types of institutions? Fourth, are college presidents paid based upon their human capital quality, like professors are, or are they priced in a different labor market? Last and most importantly, given the lack of well-understood performance measures, are college presidential compensation related to the skill required for the job, or are they paid like bureaucrats? We seek to answer these questions in this paper, though not focusing on a broader question whether college presidential compensation are performance sensitive, because, unlike corporations, objective performance measurements are not readily available. Nevertheless, we are able to relate presidential compensation to characteristics of the colleges and proxies of the skill level of the academic chief, similar to studies that relate CEO compensation to firm characteristics and CEO human capital (e.g., Core et al., 1999).

We collect college presidents' compensation data from the Chronicle of Higher Education for a maximum of 543 private colleges spanning from 1997 to 2004, and 99 public universities for the year of 2004 for our analysis. In addition to the time series descriptive statistics, we also conduct cross-sectional analysis for the year of 2004. Sources of cross-sectional data include the Chronicle of Higher Education, the US News and World Report, and the US Census Bureau.

During the eight-year sample period, the annual growth rate of presidential compensation ranges from slightly over 5% to 8.5% depending on the types of institutions. These growth rates far outstrip those of faculty salaries. Among the four types of higher education institutions classified according to the Carnegie Foundation, presidents of research universities enjoy the highest pay, followed by doctoral, bachelor, and master colleges. Despite the higher presidential salaries, the labor market has priced college presidents in a similar fashion that professors are priced for bachelor (liberal arts colleges) and master institutions. However, presidents of doctoral institutions are priced differently from their faculty. Irrespective of college types, faculties are priced based upon the financial strength and the academic reputation of the institution, which can serve as a proxy for faculty human capital. On the contrary, presidents of doctoral and research institutions are priced based upon the physical size of the institution. Therefore, although the college president market is somewhat segmented and the pricing mechanism differs across various types of institution, presidential salaries are related to the job complexity proxied by institutional characteristics.

The rest of the paper is organized as follows. Section 2 discusses descriptive statistics; Section 3 reports the results of cross-sectional univariate and multivariate analysis; and Section 4 concludes.

2. Descriptive Statistics

In this section, we report descriptive statistics of college presidents' compensation from 1997 to 2004.⁹ Figure 1 shows the presidential annual salaries and total compensation from 1997 to 2004 for all colleges. An average college president would

⁹ Academic years from 1996-97 to 2003-04.

earn \$168,820 in salary (\$192,765 in total compensation) in 1997. The same statistics increased to \$242,221 (\$294,866) in 2004. Although these figures do not quite match the sensational headlines reported in the news media, they reflect the “average” presidential compensation for all colleges, which may not necessarily capture the large deviations between various types of colleges. Nevertheless, a simple calculation reveals a 5.29% annual rate of increase in salaries and a 6.26% annual growth rate in total compensation. These increasing rates surely surpassed the rates for faculties, which barely kept up with the inflation rates during these years.

Figure 2 presents the college presidents’ annual salaries from 1997 to 2004, with the types of institutions broken down into four, namely bachelor, master, doctor, and research, in accordance with the Carnegie Foundation classification. Salary deviations among these institutions are expected considering their distinctively different missions. Bachelor degree granting institutions see their presidents’ average salaries going up from \$158,213 in 1997 to \$214,989 in 2004, representing a 4.48% annual growth. Presidents of master institutions reap an annual salary increasing rate of 4.87%, from \$146,278 in 1997 to \$204,062 in 2004. On average, although presidents of master degree colleges earn a little less than their counterparts in bachelor colleges, their salaries rose slightly faster during the past eight years. For presidents at doctoral institutions, their salaries rose from \$200,083 in 1997 to \$326,150 in 2004, representing an annual increasing rate of 7.23%. Due to this higher growth, presidential salary discrepancies between a doctoral institution and a master institution grew even wider in more recent years. Specifically, in 1997 the president of a doctoral institution could earn 36% more than the president of a master degree institution. The same statistic grew to 59% in 2004. The salary increasing rate of

an average president at a research university is even more impressive, averaging 8.01% annually from 1997 to 2004. It means that a salary of \$314,330 in 1997 ballooned to \$538,818 in 2004.

Figure 3 illustrates college presidents' total compensation during the same time span for the four categories of institutions. This diagram resembles Figure 2, where only the salary component of the total compensation is reported. For bachelor institutions, total compensation increased 5.2% annually from \$183,510 to \$261,766 during the eight-year sampling period. For research universities, the same statistic expanded from \$355,680 to \$627,666, representing an annual rate of 8.5%.

Figure 4 summarizes our previous discussions and compares the presidential salary growth rate with the inflation rate from 1998 to 2004. Clearly, inflation rate hovered between 1.6% and 3.4% during this period with an average of 2.4%. On the other hand, the annual growth rate of presidential salaries outgrew the inflation rate for most of the years, with doctoral and research institutions leading the pack. It is noted that doctoral institutions display double-digit increasing rate twice during the eight-year period.

Statistics from these figures obviously suggest that not all college presidents earn the kind of compensation that attracts media attention. Causal reading would point the direction toward major research universities. In Table 1 we list the top-25 highest paying institutions in 1997 and 2004. In 1997, the top-25 institutions include 17 research, 3 doctoral, 4 master, and 1 bachelor institutions; in 2004, 21 research, 3 doctoral, 1 master, and no bachelor institutions. Clearly, research universities gain most ground, while master and bachelor colleges are losing their shares in the top-pay institutions.

Based upon these descriptive statistics, therefore, it seems that (1) the publicity of large college president compensation originates from research universities, and to a lesser extent, doctoral institutions; (2) master institutions' presidents have the smallest compensation, followed by bachelor colleges, doctoral institutions, and research universities; and (3) since the growth rates of annual compensation also obey such pecking order, the divergence of presidential compensation between different types of institutions will no doubt become wider over time.

3. Statistical Analysis

In this section, we first compare college presidential compensation with the corporate CEOs' to see if the sensational media reports have merits, and then we attempt to explain factors that contribute to the cross-sectional variations in presidential compensation and aim to understand if the labor market prices college presidents in accordance with their job complexity and/or human capital. For this purpose, our analysis focuses on the data of the year 2004. Since a well-structured database is not available, all data are manually collected from various sources including hard copies. We acquire corporate CEO compensation data from the Conference Board executive compensation report. For private colleges, we manually collect data on college revenues, expenses, and salaries of full professors from various issues of the Chronicle of Higher Education. Freshman SAT scores, college endowments, college enrollments, and US News and World Report college ranks are obtained from the 2005 edition of the US News and World Report. For public colleges, we add such variables as state revenues,

state expenses, and state per capita education expenses, which are taken from the US Census Bureau.

3.1. Do Presidential Compensation Stack Up Against Corporate CEOs'?

Since the general public and news media often compare college presidential compensation to those of corporate executives, this subsection examines if this perception has merit. Table 2 summarizes the results. In Panel A we report the CEO compensation for a group of manufacturing firms (1,066 firms) in 2004 compiled by the Conference Board. It touches on CEO salaries, bonuses, and total cash compensation for firms in the 25 percentile, median, and 75 percentile corporate sales revenue distributions. For example, the 25 percentile firm has sales revenue of \$251 million, and the CEO earns total cash compensation of \$726,880.

Panel B exhibits presidential compensation for a wide range of institutional revenues. For example, presidents in the lowest revenue size quintile colleges (less than \$33.5 million) are awarded a total compensation of \$171,091 on average. Colleges with revenues comparable to the lowest 25 percentile manufacturing firms are close to the 90 percentile college revenues distribution. Since college presidents in the 75-90 percentile revenue distribution on average make \$370,111, which is substantially lower than their corporate counterparts (\$726,880), it can be argued that comparing college presidential salaries to those of corporate CEOs is nothing but exaggeration. In fact, only college presidents in the 99 percentile revenue distribution earn compensation that is comparable to the corporate CEOs in the 25 percentile by revenue size. Furthermore, this comparison is rather conservative, because the data reported in Panel A do not include stock options,

which in recent years often exceed cash compensation. These statistics, therefore, point out that although college presidents' compensation has been drawing much attention recently, the magnitudes are nowhere near those of the corporate CEOs.

3.2. Univariate Analysis of Presidential Compensation and Institutional Characteristics

Since the executive compensation literature finds, in equilibrium, firms hire CEOs with the skill level commensurate with job complexity, which in turn can be proxied by the firm characteristics, in a similar fashion, we present descriptive statistics of presidential salaries and institutional characteristics in Table 3. Panel A shows these statistics for the bachelor institutions. There are a maximum of 185 bachelor institutions in our 2004 sample. Presidents in these institutions earn an average of \$214,989 in salaries and \$261,766 in total compensation. The highest salary is \$492,583, and the largest amount of total compensation exceeds one million reaching \$1,213,141.¹⁰ This exceptional compensation, however, is a special case where the individual received deferred benefits. Total compensation may include this type of one-time deal, but the salary component of compensation is less vulnerable to outliers.

Average total annual revenues and expenses for all private bachelor colleges are \$68.43 million and \$58.35 million, respectively. Large deviations are observed between colleges. The maximum revenue is \$236 million, while the smallest is a minuscule \$2.2 million. The average 75 percentile freshman SAT score is 1279, with the highest being 1550, and the lowest, 808. Endowments also see large deviations ranging from \$1.1 billion to \$76,000. Average enrollment is 1,479, and the average full professor is paid

¹⁰ We exclude colleges whose presidents are not paid. A number of presidents in religion-affiliated colleges received zero compensation.

\$75,360 annually.¹¹ Dividing presidential compensation by the college's total revenues, we find a compensation-to-revenue-ratio of 0.563% for the bachelor institutions. Adjusted for contract durations, a college president of a bachelor institution earns 2.278 times of an average full professor's salary.

Panel B summarizes the same set of statistics for the presidents of master institutions. There are a maximum of 278 institutions in this category. The maximum total compensation of over \$5 million also reflects a special case where Donald Ross of Lynn University was awarded handsomely before his retirement for the contribution during his 34 years as a president. Compared with the bachelor institutions, master institutions generally have lower student SAT scores, endowments, and faculty salaries, but larger enrollments. College presidents' salaries count for 0.538% of annual revenues. Although the average presidential salary is slightly lower than the same statistic of its bachelor counterpart, master institutions' presidents make 2.347 times of full professors' salaries, slightly higher than the same ratio for the bachelor institutions.

Panel C reports these statistics for the doctoral institutions. An average president of a doctoral institution would make \$326,151 in salary and \$394,897 in total compensation in 2004. This category of institutions has an average endowment of \$234.49 million and an average enrollment of 4,329, both higher than the bachelor and master institutions. Presidential salaries represent approximately 0.327% of an average institution's annual revenues, lower than the bachelor and master institutions. Presidents of doctoral institutions, however, earn 2.89 times of full professors' salaries, higher than their bachelor and master counterparts.

¹¹ Faculties are paid on a 9-month contract, while college presidents are paid on an annual contract.

Presidents of private research universities in panel D on average have a salary exceeding half million dollars, and a total compensation of \$627,666. These universities have average annual revenues above \$1.3 billion and endowments more than \$2.4 billion. The size of enrollment is the largest among all private institutions, and their freshmen have the highest average 75 percentile SAT scores, at 1,442. The presidents of these institutions earn approximately 3.5 times more than their full professors do, but their salary only takes up 0.086% of the total revenue, the smallest percentage among all four categories of colleges. Proponents for generous presidential compensation point out that these major universities are multi-billion dollar business, and their presidents' salaries are still lower than the executive compensation of equally sized business firms. In 2005, the average total CEO compensation for a typical US company with \$500 million revenue is approximately \$2.16 million.¹² Of course, the opponents could argue that higher education is not a business firm, thus comparing their salaries is just like comparing apples with oranges.

Finally, similar statistics for public research universities are shown in Panel E. On the average, presidents of public institutions earn approximately one-third less than their private research university counterparts. These institutions generally have lower student SAT scores, much smaller endowments, and lower faculty salaries, although the enrollment is larger. Their presidents make slightly more than 2.9 times of their full professors.

Table 4 analyzes the Pearson and Spearman rank correlations between private university presidents' salaries and institutional characteristics based upon Carnegie

¹² *Wall Street Journal*, January 21-22, 2006, p. A7.

classifications of institutions.¹³ For the bachelor institutions, compensation is positively and significantly correlated with revenue, revenue-expense ratio, SAT score, endowment, enrollment, and professorial salary. An institution with larger revenues, higher revenue-to-expense ratio, higher student SAT scores, larger endowments, larger enrollments, and higher full professor salaries also rewards its president with generous salaries. For the master universities, the same conclusion stays intact except that revenue-expense ratio is no longer significant in both tests. For the doctoral institutions, the numbers differ substantially. *Enrollment* is the only variable that is significantly correlated with the presidential salaries in both tests – the larger the enrollment, the higher the presidential salary. *Revenue* is also positively and significantly related to compensation in the Spearman rank correlation test, but not in the Pearson correlation test. Given these preliminary statistics, it appears that presidents of doctoral institutions are priced differently from their bachelor and master level counterparts. For major research universities, *Revenue* and *Enrollment* are both significantly correlated with presidential salaries. Moreover, presidential salaries, to some extent, bear a relationship with full professors' salaries – Spearman rank correlation is significant at the 10% level.

While Carnegie Foundation classifies colleges into four levels, US News and World Report uses three levels – liberal arts, master, and national. Under this classification scheme, national, therefore, combines most of the doctoral and research universities. The correlation statistics based upon this new classification can be found in Table 5. Results for the liberal arts and master level institutions are similar to the correlation statistics in Table 4. In this table, “rank” refers to the US News and World

¹³ We further eliminate three observations where the presidential salary is less than the full professorial salary for the correlation and regression analysis.

Report ranking, where more prestigious institutions are ranked with a smaller numerical number, thus negatively correlated with presidential salaries. A major difference between Tables 4 and 5 is the significant correlation between institutional characteristics and presidential salaries for the national universities. This is not surprising because national universities now include both research universities and other doctoral universities, with the former having larger revenues, higher ranks, higher student SAT scores, larger endowments, and higher professorial salaries than the latter, thus enhancing the cross-sectional variations in the sample.

3.3. Multivariate Analysis – Aggregate Data

In this section, we explore the determinants of college presidential salaries in a multivariate context using data of all private colleges, seeking to understand whether college presidents are paid based upon their talent/skill and job complexity proxied by the human capital endowment and college characteristics. Since college presidents are unlike CEOs of business firms, whose performance can be measured using a set of objective accounting and capital market variables, we relate college presidential compensation to institutional characteristics due to the consideration that academic institutions of higher calibers often demand a chief with greater talent, hence larger compensation. We also address an interesting question on whether college presidents' salary structure resembles that of college professors, or whether they are paid in a different labor market. The basic regression model employed is stated in Equation (1):

$$\begin{aligned}
 \text{Salary}_i = & \alpha_i + \beta_1(\text{revenue})_i + \beta_2(\text{revenue_ratio})_i + \beta_3(\text{SAT})_i + \beta_4(\text{endowment})_i \\
 & + \beta_5(\text{enrollment})_i + \sum_{j=6}^8 \beta_j(\text{rank})_{ji} + \varepsilon_i
 \end{aligned} \tag{1}$$

Here, *Salary* is used as the dependent variable, because total compensation is more vulnerable to outliers as discussed earlier. Regressors, *Revenue*, *Revenue_Ratio*, *SAT*, *Endowment*, and *Enrollment* are all defined the same way as in Tables 3-5. Since US News and World Report ranks colleges within different categories, we first specify category dummy variables, and then multiply ranks within each category by category dummy. This procedure produces three interaction dummies, *Rank-Liberal*, *Rank-Master*, and *Rank-National*. Because these three interaction dummies are not linearly dependent, no category is excluded from the equation.

Independent variables in Equation (1) serve a number of purposes. First, *Revenue* and *Revenue_Ratio* (defined as the ratio of revenues to expenses) measure the financial size and the financial strength of an institution. *Revenue* is expected to be positively related to salaries, since an institution with larger revenues has more complex operations, the demand for executive skill is higher, hence is more likely to compensate its leader better. *Revenue_Ratio* measures the financial strength of an institution, and is expected to positively correlate with salaries because a financially healthy institution is able to afford its chief executive better compensation. By the same token, an academic chief who manages the budget well deserves to be better rewarded.

SAT is a proxy for the prestige of the institution. A more prestigious college usually hires a president with superior human capital, hence higher compensation. *Endowment* is anticipated to positively impact presidential salaries as well. A college with larger endowments is in a better financial position to hire a better-qualified president; at the same time it may also count on its president to sustain the efforts to raise more money. In fact, a Chronicle of Higher Education survey finds that more than half of the surveyed

presidents spend part of “every day” on fund raising. Clearly, fund raising is now an important and integral part of the job descriptions for a college president. On the other hand, one could argue that a college with smaller endowment is operating in a more “risky” environment, hence needs to compensate its chief better. *Enrollment* is a different proxy of size measurement – it measures the physical size of an institution. *Ceteris paribus*, a larger institution has more students, more faculty and staff, more complex operations, hence demanding a better management skill and offering its president higher salary.

Finally, the US News and World Report ranking gauges the prestige of a college, with better ranked universities recruiting presidents of higher human capital and granting larger compensation. Note that the highest ranked college has the lowest numerical ranking; hence a negative sign is expected for this variable.

Table 6 displays the results for Equation (1). Models 1 and 2 are regression models of the presidential salaries, with variable *Revenue_Ratio* omitted in Model 1. *Revenue* carries a positive sign and is statistically significant at the one percent level, suggesting when all private colleges are included in the sample, a larger institution which generally has larger revenues and more complex operations compensates its president more generously. This result is basically similar to the finding that CEOs of larger companies tend to make more money than those in smaller ones. *Revenue_Ratio* is not significant in Model 2, indicating that presidential salaries are “net revenue” inelastic.

SAT is positive and significant at the one percent level, being consistent with our expectation that a more prestigious college hires human capital-rich and more talented presidents, hence higher salaries. The magnitude of the *SAT* coefficient translates to an

increase of approximately \$19,020 in presidential salaries for every 100 points increase in student SAT scores, holding other variables constant.

Endowment, however, fetches a negative sign, but only marginally significant at the ten percent level. A plausible explanation could be that an institution with smaller endowments operates in a more risky environment, and expects its chief to work harder in raising funds, thus pays more. Indeed, as reported by the American Council on Education, at least as many presidents of private baccalaureate and master's colleges list fundraising their top uses of time as the presidents of doctorate-granting institutions. *Enrollment*, a measurement of the physical size of an institution, is positive and significant for both Models 1 and 2. In other words, larger sized colleges compensate their presidents better, with presidential salaries surging by \$17,550 for every 1,000 more students.

The US News and World Report's annual ranking scores are used to check if higher ranked colleges pay their presidents higher salaries. *A priori*, higher ranked colleges are more prestigious, thus acquiring human capital-rich presidents by higher compensation. Both *Rank-Liberal* and *Rank-Master* bear the expected negative signs and are statistically significant at the conventional levels, indicating presidents of higher ranked colleges indeed earn more money. For the liberal arts colleges, advancement in ranks by ten places translates into \$3,016 more in reward for the academic chiefs. For the master universities, the number is \$2,484. This relationship, however, is reversed in the case of national universities, connoting less pay by higher ranked colleges! One possible justification is that the presidents of higher ranked national universities, in particular prestigious research universities, usually receive "non-pecuniary" compensation, such as

the prestige and social status associated with an Ivy League. There exists, therefore, a trade-off between pecuniary and non-pecuniary compensation. For example, Harvard president receives non-pecuniary benefits of being the president of one of the most prestigious universities, and therefore is willing to accept a smaller amount of pecuniary compensation than, say, the president of Syracuse. Furthermore, the president of the most prestigious universities may also have more “external compensation” opportunities such as consulting and public speech, which diminishes the dependence on “internal compensation”. Of course, this result does not rule out the possibility that the labor market misprices presidential salaries in this segment of the market, where the president of the American University is an example. Nevertheless, our data indicate that the US News and World Report ranking matters for the presidential compensation of liberal arts colleges and master universities, but not for the national universities.

Although they command a higher salary after assuming the presidency, a vast majority of the college presidents rises from professors and hold tenure positions in the institution, hence one would expect their salaries to reflect the same pricing fundamentals.¹⁴ We examine whether professors are priced differently from presidents in Model 3 where full professor’s salary is the dependent variable. The empirical results emerged from this model resemble those of Model 1 with higher R^2 value. The higher US News and World report ranking also increases professorial salaries for the liberal arts colleges and master universities. The magnitudes of the parameters, however, are smaller than in Model 1. For example, a 10-place improvement in terms of ranking raises professorial salaries of a liberal arts college by \$1,182. The US News and World Report

¹⁴ Ninety-two percent of the college presidents in 1998 held an academic position prior to assuming the presidency. See the American College President, 2002.

ranking, however, does not affect professorial salaries of national universities. Another measurement of institutional reputation, SAT score, nevertheless is a significant determinant of professorial salaries. Professorial salaries jump up by an amount of \$6,031 for every 100 points increase in the student SAT scores. A notable difference is the positive and significant coefficient associated with the *Endowment* variable. Unlike the presidential salaries, professorial salaries are unambiguously increasing with endowments. The economic magnitude, however, is small. A one billion dollar increase in endowments raises professorial salaries by an amount of \$1,800.

Last, in Model 4 we use *Salary Ratio*, a ratio of presidential salaries to professorial salaries, as the dependent variable. Critics argue that since college presidents are tenured faculties, they should be priced as a constant multiple of faculty salaries. If this argument holds and the multiple is invariant across institutions, none of the regressors in Model 4 should be significant. The results turn out to be out of sync with the above “constant proportion” argument. President-to-faculty salary ratio increases along with *Revenue* and *Enrollment*, meaning that the diversion between faculty and presidential salaries intensifies for larger institutions whose presidents are capturing higher multiples, consistent with the findings in corporate executive compensation where the discrepancy between workers and corporate executives widens with firm sizes.

Oddly enough, an institution with less endowment remunerates its president with more money by contrast with its faculties. The US News and World Report ranking of national universities is also inversely related to the president-to-faculty salary ratio, i.e., presidents of a lower ranked national university earn higher multiples of its faculty’s salary, with other things held constant. Since the US News and World Report aggregates

research and other doctoral universities into the same category, this result implies either the existence of non-pecuniary compensation for the most prestigious institutions, or mispricing for college presidents in this segment of the market. There are plenty of examples that presidents of lower ranked universities are making more money than those of prestigious universities. For instance, American University (\$814,172), Drexel (\$797,624), Rensselaer Polytechnic (\$939,346), Stevens Institute (\$858,499), and Syracuse (\$802,731) all paid their chiefs better than the most prestigious universities such as Harvard, MIT, Stanford, Columbia, Duke, and Yale, just to name a few. Of course, we cannot rule out the possibility that US News and World Report ranking contains measurement errors, but casual inspection suggests that this bias is not strong enough to reverse the relation. Lastly, not reported in Table 6, we also regress the changes in presidential compensation on the changes in college endowments over a 2-year period (2003-2004) to gauge if college presidents are rewarded for their main mission, namely raising money. The results are not statistically significant though.

3.4. Multivariate Analysis Based upon Carnegie Classification

3.4.1. Presidential Salaries

While Table 6 reports the results aggregating all private colleges, this section is devoted to how presidential salaries are determined in each individual segment of the markets. The segment is defined using the classifications of Carnegie Foundation. Table 7 exhibits regression results based upon this disaggregated dataset. Model 1 shows the results for bachelor institutions. For these institutions, presidential salaries increase with *SAT* scores, indicating that more prestigious colleges offer their chiefs better

compensation for better human capital endowment. For every 100 points increase in student SAT scores, liberal arts colleges' presidential salaries soar by \$14,670, which is both statistically and economically significant. Although *Endowment* carries a positive sign, it is shy of significance at the ten percent level. The model helps to explain 43% of the variations in salaries of liberal arts college presidents.

For the master institutions under Model 2, *Revenue* and *Endowment* are positive and statistically significant. On the other hand, *SAT* carries a negative sign and is not significant. Financial strength of the college, not institutional reputation, therefore, determines the presidential compensation for master institutions. For doctoral institutions, neither financial strength, nor the reputation of an institution affects financial rewards to their presidents. The only variable that is statistically significant is the *Enrollment*; the larger the physical size of the institution, the higher the salary for the president. In fact, each additional 1,000 students enrolled enhance presidential salaries by an amount of \$30,070. The model explains only 20% of the variations in presidential salaries.

Research universities yield very similar results as doctoral institutions. Once again, the only significant variable is the *Enrollment*. For each additional 1,000 students, however, presidential salaries increase by only \$13,540. Based upon these results, therefore, we can conclude that a certain degree of segmentation exists in the markets for college presidents, and compensation contracts are designed differently across types of institutions. While institutional financial strength and reputation determine presidential salaries in the bachelor and master colleges, physical size is the only parameter that counts in doctoral and research universities.

3.4.2. Professorial Salaries

To see whether the market prices college professors in the same way as it does to college presidents, we proceed to investigate the determinants of professorial salaries using the same set of models. Since *Revenue Ratio* is not significant in Table 7, this variable is excluded in the test for professorial salaries. The relevant results are shown in Table 8. Although there are variations across different types of institutions based on the Carnegie classification, the explanatory power of the same model increases substantially in the professorial salaries equations. For the bachelor colleges, both *Revenue* and *SAT* are positively and significantly correlated with professorial salaries. Larger (in the financial sense) and more reputable colleges pay their professors higher salaries. For instance, professorial salaries are brought up by an amount of \$6,361 for every 100 points improvement in student SAT scores. This sensitivity is slightly less than half of the same statistic reported in Table 7 for presidents. The model is capable of explaining an impressive 73% of the variations in professorial salaries.

For master institutions, *Revenue* and *Endowment* are positively and significantly correlated with professorial salaries. Financial size of the institution, therefore, plays a more important role in setting faculty salaries. This result is similar to that reported in Table 7 for college presidents. It appears that both bachelor and master institutions price their faculty and presidents in a similar fashion. That is, the same set of institutional characteristics determines both presidential and professorial salaries.

For doctoral universities, however, the picture is quite different. While *Enrollment* is the only variable that counts in the presidential salaries equation, this same category of universities prices their faculty with due recognition of *Revenue* and student

SAT scores in the same way liberal arts colleges price their faculty. Higher revenues and higher *SAT* scores help inflate faculty salaries – larger universities can afford their faculty better, and more reputable schools also hire more expensive faculty, presumably with greater human capital.

For the research universities, *SAT*, *Endowment*, and *Enrollment* all positively affect faculty salaries. *SAT* is the most significant variable in the research university equation. Professorial salaries shoot up by more than \$13,346 for every 100 points increase in students *SAT* scores. Comparison of faculty salaries with the presidential salaries for the doctoral and research institutions can lead to the conclusion that while faculties are priced based upon their human capital and the financial strength of these institutions, presidents are subject to a different pricing model. For these institutions, only the physical size matters for their presidential salary. While the model is able to explain more than 52% (78%) of the variations in professorial salaries of doctoral (research) universities, the same model explains only a small fraction (20% and 22%, respectively) of the variations in presidential salaries for the same institutions. Although physical size of a college may proxy job complexity, the pricing of college presidents for the doctoral and research universities is no doubt noisier than for their liberal arts and master counterparts.

3.5. Multivariate Analysis for Public Universities

In this section, we report some results for public institutions. The sample of 99 public institutions is limited to public research universities. Slightly different variables are adopted for these public universities because, for example, presidents of public

doctorate-granting colleges rank “relations with legislators” as one of the important uses of their time which is not as important for private institutions.¹⁵ The equation can be expressed as follows:

$$\begin{aligned} \text{Salary}_i = & \alpha_i + \beta_1(\text{peer_score})_i + \beta_2(\text{SAT})_i + \beta_3(\text{rank})_i + \beta_4(\text{endowment})_i \\ & + \beta_5(\text{enrollment})_i + \beta_6(\text{state-rev-exp-ratio})_i + \beta_7(\text{stae-edu-rev-ratio})_i \\ & + \beta_8(\text{per-capita-edu-exp})_i + \mu_i \end{aligned} \quad (2)$$

Here *Peer Score* is a score compiled by the US News and World Report to measure the academic reputation given by peer schools. The maximum peer score is 5. *Rank* is the overall rank reported in the US News and World Report; *State-Rev-Exp-Ratio* is a measurement of state governments’ budget strength, with state revenues divided by state expenditures; *State-Edu-Rev-Ratio* is to measure the proportion of the state revenues that is allocated for educational purposes; and *Per-Capita-Edu-Exp* denotes per capita educational expenses.

Table 9 presents the results for these 99 public universities. Model 1 does not contain any state government related variables; Models 2-4 each involves a different measurement of state government’s financial strength or support for education. All models yield very similar results. Specifically, *Endowment* and *Enrollment* are the only two variables that contribute to set the salary for presidents of public research universities, although a state’s educational expenditures-to-revenues ratio is also marginally significant. Taking Model 1 as an example, presidential salaries increase by an amount of \$39,100 in response to every additional 10,000 students enrolled. None of the reputation variables, however, is significant. The explanatory power of these models is relatively lower compared with private universities.

¹⁵ The American College President, 2002.

To verify whether the professors of these universities are priced in the same way as their presidents, Model 5 looks at the results for professorial salaries. Seemingly, professors are priced very differently from their presidents. Reputable schools which hire professors with greater human capital compensate their professors accordingly. Both *Peer Score* and *SAT* are positive and statistically significant at the conventional significance levels. A 100-point increase in the SAT score leads to a \$5,346 increase in professorial salaries. On the other hand, *Endowment* and *Enrollment* become irrelevant. In sum, similar to their private university counterparts, presidents of public research universities are priced differently from their professors, reflecting a different labor market for the presidents.

4. Conclusions

In this paper we seek to find out what determines lucrative college presidential salaries, which have increased substantially in the past 8 years. Although presidential salaries are far below their corporate counterparts, the average annual growth rates in total compensation are 5.2%, 6.3%, 7.7%, and 8.5% for the private bachelor, master, doctoral, and research universities respectively. These increasing rates far surpass both the inflation rate and the faculty salaries growth rate.

Among the four types of institutions, presidents of research universities have the highest average compensation, approaching more than half million dollars in 2004, followed by doctoral, bachelor, and master level institutions. The president-to-professor salary ratio is also the highest, at 3.5, for the research universities. For the same Carnegie

category, public institutions offer lower compensation to their presidents than private institutions.

Taking all private institutions into consideration, college presidents are priced based upon the financial strength of the college, measured by revenues and endowments; reputation of the institution, measured by the student SAT scores and the US News and World Report ranking; and physical size of the institution, measured by the enrollments. This result is consistent with the notion that in equilibrium executive compensation reflects the institutional demand for managerial skill and talent; proxied by institutional characteristics. The US News and World Report ranking, however, does not produce the expected relationship between presidential salaries and ranks for national universities which include both doctoral and research universities, suggesting market segmentation.

The labor markets for college presidents seem to be segmented and compensation contracts are designed differently across types of institutions. While institutional financial size determines the presidential salaries of master institutions, student SAT scores help to decide a president's salary for the bachelor institutions. On the other hand, enrollment size is the sole parameter that contributes to the variations in the presidential salaries of doctoral and research schools.

When examining factors that determine professorial salaries, it is demonstrated that bachelor and master level universities use the same set of variables to price their presidents and professors, namely, financial strength of the college and institutional reputation. However, the pricing model diverge between presidents and professors for doctoral and research institutions. While revenues, SAT scores, and endowments are important factors in defining the salaries of professors of doctoral and/or research

universities, they do not seem to be relevant in the contract design of presidential salaries. Similar findings are also observed in public research universities. For these universities, institutional reputation enhances professorial salaries, but not the presidential salaries where endowments and enrollments are more important. The departure of presidential salaries pricing mechanism from that of professorial salaries is consistent with the contention that college presidents have created a market for themselves. This phenomenon, however, is limited to the doctoral and research universities.

Since the pricing mechanisms for presidents and professors were more analogous decades ago when college presidents typically earned a fixed multiple of professorial salaries, the question remains to be addressed is then whether the job nature of these presidents has changed substantially in the past decade. A related issue to be studied in the future is the salary structure of other academic executives such as the provosts. The job nature of the provosts has been more or less the same as decades ago, but have their salaries increased as rapidly as presidential salaries? If the answer is yes, then college administrations have growingly become a special class in the higher education, where a well-defined performance measurement is lacking and the governance structure is weak. To summarize, although some college presidents are paid handsomely, their compensation are far below corporate CEOs. Similar to the evidence shown in the CEO compensation, we find college presidential salaries are related to job complexity and the human capital of these presidents. This relationship, however, is stronger for the liberal arts and master level universities, but noisier for the doctoral and research institutions.

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Table 1. Top-25 Highest Paying Institutions

This table reports top 25 institutions that pay their chiefs the most in 1997 and 2004. Colleges are classified into four categories according to Carnegie Foundation: research, doctoral, master, and bachelor.

Carnegie Category	Institution	1997 Salary	Carnegie Category	Institution	2004 Salary
Res	U of Pennsylvania	498536	Res	Vanderbilt University	898715
Res	Vanderbilt University	472110	Res	New York University	862717
Res	Columbia University	430000	Doc	Stevens Institute of Tech	837075
Res	New York University	428469	Res	Syracuse University	741450
Doc	Hofstra University	401123	Res	University of S. California	711000
Res	Johns Hopkins University	396706	Res	Case Western Reserve U	706852
Res	George Washington U	385241	Res	Rensselaer Polytechnic	703829
Res	Tulane University	373166	Doc	Drexel University	689980
Res	California Institute of Tech	360000	Res	Johns Hopkins University	680323
Res	Stanford University	357735	Res	Boston University	669302
Res	Washington University	356662	Doc	Wilmington College	662500
Mas	Ithaca College	353125	Res	American University	633000
Res	Rice University	351617	Res	U of Pennsylvania	630810
Doc	Texas Christian U	351110	Res	Cornell University	630747
Res	Rockefeller University	350000	Res	Columbia University	611000
Res	Yale University	350000	Res	George Washington U	609837
Res	Princeton University	341850	Res	Northwestern University	593250
Mas	Dowling College	339923	Res	Yale University	568750
Res	University of S. California	337500	Mas	National University (Calif.)	562500
Mas	Monmouth University (NJ)	335083	Res	Rice University	550000
Res	University of Chicago	333453	Res	California Institute of Tech	540000
Doc	Duquesne University	332464	Res	University of Rochester	538900
Bac	Centre College	331250	Res	Harvard University	522714
Res	Boston University	328000	Res	Stanford University	517750

Table 2. Comparison of CEO and College President Compensation

This table compares corporate CEOs' compensation with that of college presidents'. CEO compensation are based upon 1,066 manufacturing firms compiled by the Conference Board.

Panel A: CEO Compensation of Manufacturing Firms According to Firm Size in 2004

	Sales Revenue (\$million)	Salary	Bonus	Total Cash Compensation
25 Percentile	\$251	\$413,000	\$313,880	\$726,880
Median	\$668	\$527,000	\$511,190	\$1,038,190
75 Percentile	\$2,100	\$699,000	\$880,740	\$1,579,740

Panel B: Presidential Compensation According to Revenue

Revenue Range (Percentile)	N	Revenue (\$million)	Mean Salary	Mean Total Compensation
0-25	135	R≤\$33.5	\$148,627	\$171,091
25-50	138	33.5<R≤59.0	\$193,562	\$229,621
50-75	132	59.0<R≤112.5	\$246,732	\$327,052
75-90	81	112.5<R≤254.5	\$302,661	\$370,111
90-95	27	254.5<R≤747.0	\$443,978	\$516,449
95-99	23	747.0<R≤2,600	\$574,991	\$659,562
> 99	4	R> 2,600	\$587,899	\$736,742

Table 3: Descriptive Statistics

This table reports descriptive statistics of college presidential salaries, professorial salaries, and institutional characteristics in the year 2004. Salary is the presidential salaries; Total Comp is the presidential total compensation; Revenue is the total annual revenues in millions; Expense is the total annual expenses in millions; SAT is the freshmen's 75 percentile SAT scores; Endowment is the total endowments in thousands; Enrollment is the total enrollment; Professor Salary is the salaries of full professors; Comp/Revenue is the presidential total compensation to college revenues ratio; Score is the peer evaluation score from US News and World Report; and Salary/Professor is the ratio of presidential salaries to professorial salaries.

Panel A: Bachelor Institutions (Private)

Variable	N	Mean	Std Dev	Median	Minimum	Maximum
Salary	185	214989	76567	209150	40500	492583
Total Comp	185	261766	123085	255056	40500	1213141
Revenue	185	68.43	50.89	56.00	2.20	236.00
Expense	185	58.35	38.73	50.00	2.20	196.00
SAT	173	1279	134.89	1300	808.00	1550
Endowment	176	167094	214182	85635	76.00	1111615
Enrollment	176	1479	656.54	1387	194.00	3454
Professor Salary	157	75360	16926	71200	40200	114900
Comp/Revenue	185	0.00563	0.00422	0.00469	0.00140	0.03580
Salary/Professor	157	2.2785	0.4929	2.2293	0.5643	4.6263

Panel B: Master Institutions (Private)

Variable	N	Mean	Std Dev	Median	Minimum	Maximum
Salary	278	204063	82347	187455	6393	562500
Total Comp	278	252942	305903	217726	6393	5042315
Revenue	278	65.71	56.38	49.00	4.90	432.00
Expense	278	59.84	51.76	46.00	4.80	437.00
SAT	259	1157	82.91	1160	910	1390
Endowment	263	43023	80531	24155	327.00	996710
Enrollment	263	2514	1856	1972	226	12304
Professor Salary	198	67305	12827	65000	43000	103800
Comp/Revenue	278	0.00538	0.00572	0.00433	0.000278	0.08
Salary/Professor	198	2.3476	0.6752	2.2477	0.4299	4.9055

Table 3: Descriptive Statistics (Continued)**Panel C: Doctoral Institutions (Private)**

Variable	N	Mean	Std Dev	Median	Minimum	Maximum
Salary	38	326151	156400	312871	28440	837075
Total Comp	38	394897	229557	372000	41183	1370973
Revenue	38	203.47	143.53	185.00	32.00	789.00
Expense	38	185.42	120.75	173.00	32.00	635.00
SAT	35	1240	109.38	1260	910	1530
Endowment	36	234492	382828	113959	1080	2121183
Enrollment	35	4329	2766	3701	326	11960
Professor Salary	27	90667	19348	87900	53400	155800
Comp/Revenue	38	0.00327	0.00521	0.00203	0.00016	0.0326
Salary/Professor	27	2.8902	1.5900	2.6245	0.22837	9.3048

Panel D: Research Institutions (Private)

Variable	N	Mean	Std Dev	Median	Minimum	Maximum
Salary	42	538818	138103	515640	201667	898715
Total Comp	42	627666	193521	575688	224955	1326786
Revenue	42	1365	1019	1050	80.00	4300
Expense	42	1173	824.46	829.50	48.00	3100
SAT	39	1442	86.25	1440	1270	1590
Endowment	39	2422951	3534980	1127350	110883	18849491
Score	39	3.9359	0.6831	3.9000	2.8000	4.9000
Enrollment	39	7113	3975	6272	896	20212
Professor Salary	39	117589	17384	116900	81700	157500
Comp/Revenue	42	0.00086	0.00088	0.00058	0.00013	0.005
Salary/Professor	39	3.4965	0.9396	3.2229	1.8513	6.1176

Table 3: Descriptive Statistics (Continued)

Panel E: Research Institutions (Public)

Variable	N	Mean	Std Dev	Median	Minimum	Maximum
Total Salary	99	364650	118832	322375	173000	762000
SAT	99	1234	79.02	1220	1070	1440
Score	99	3.1566	0.5398	3.1000	2.2000	4.8000
Endowment	99	472622	613366	279552	658.00	3802712
Enrollment	99	20031	7109	19060	5538	39377
Professor Salary	98	94974	13084	93600	67200	123300
Salary/Professor	98	2.9436	1.0574	2.6569	1.0653	6.1518

Table 4: Correlations between Salaries and Institutional Characteristics Based upon Carnegie Classifications (Private Colleges)

This table reports the Pearson and Spearman Rank correlations between presidential salaries and institutional characteristics. Institutions are classified based upon Carnegie method. Revenue is the total annual revenues; Revenue Ratio is the ratio of total revenues to total expenses; SAT is the 75 percentile students SAT scores; Endowment is the total endowments; Enrollments is the total enrollment size; and Professor Salary is the professorial salaries. *p* statistics are in the parentheses.

Carnegie Classification	Correlation Method	Variables					
		Revenue	Revenue Ratio	SAT	Endowment	Enrollment	Professor Salary
Bachelor	Pearson	0.7018 (0.00)	0.3414 (0.00)	0.5398 (0.00)	0.5603 (0.00)	0.5040 (0.00)	0.7157 (0.00)
	Spearman	0.7901 (0.00)	0.3135 (0.00)	0.6117 (0.00)	0.6489 (0.00)	0.5499 (0.00)	0.7778 (0.00)
Master	Pearson	0.6247 (0.00)	0.0542 (0.37)	0.2301 (0.00)	0.4183 (0.00)	0.4488 (0.00)	0.6704 (0.00)
	Spearman	0.6830 (0.00)	0.0724 (0.23)	0.2229 (0.00)	0.4881 (0.00)	0.5599 (0.00)	0.6580 (0.00)
Doctoral	Pearson	0.1771 (0.28)	-0.0488 (0.77)	0.1800 (0.3)	0.075 (0.66)	0.3261 (0.06)	0.0695 (0.73)
	Spearman	0.3630 (0.03)	0.1036 (0.53)	0.1402 (0.42)	0.0769 (0.66)	0.4007 (0.02)	0.2641 (0.18)
Research	Pearson	0.4132 (0.00)	-0.1534 (0.33)	0.0459 (0.78)	0.0108 (0.94)	0.4632 (0.00)	0.2529 (0.12)
	Spearman	0.5262 (0.00)	-0.0715 (0.65)	0.0469 (0.78)	0.1457 (0.38)	0.3276 (0.04)	0.2764 (0.09)

Table 5: Correlations between Salary and Institutional Characteristics Based upon US News & World Report Classifications (Private Colleges)

This table reports the Pearson and Spearman Rank correlations between presidential salaries and institutional characteristics. Institutions are classified by the US News and World Report method. Revenue is the total annual revenues; Rank is the US News and World Report ranking; SAT is the 75 percentile students SAT scores; Endowment is the total endowments; Enrollments is the total enrollment size; and Professor Salary is the professorial salaries. *p* statistics are in the parentheses.

US News & World Report Classification	Correlation Method	Variables					
		Revenue	Rank	SAT	Endowment	Enrollment	Professor Salary
Liberal Arts	Pearson	0.6818 (0.00)	-0.6853 (0.00)	0.5389 (0.00)	0.5612 (0.00)	0.5055 (0.00)	0.7112 (0.00)
	Spearman	0.7640 (0.00)	-0.7245 (0.00)	0.6103 (0.00)	0.6506 (0.00)	0.5536 (0.00)	0.7744 (0.00)
Masters	Pearson	0.6294 (0.00)	-0.2993 (0.00)	0.2337 (0.00)	0.4182 (0.00)	0.4483 (0.00)	0.6743 (0.00)
	Spearman	0.6795 (0.00)	-0.3510 (0.00)	0.2252 (0.00)	0.4882 (0.00)	0.5607 (0.00)	0.6525 (0.00)
Nationals	Pearson	0.5439 (0.00)	-0.5547 (0.00)	0.5047 (0.00)	0.2515 (0.03)	0.5159 (0.00)	0.5088 (0.00)
	Spearman	0.7132 (0.00)	-0.5788 (0.00)	0.5954 (0.00)	0.5676 (0.00)	0.5315 (0.00)	0.6277 (0.00)

Table 6: Regression Analysis of College President Salary (All Private Colleges)

This table reports regression results of college presidential salaries, professorial salaries, and presidential/professorial salaries ratio in year 2004. Salary is the presidential salaries; Professor is the salaries of professors; Salary Ratio is the ratio of presidential salaries to professorial salaries. Revenue is the total annual revenues in millions; Revenue Ratio is the ratio of revenues to expenses; SAT is the 75 percentile students SAT scores; Endowment is the total endowments in thousands; Enrollment is the total enrollments; Rank-Liberal, Rank-Master, and Rank-National are the US News and World Report ranking of liberal arts colleges, master universities, and national universities, respectively. *, **, and *** denote significance at the 10%, 5%, and 1% level respectively.

	Dependent Variables			
	(Model 1)	(Model 2)	(Model 3)	(Model 4)
	Salary	Salary	Professor	Salary Ratio
	N=402	N=402	N=402	N=402
Intercept	-28808 (-0.45)	-29333 (-0.45)	1989.49 (0.22)	2153.81 (3.65)***
Revenue	100.07 (7.4)***	99.40 (7.33)***	8.70 (4.62)***	0.381 (3.08)***
Revenue Ratio		-3511.98 (-0.40)		36.47 (0.46)
SAT	190.20 (4.04)***	193.31 (4.05)***	60.31 (9.15)***	-0.092 (-0.21)
Endowment	-0.0083 (-1.89)*	-0.0081 (1.84)*	0.0018 (2.86)***	-0.00008 (-1.99)**
Enrollment	17.55 (8.54)***	17.68 (8.49)***	1.39 (4.83)***	0.105 (5.51)***
Rank-Liberal	-301.62 (-2.59)***	-298.20 (-2.56)***	-118.16 (-7.25)***	0.593 (0.56)
Rank-Master	-248.44 (-2.61)***	-242.86 (-2.52)***	-71.79 (-5.31)***	-0.285 (-0.32)
Rank-National	559.10 (3.76)***	557.11 (3.74)***	3.857 (0.19)	6.164 (4.53)***
Adjusted R²	0.675	0.675	0.754	0.294

Table 7: Regression Analysis of College President Salary Based upon Carnegie Classifications (Private Colleges)

This table reports regression results of college presidential salaries in year 2004. Institutions are classified into four types based upon Carnegie Foundation. Revenue is the total annual revenues in millions; Revenue Ratio is the ratio of revenues to expenses; SAT is the 75 percentile students SAT scores; Endowment is the total endowments in thousands; and Enrollment is the total enrollments. **, and *** denote significance at the 5%, and 1% level respectively.

	Carnegie Classifications			
	(Model 1) Bachelor N=153	(Model 2) Master N=188	(Model 3) Doctoral N=25	(Model 4) Research N=37
Intercept	-15346 (-0.22)	185518 (2.55)***	435731 (1.06)	299524 (0.57)
Revenue	311.08 (1.18)	704.11 (5.28)***	-192.12 (-0.56)	45.75 (1.42)
Revenue Ratio	3148.23 (0.13)	-3166.84 (-0.42)	-155477 (-0.50)	-138731 (0.47)
SAT	146.70 (2.87)***	-24.42 (-0.41)	-38.05 (-0.15)	178.03 (0.47)
Endowment	0.062 (1.59)	0.158 (2.62)***	0.0772 (0.73)	-0.0046 (-0.48)
Enrollment	11.14 (0.93)	-0.352 (-0.08)	30.07 (2.78)***	13.54 (2.25)**
Adjusted R²	0.434	0.423	0.207	0.221

Table 8: Regression Analysis of College Professorial Salary Based upon Carnegie Classifications (Private Colleges)

This table reports regression results of college professorial salaries in year 2004. Institutions are classified into four types based upon Carnegie Foundation. Revenue is the total annual revenues in millions; Revenue Ratio is the ratio of revenues to expenses; SAT is the 75 percentile students SAT scores; Endowment is the total endowments in thousands; and Enrollment is the total enrollments. *, **, and *** denote significance at the 10%, 5%, and 1% level respectively.

Carnegie Classifications				
	(Model 1) Bachelor N=153	(Model 2) Master N=188	(Model 3) Doctoral N=25	(Model 4) Research N=37
Intercept	-17674 (-1.65)*	43570 (4.01)***	11798 (0.42)	-89691 (-2.54)**
Revenue	131.80 (3.27)***	135.31 (6.46)***	66.96 (2.23)**	2.956 (1.42)
SAT	63.61 (7.33)***	12.85 (1.36)	53.07 (2.27)**	133.46 (5.40)***
Endowment	0.0095 (1.44)	0.0177 (1.84)*	-0.0093 (-0.98)	0.0010 (1.99)*
Enrollment	-0.583 (-0.3)	-0.851 (-1.29)	-0.3796 (-0.39)	1.0481 (2.58)***
Adjusted R²	0.732	0.461	0.525	0.789

Table 9: Regression Analysis of College President and Professorial Salaries (Public Research Universities)

This table reports regression results of public college presidential salaries and professorial salaries in year 2004. Salary is the presidential salaries; Professor is the salaries of professors; Peer Score is the reputation scores given by peer institutions surveyed by the US News and World Report; SAT is the 75 percentile students SAT scores; Rank is overall institutional ranking compiled by the US News and World Report; State-Rev-Exp-Ratio is the ratio of state government revenues to expenses; State-Edu-Rev-Ratio is the ratio of state government educational expenses to revenues; and Per Capita Edu-Exp is the per capita state educational expenses. *, **, and *** denote significance at the 10%, 5%, and 1% level respectively.

	Dependent Variables				
	(Model 1)	(Model 2)	(Model 3)	(Model 4)	(Model 5)
	Salary	Salary	Salary	Salary	Professor
	N=99	N=99	N=99	N=99	N=99
Intercept	-114533 (-0.3)	48647 (0.11)	-259274 (-0.67)	-280218 (-0.68)	-5497.05 (-0.18)
Peer Score	-19343 (-0.34)	-28440 (-0.49)	-30989 (-0.54)	-24873 (-0.43)	10716 (2.37)**
SAT	340.29 (1.28)	336.67 (1.26)	397.38 (1.49)	413.13 (1.50)	53.46 (2.55)***
Rank	173.88 (0.25)	139.46 (0.20)	119.63 (0.17)	297.79 (0.42)	5.249 (0.10)
Endowment	0.053 (2.26)**	0.059 (2.40)**	0.052 (2.23)**	0.053 (2.27)**	-0.0008 (-0.47)
Enrollment	3.91 (2.10)**	3.927 (2.10)**	3.537 (1.90)*	4.407 (2.30)**	0.07 (0.48)
State-Rev-Exp-Ratio		-134721 (-0.83)			
State-Edu-Rev-Ratio			375617 (1.66)*		
Per Capita Edu-Exp				48.41 (1.08)	
Adjusted R²	0.177	0.173	0.192	0.178	0.5282

Figure 1: College President Compensation (All Private Colleges)

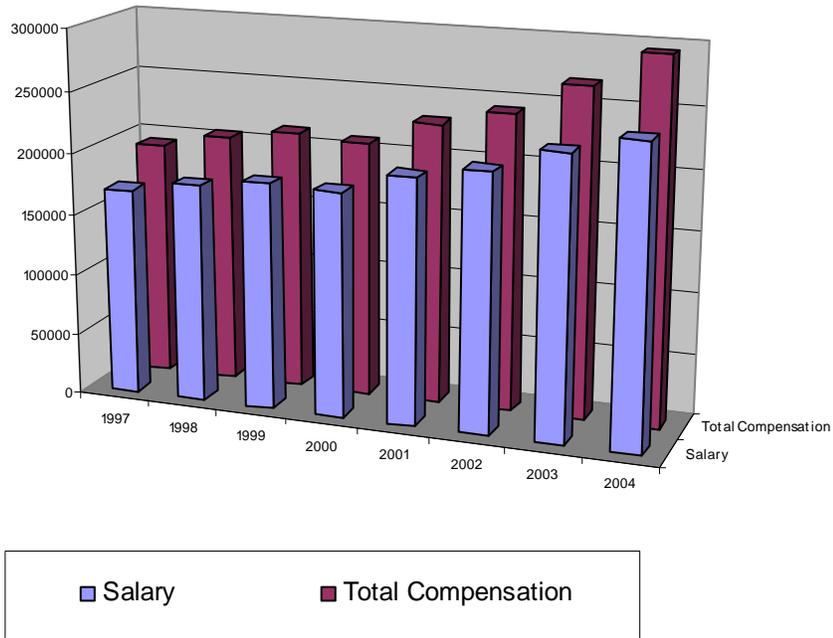


Figure 2 : Salaries for College Presidents by Types of Institutions

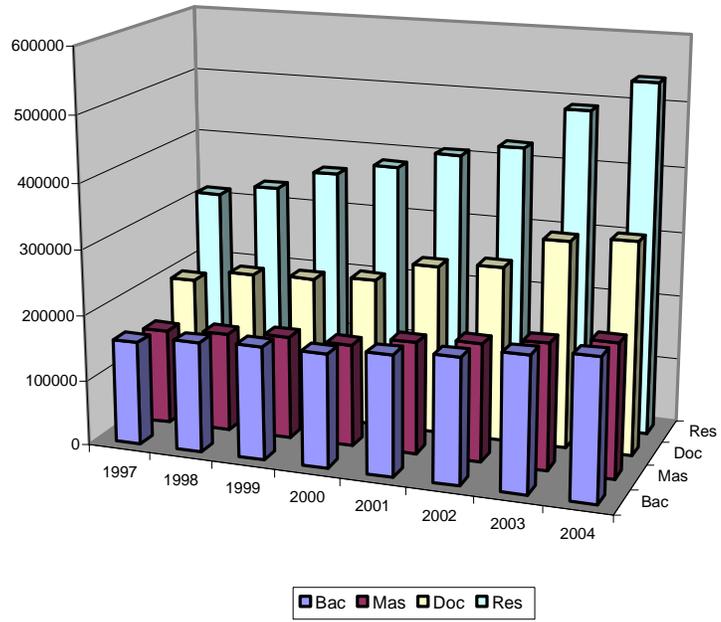


Figure 3: Total Compensations for College Presidents by Types of Institutions

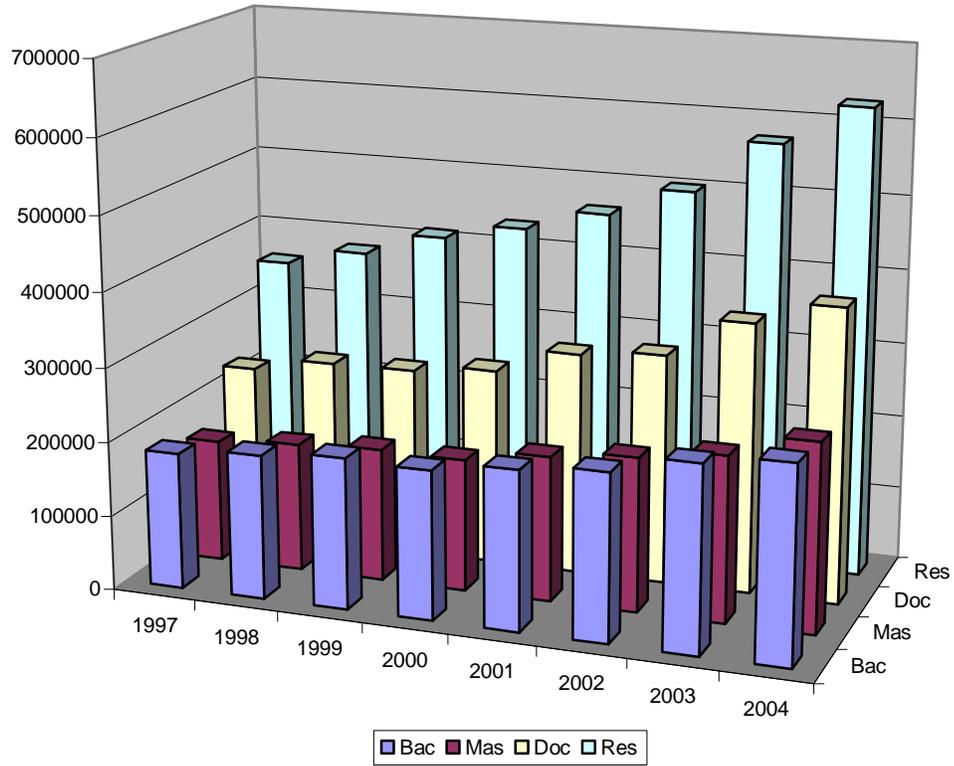


Figure 4. The Annual Growth Rate of Presidential Salaries in Comparison with Inflation Rates

