# Executive Compensation in American Unions 

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#### Abstract

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## Keywords

unions, management, wage distributions, managerial pay, compensation

## Comments

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# Executive Compensation in American Unions 

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## EXECUTIVE COMPENSATION IN AMERICAN UNIONS

Studying compensation in the non-profit sector is difficult. In non-profit organizations, it is not always clear what the objectives of the organization are and, therefore, perhaps even more difficult to consider how to compensate managers. This paper investigates the determinants of executive compensation of leaders of American labor unions. We use panel data on more than 75,000 organizationyears of unions from 2000 to 2007 to investigate these issues. We specifically concentrate on two issues of importance to unions - the level of membership and the wages of union members. Both measures are strongly related to compensation of the leaders of American labor unions, even after controlling for organization size and individual organization fixed-effects. Additionally, the elasticity of pay with respect to membership for unions is very similar to elasticity of pay with respect to employees in forprofit firms over the same period.

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## I. Introduction and Motivation

This paper investigates the determinants and structure of managerial pay of the leaders of American labor unions. There has been considerable research into the determinants of executive compensation in for-profit companies the United States (e.g. Murphy, 1985; Murphy 1999; Bebchuk and Fried, 2006). However, considerably less attention has been placed on compensation (and managerial compensation in particular) in nonprofit organizations. Only recently have authors begun to investigate the compensation of managers in nonprofits (e.g. Oster, 1998; Hallock, 2002) and even made some comparisons between managerial pay in forprofit and nonprofit organizations (Hallock, 2004).

Studying managerial compensation in nonprofit organizations is particularly difficult since the goals and objectives of these organizations are less clear than they are in the for-profit sector. While many argue that for-profit companies are organized principally to create returns for shareholders, the objectives of nonprofits may differ quite dramatically. One issue that comes out of previous research on compensation in nonprofits is the need to focus attention on particular industries within the nonprofit sector since the objectives of nonprofits may dramatically differ across industries (e.g. Ehrenberg, Cheslock and Epifantseva, 2002 who study universities or Bertrand, Hallock and Arnould, 2005 who study hospitals). Nursing homes is an example where a potentially important objective could be considered (Weisbrod and Schlesinger, 1986). Perhaps one would want to compensate a manager of a nursing home based on "trustworthiness", but this is incredibly difficult to measure. Other measures of performance in nonprofits include increased public awareness, cost savings, increased funding (Rocco, 1991), and customer satisfaction (Bailey \& Risher, 1996). It is clear from these examples that
identifying and measuring appropriate measures for the goals and objectives of nonprofits is complicated.

The work reported in this paper is an attempt to carefully and credibly consider how the leaders of labor unions are paid in the United States. Labor unions are particularly interesting because they represent a case where the objectives of the manager and the organization are, perhaps, better defined (and measurable) than in other nonprofit sectors. Clearly, unions are interested in both the level of employment and the level of wages of their members (French, Hayashi, \& Gray, 1983). As described below, we collect data on each and empirically determine their relative importance in a managerial compensation empirical specification. This may be a way to consider an implicit objective function for the manager.

The rest of this paper is organized as follows. In section II, we discuss some previous literature on compensation of managers in nonprofits and in unions in particular. In section III, we explore the collection and organization of the data. Section IV reports the main empirical results and Section $V$ offers some concluding comments. We find that there is wide heterogeneity in how labor unions compensate their managers. Further, the effect of union's membership is a large and significantly related to the compensation of the union's Presidents, with elasticities on the same order of magnitude as the elasticity of compensation to firm market value for publicly traded firms. Similarly, the average wage of the rank and file union member is related to the pay of union presidents. In the end, both union membership and wages of members are importantly related to the pay of union Presidents.

## II. Previous Work, Econometric Specification, and Issues

Previous work has shown that one of the strongest correlates of managerial pay in American nonprofits (Hallock, 2002) and for-profit organizations (Lambert, Larker, \& Weigelt, 1991; Murphy, 1985) is the size of the organization. Size is believed to have such a high correlation with manager's pay because managers in larger organizations have responsibility for more resources and more people. Although managers of nonprofits are paid considerably less than those in for-profit firms (Hallock, 2002; Preston, 1989), a great deal of this is explained by the size of the organization (measured for example by total assets). However, for organizations of similar size, it has been found that non-equity-based compensation is not particularly different in nonprofit organizations than in for-profit firms (Hallock, 2004) ${ }^{1}$. In addition, Hansmann (1980, 1996) and others outline that nonprofit organizations are not barred from making "profits", but they are barred from distributing the excess funds to those in control of the organization. However, it is possible to compensate managers of nonprofits with incentive-based pay (Steinberg, 1990a, 1990b). "One way to minimize the probability that executives will take actions contrary to the organization's goals is to tie their compensation to measures of their organization's performance" (Ehrenberg \& Goldberg, 1977, p. 188). We investigate a variety of issues that have been hallmarks in the study of compensation of managers in for-profit firms including the elasticity of pay to firm size (Rosen, 1992) and the relationship between organization performance and managerial pay (Jensen \& Murphy, 1990; Tosi, Werner, Katz, \& Gomez-Mejia, 2000). As noted above, examining unions provides a unique view on the importance of organization performance, measured as wages of members and membership levels, to the compensation of the top union official.

[^0]A small set of previous studies have investigated the links between the compensation of union Presidents and certain union characteristics. Each of the studies uses only cross sectional data. We briefly mention six of them here. Bressler (1972) examined the compensation of 97 local union presidents in the construction industry in 1967 by regressing annual compensation of the top official on membership size, total net worth of membership, and the hourly wage rate of workers. He found that all were significantly associated with compensation at the 0.01 confidence level, and concludes that "union officials are not unaffected by the agreements they negotiate" (pg. 49). Ehrenberg and Goldberg (1977) investigated the performance and compensation of the 670 heads of building trade unions in 1971. They found that the salary of a local business agent of a union is related to the "ability to pay" (defined as total dues and total assets) and to his own bargaining performance (measured by absolute level of wages and relative wages compared to wages in and outside their craft). Sandver (1978) examined 100 large local unions using data from 1962, 1967 and 1973. He found, among other results, that membership was significantly related to the compensation of the head of the unions he examined. Sandver and Heneman (1980) studied the relationship among the top three highest paid officials in the 100 largest national unions in 1962, 1967 and 1973. Among their findings is that there is a stable relationship (over time) between the pay of the top person and the second two, similar to that found in for-profit companies. French, Hayashi and Gray (1983), using data from 1978, showed a relationship between union head's compensation and measures of union financial strength, job complexity (measured with the variables: number of locals, functional specialization of administration, industrial diversity of membership, and geographical dispersion of membership), and tenure in the job. Finally, French (1992) investigated the relationship between power and pay of 136 international unions in 1977 and 108 international unions in 1987. French defined
power in his analysis by the procedures and structures used by unions to elect its officers. More autocratic structures (indicated by longer presidential terms of office, longer intervals between conventions, the election of presidents at conventions, and the election of the board on an atlarge basis) were argued to create more power for union presidents. French found support for the hypothesis that power and pay were positively related

As previously noted, none of the previous studies on the compensation of union Presidents made use of panel data. On the other hand, we investigate a panel of eight years, from 2000 through 2007. Therefore, one of the issues from all previous studies, that of unmeasured heterogeneity of the organizations themselves, can be addressed in our work. Further, we can investigate the extent to which this is a problem.

Our main empirical specification considers the determinants of compensation of the President of the union as follows:

$$
\begin{equation*}
\ln P_{i t}=\beta \ln M_{i t}+\gamma \ln W_{i t}+\theta \ln A_{i t}+\alpha_{i}+\varepsilon_{i t} \tag{1}
\end{equation*}
$$

where $\mathbf{P}$ is the total compensation of the President of the labor union, $M$ is total membership in the labor union, W is the average wage of union members ${ }^{2}$ (defined below), A is the total assets of the labor unions, $i$ indexes unions, $t$ indexes time, and ( $\alpha_{i}+\varepsilon_{i t}$ ) is the composite error term containing possible permanent effects. No doubt, average total compensation of the members (including pensions, benefits etc.) would be a better measure than W. However, we do not have access to such data and assume that pensions and benefits are highly correlated with the wage in these organizations.

Clearly, however, the set of organization characteristics does not fully explain the relationship between compensation and membership and member wages (see the $\mathrm{R}^{2}$ values in the

[^1]OLS specifications below), and therefore, in some specifications, we have chosen to allow for the possibility that other characteristics of the Presidents and the unions which have not been included thus far in previous research are confounding our investigation of the link among these key variables.

To help remedy this problem, we make use of the benefits of the panel data. We can assume that the source of the endogeneity arises only through the permanent component of the error term, $\alpha_{i}$, and not through the transitory component, $\varepsilon_{i t}$, then the standard fixed-effects estimation of equation (1) will yield consistent estimates of the parameters.

## III. Data

The data for this paper come from LM-2, LM-3, and LM-4 reports filed by each labor organization from $2000-2007$ (inclusive) $^{3}$ that is subject to the Labor-Management Reporting and Disclosure Act (LMRDA), the Civil Service Reform Act (CSRA), and the Foreign Service Act (FSA). The forms disclose a common set of information for all labor unions. Individual data include information such as liabilities, loans, mortgages, dividends, rents, gifts and grants, investments, members of the unions, total dues paid and compensation of the president. We focus on only a sub-set of the information in the LM-2, LM-3, and LM-4 forms. In all, we study 75,717 organization-years of data for 15,942 unique organizations.

We also categorize labor unions as "International", "Intermediate" or "Local" based on the United States Department of Labor Office of Labor-Management Standards. Much of the analysis below will be done separately for each of these three categories of labor unions.

[^2]We begin by considering summary statistics for only international unions in Table 1a. It is clear from the table that the average (nominal) union president compensation over time in these data is $\$ 141,859$, with a median of $\$ 112,235$. Figure 1 shows that this average increased considerably over time (from $\$ 111,211$ in 2000 to $\$ 213,391$ in 2007). The average international union had 108,848 members. The median number of members is much smaller $(11,642)$ due to the fact that some of the international unions are so large. The average level of assets for the international unions over this time is $\$ 36.4$ million and the total annual dues is $\$ 17.3$ million.

We also created an estimate of the average union member wage,

$$
\begin{equation*}
\mathrm{W}=(\mathrm{D} / 0.015) / \mathrm{M}, \tag{2}
\end{equation*}
$$

Where $\mathrm{D}=$ total annual dues of the union, M is the total unions membership, and we assume that $1.5 \%$ of the union member's pay is contributed to the labor union as dues. ${ }^{4}$ Using the formula in equation (2), we computed that the average member of an international labor union during this time earned $\$ 42,111$. Table 1 b and 1 c report summary statistics for intermediate and local labor unions, respectively. There are clearly substantially more intermediate union-years of data in our intermediate sample $(3,934)$ than international $(362)$. There are still more local $(71,397)$. The tables clearly show that local unions pay their presidents substantially less than and are smaller than (in terms of assets and membership) intermediate unions, which are substantially smaller than international unions. However, the estimate for the average wage of intermediate union members is substantially higher than the average member wage of locals and internationals. This is due to this number being an estimate, and comes from the fact that there are small numbers of members in the intermediate unions.

[^3]
## IV. Empirical Results

As is clear from equation (1) we are interested in testing whether membership and average wage of members are two primary goals of labor unions. If the union wants to align the interests of its leader with that of its membership, then it seems reasonable that these two measures would be related to the pay of the head of the union. In addition, we include a measure of firm size (total assets) as this represents a firm's ability to increase membership and wages.

To begin, consider Figure 2, which plots the natural logarithm of the President salary against the natural logarithm of the membership, by year. Visually, there appears to be a positive relationship between the two. This is true whether we examine internationals (Figure 2a), intermediates (Figure 2b), or locals (Figure 2c). Another measure of organization scale or success could be assets. Figure 3 (organized similar to Figure 2) plots the relationship between the natural logarithm of pay of the union Presidents against the natural logarithm of the assets in his or her organization for international unions (Figure 3a), in intermediate unions (Figure 3b), and local unions (Figure 3c). Figure 4 plots the natural logarithm of the unions President's pay against the estimated average unions member wage as we computed in equation (2). It is clear from Figure 4 that the relationship between the President pay and the estimated average wage of the members is less positive than the relationship between union President pay and union membership or between union President pay and union assets.

Table 2 displays results from specifications like that of equation (1) for only international unions. In column (1) we regress the natural $\log$ of President compensation on the natural $\log$ of membership and estimate a large and significant elasticity of 0.338 . Column (2) repeats this exercise using the natural $\log$ of the estimated average union member wage as the independent variable. The estimated coefficient is much smaller (0.106) but also statistically significantly
different from zero. In column (3) we do the analysis again only controlling for the natural log of assets. The estimated elasticity is 0.394 and statistically significantly different from zero. Columns (4) - (7) investigate various combinations of these covariates and include year effects (in column 7). Column (7) suggests that all three independent variables (ln(membership), $\ln$ (estimated average wage) and $\ln ($ assets $)$ are significantly related to the compensation of the union President. The $\mathrm{R}^{2}=0.623$ suggests that quite a large fraction of the variation in the pay of the union head is explained by variation in the independent variations, and quite a bit more than in a typical study of for-profit CEO compensation (Murphy, 1999).

A virtue of our data, however, is that we have multiple observations (up to eight each) on the compensation of the President and union characteristics for each union in sample. Column (8) of Table 2 uses this information and controls for organization fixed-effects in the specification of international union president compensation. This produces some interesting results. Even controlling for organization fixed-effects, there is a positive relationship between international President wages and membership and president wages and estimated average worker wages, and both are significantly different from zero at the 0.05 level.

Table 3 repeats the analysis of Table 2 but investigates the compensation of leaders of intermediate unions, rather than international unions. Again, membership, estimated average worker wage and assets are all unconditionally related to the pay of the head of the intermediate union. However, when we control for individual organization fixed effects (in column 8), the relationship between President pay and membership is positive and significant (estimated elasticity of 0.166 ) and the relationship between President pay and estimated average worker pay is positive and significant (estimated elasticity of 0.180 ). These two elasticities are both significantly different from zero and are statistically indistinguishable from one another.

Table 4 repeats the analysis for the local unions - the group for which we have overwhelmingly more data. Throughout the table, the estimated coefficients are larger than they are in each of the previous tables. When we look within organizations in column (8) of Table 4, we see that the elasticity of President compensation with respect to membership is 0.361 and the elasticity of President pay with respect to the estimated worker wage is 0.282 . Both of these elasticities are significantly different from zero.

In summary, there seems to be a large and positive relationship between the compensation of the heads of American labor unions and the number of members they have in their union and the estimated average wage of those members. Both variables matter.

## V. Concluding Comments

A significant body of literature exists on the compensation of managers of firms in the United States (Murphy, 1999), with more recent research conducted on the compensation of managers in nonprofit organizations (Hallock, 2002). However, only a small number of studies have investigated the determinants of pay of top union officials; none examining these determinants longitudinally. We hope this is a useful first step in the empirical investigation of the compensation of the presidents of American labor unions over time.

The argument for the link between executive pay and organizational performance is clear: because executives are in change of the success of the organization, part of their pay should be contingent on how well the organizations does (Jensen \& Murphy, 1990). Similar to for-profit firms, it appears that the pay of union Presidents is tied to the performance of the organization he or she leads. We find that the pay level of top union officials is strongly correlated with the number of members within the union and the estimated wage for those members. Further, we
find these results in all three types of unions (international, intermediate, and local), and find these variables are significant when controlling for firm size (with the variable total assets), and even when controlling for organization (with organization fixed effects). It appears that within unions, as number of members and average member pay increases, the top union official's pay also increases. The results of our analysis are aligned with past studies conducted with cross sectional data on the compensation of local union officers (Bressler, 1972; Ehrenberg \& Goldberg, 1977; Sandver, 1978), and national union officers (French et al., 1983; French, 1992; Sandver \& Heneman, 1980).

The emergence of paid full-time union officials continues to be the subject of considerable debate (French, 1992). Some analysts have argued that this development in labor unions ensures that the rewards of union leaders are tied to the membership's goals (French, 1992; Kochan, 1980). Bok and Dunlap (1970) assert that replacing voluntary leaders with salaried officers has enhanced the effectiveness of collective bargaining and therefore advanced the interests of union members. These authors state: "Union members have doubtless suffered far more from inefficient and unimaginative administration than they have ever lost through corruption and undemocratic processes" (pg. 90). Whereas others, suggested in the quote above, have argued that the transition to full-time paid leadership may reduce the responsiveness of officials to interests of union members and has led to a decline in democratic practices within unions (French et al., 1983; Lipset, 1970). These analysts believe that the compensation of union officials is related to their control over the rank-and-file (e.g. French, 1992). The results of our study shed some light on this debate. Our findings suggest that the pay of the union President is significantly related to at least some measures of the performance of the union. In particular, size of membership and average wage of members, are both positive and significantly related to
the compensation of the union President. Therefore, it appears the "administrative rationalization", defined as "the making of union decisions through rules, organization and expertness rather than through trial by struggle, ideology and hit-or-miss" (Barbash, 1969, p. 147), may have led to the betterment of the rank-and-file.

Although the results of this study provide strong evidence that the compensation of union Presidents is linked to performance of the union, the findings and interpretations from this study must remain tentative. For example, a number of other factors important to the rank-and-file, such as benefits of members, relative wage of members, number of strikes, number of layoffs, etc., might influence the salaries of union presidents and have not been included in the present study.

Very little is known regarding the pay of union presidents. We hope the findings from this study enhance what we know about compensation in nonprofits and motivate further research in this area.

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Figure 1. Average Pay of Presidents of International Labor Unions.


Figure 2a.


Source: LM-2 Data

Figure 2b.


Figure 2c.


Figure 3a.


Figure 3b.


Figure 3c.


Figure 4a.
Union President Pay and Est. Avg. Union Annual Wage International Unions: 2000-2007


[^4]Figure 4 b .


Figure 4c.


Table 1a. International. Summary Statistics

|  | All Years | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| President | 141859 | 111211 | 124185 | 130152 | 140557 | 145211 | 183822 | 198270 | 213391 |
| Compensation | (137816) | (89529) | (106675) | (111803) | (118382) | (126779) | (151521) | (268800) | (161828) |
|  | [112235] | [100629] | [106300] | [109657] | [117611] | [114572] | [131629] | [122927] | [175592] |
| Members | 108848 | 118496 | 118439 | 110712 | 63771 | 99380 | 183745 | 134966 | 114119 |
|  | (361274) | (370923) | (382702) | (1358391) | (127843) | (347853) | (595487) | (496932) | (205867) |
|  | [11642] | [8130] | [11894] | [11540] | [11750] | [10782] | [23205] | [13847] | [18519] |
| Estimated Average Member Wage ${ }^{\text {a }}$ | 42111 | 36318 | 39636 | 39430 | 38075 | 36687 | 24045 | 94631 | 32472 |
|  | (154831) | (143783) | (159392) | (142516) | (131220) | (122368) | (34302) | (297679) | (25097) |
|  | [14270] | [12395] | [12747] | [14168] | [15448] | [15255] | [15696] | [18277] | [19160] |
| Assets (in thousands) | 36400 | 32600 | 33700 | 33500 | 32400 | 35500 | 45400 | 39000 | 118000 |
|  | (81800) | (70000) | (71500) | (71500) | (73100) | (78900) | (107000) | (96500) | (206000) |
|  | [4294] | [2405] | [3856] | [5238] | [3960] | [4216] | [10300] | [5022] | [49300] |
| Total Annual Dues (in thousands) | 17300 | 16200 | 17300 | 17500 | 13100 | 17000 | 26200 | 19500 | 31300 |
|  | (45100) | (42800) | (45900) | (44700) | (30600) | (44600) | (68900) | (56800) | (48800) |
|  | [2180] | [1761] | [2191] | [2545] | [2583] | [2386] | [4162] | [1799] | [10400] |
| N | 362 | 53 | 55 | 62 | 66 | 66 | 21 | 32 | 7 |

Note: Standard deviation in parentheses. Median in brackets.
${ }^{\mathbf{a}}$ Estimated average member wage is defined as $\mathrm{W}=(\mathrm{D} / 0.015) / \mathrm{M}=$ (total annual union dues $/ 0.015$ ) / total union membership

Table 1b. Intermediate. Summary Statistics

|  | All Years | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| President | 64270 | 49512 | 58140 | 68777 | 76092 | 62791 | 66240 | 71056 | 52363 |
| Compensation | (175730) | (43033) | (130421) | (187233) | (319119) | (57551) | (166461) | (145642) | (52363) |
|  | [55485] | [47851] | [54477] | [56767] | [56601] | [60648] | [42164] | [53076] | [49915] |
| Members | 6987 | 6140 | 5988 | 7521 | 7482 | 7710 | 6917 | 7426 | 4934 |
|  | (27366) | (22026) | (19470) | (28725) | (29472) | (31627) | (33043) | (30397) | (8853) |
|  | [1894] | [1873] | [1905] | [2012] | [1950] | [1912] | [1489] | [1726] | [1712] |
| Estimated Average Member Wage ${ }^{\text {a }}$ | 153966 | 159832 | 158378 | 126585 | 148768 | 172960 | 96264 | 195416 | 159988 |
|  | (1200376) | (1564272) | (1340950) | (877089) | (990140) | (1366815) | (560751) | (1293656) | (733777) |
|  | [11702] | [10345] | [11991] | [11629] | [11146] | [11958] | [13132] | [13778] | [12059] |
| Assets <br> (in thousands) | 2021 | 1285 | 1476 | 1843 | 2065 | 2215 | 2742 | 3076 | 2783 |
|  | (7723) | (3981) | (4399) | (6667) | (7989) | (8456) | (10600) | (11100) | (11500) |
|  | [130] | [105] | [139] | [147] | [136] | [149] | [98] | [113] | [165] |
| Total Annual Dues (in thousands) | 1408 | 941 | 1064 | 1363 | 1424 | 1581 | 1764 | 2024 | 1682 |
|  | (5119) | (2850) | (3109) | (4656) | (5062) | (5693) | (6659) | (7650) | (6250) |
|  | [179] | [162] | [183] | [186] | [185] | [204] | [145] | [164] | [198] |
| N | 3934 | 540 | 629 | 656 | 673 | 661 | 253 | 407 | 115 |

Note: Standard deviation in parentheses. Median in brackets.
${ }^{\text {a }}$ Estimated average member wage is defined as $\mathrm{W}=(\mathrm{D} / 0.015) / \mathrm{M}$

Table 1c. Local. Summary Statistics

|  | All Years | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| President | 26837 | 22688 | 25530 | 27283 | 28466 | 29161 | 22116 | 29697 | 33511 |
| Compensation | (51552) | (36801) | (42121) | (44649) | (51853) | (50176) | (68370) | (62114) | (122509) |
|  | [6052] | [5298] | [5999] | [6528] | [6591] | [6674] | [4800] | [6217] | [8829] |
| Members | 865 | 799 | 912 | 928 | 907 | 940 | 600 | 745 | 837 |
|  | (4054) | (3106) | (4337) | (4481) | (4026) | (4458) | (4738) | (2834) | (3176) |
|  | [235] | [235] | [241] | [243] | [241] | [242] | [182] | [230] | [254] |
| Estimated Average Member Wage ${ }^{\text {a }}$ | 35226 | 29216 | 30228 | 33568 | 37578 | 39085 | 42854 | 38280 | 46891 |
|  | (316499) | (82143) | (57159) | (199482) | (401473) | (397678) | (609844) | (322593) | (522586) |
|  | [21465] | [19567] | [20637] | [21513] | [22271] | [22713] | [21037] | [22830] | [23607] |
| Assets (in thousands) | 558 | 415 | 509 | 569 | 579 | 628 | 518 | 629 | 982 |
|  | (3106) | (2017) | (2398) | (2994) | (2770) | (3304) | (3848) | (3675) | (8092) |
|  | [62] | [52] | [61] | [66] | [67] | [67] | [50] | [70] | [98] |
| Total Annual Dues (in thousands) | 379 | 310 | 371 | 392 | 407 | 441 | 275 | 369 | 449 |
|  | (1670) | (1209) | (1583) | (1601) | (1731) | (2043) | (2047) | (1338) | (1996) |
|  | [75] | [70] | [76] | [78] | [79] | [81] | [58] | [76] | [84] |
| N | 71397 | 10847 | 11782 | 12210 | 12273 | 11937 | 4386 | 6612 | 1350 |

Note: Standard deviation in parentheses. Median in brackets.
${ }^{\text {a }}$ Estimated average member wage is defined as $\mathrm{W}=(\mathrm{D} / 0.015) / \mathrm{M}$

Table 2. International. "Determinants" of Union President Compensation
Dependent Variable is $\mathbf{L n}$ (President Compensation)

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ln(membership) | $\begin{gathered} 0.338^{* * *} \\ (0.023) \end{gathered}$ |  |  | $\begin{gathered} 0.017 \\ (0.029) \end{gathered}$ |  | $\begin{gathered} 0.099^{* * *} \\ (0.033) \end{gathered}$ | $\begin{gathered} 0.100^{* * *} \\ (0.033) \end{gathered}$ | $\begin{aligned} & 0.204^{* *} \\ & (0.095) \end{aligned}$ |
| Ln(avg member wage) |  | $\begin{gathered} 0.106 * * * \\ (0.034) \end{gathered}$ |  |  | $\begin{gathered} 0.081 * * * \\ (0.021) \end{gathered}$ | $\begin{gathered} 0.121^{* * *} \\ (0.025) \end{gathered}$ | $\begin{gathered} 0.123^{* * *} \\ (0.025) \end{gathered}$ | $\begin{gathered} 0.068^{* *} \\ (0.028) \end{gathered}$ |
| Ln(assets) |  |  | $\begin{gathered} 0.394 * * * \\ (0.017) \end{gathered}$ | $\begin{gathered} 0.382^{* * *} \\ (0.026) \end{gathered}$ | $\begin{gathered} 0.391 * * * \\ (0.016) \end{gathered}$ | $\begin{gathered} 0.320^{* * *} \\ (0.028) \end{gathered}$ | $\begin{gathered} 0.320^{* * *} \\ (0.029) \end{gathered}$ | $\begin{aligned} & -0.045 \\ & (0.046) \end{aligned}$ |
| Year effects | no | no | no | no | no | no | yes | yes |
| Org effects | no | no | no | no | no | no | no | yes |
| Constant | $\begin{gathered} 8.160 * * * \\ (0.222) \end{gathered}$ | $\begin{gathered} 10.328^{* * *} \\ (0.325) \end{gathered}$ | $\begin{gathered} 5.372 * * * \\ (0.256) \end{gathered}$ | $\begin{gathered} 5.393 * * * \\ (0.259) \end{gathered}$ | $\begin{gathered} 4.665 * * * \\ (0.313) \end{gathered}$ | $\begin{gathered} 4.449 * * * \\ (0.317) \end{gathered}$ | $\begin{gathered} 4.477 * * * \\ (0.366) \end{gathered}$ | $\begin{gathered} 9.613^{* * *} \\ (1.107) \end{gathered}$ |
| $\begin{aligned} & \text { Adj. } \mathrm{R}^{2} \\ & \mathrm{~N} \\ & \hline \end{aligned}$ | $\begin{gathered} 0.371 \\ 362 \\ \hline \end{gathered}$ | $\begin{gathered} 0.023 \\ 362 \\ \hline \end{gathered}$ | $\begin{gathered} 0.605 \\ 362 \\ \hline \end{gathered}$ | $\begin{gathered} 0.604 \\ 362 \\ \hline \end{gathered}$ | $\begin{gathered} 0.619 \\ 362 \\ \hline \end{gathered}$ | $\begin{gathered} 0.628 \\ 362 \\ \hline \end{gathered}$ | $\begin{gathered} 0.623 \\ 362 \\ \hline \end{gathered}$ | $\begin{gathered} 0.954 \\ 362 \\ \hline \end{gathered}$ |

Note: Standard errors are in parentheses.

* p -value $<.10$
** $\mathbf{p}$-value $<.05$
*** p -value $<.01$

Table 3. Intermediate. "Determinants" of Union President Compensation
Dependent Variable is $\mathbf{L n}$ (President Compensation)

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ln(membership) | $\begin{gathered} 0.285^{* * *} \\ (0.012) \end{gathered}$ |  |  | $\begin{gathered} 0.015 \\ (0.011) \end{gathered}$ |  | $\begin{gathered} 0.479^{* * *} \\ (0.016) \end{gathered}$ | $\begin{gathered} 0.478 * * * \\ (0.016) \end{gathered}$ | $\begin{gathered} 0.166^{* * *} \\ (0.024) \end{gathered}$ |
| Ln(avg member wage) |  | $\begin{gathered} 0.308^{* * *} \\ (0.012) \end{gathered}$ |  |  | $\begin{gathered} 0.183^{* * *} \\ (0.010) \end{gathered}$ | $\begin{gathered} 0.518 * * * \\ (0.014) \end{gathered}$ | $\begin{gathered} 0.517 * * * \\ (0.014) \end{gathered}$ | $\begin{gathered} 0.180^{* * *} \\ (0.019) \end{gathered}$ |
| Ln(assets) |  |  | $\begin{gathered} 0.440^{* * *} \\ (0.008) \end{gathered}$ | $\begin{gathered} 0.434^{* * *} \\ (0.010) \end{gathered}$ | $\begin{gathered} 0.398^{* * *} \\ (0.008) \end{gathered}$ | $\begin{gathered} 0.096^{* * *} \\ (0.013) \end{gathered}$ | $\begin{gathered} 0.096^{* *} * \\ (0.013) \end{gathered}$ | $\begin{array}{r} -0.013 \\ (0.015) \end{array}$ |
| Year effects | no | no | no | no | no | no | yes | yes |
| Org effects | no | no | no | 110 | 110 | 110 | no | yes |
| Constant | $\begin{gathered} 8.150 * * * \\ (0.088) \end{gathered}$ | $\begin{gathered} 7.392^{* * *} \\ (0.110) \end{gathered}$ | $\begin{gathered} 4.935 * * * \\ (0.102) \end{gathered}$ | $\begin{gathered} 4.911 * * * \\ (0.104) \end{gathered}$ | $\begin{gathered} 3.772 * * * \\ (0.115) \end{gathered}$ | $\begin{gathered} 0.853^{* * *} \\ (0.144) \end{gathered}$ | $\begin{gathered} 0.683^{* * *} \\ (0.173) \end{gathered}$ | $\begin{gathered} 7.556 * * * \\ (0.347) \end{gathered}$ |
| Adj. $\mathrm{R}^{2}$ N | $\begin{aligned} & 0.130 \\ & 3934 \end{aligned}$ | $\begin{aligned} & 0.150 \\ & 3934 \end{aligned}$ | $\begin{aligned} & 0.416 \\ & 3934 \end{aligned}$ | $\begin{aligned} & 0.416 \\ & 3934 \end{aligned}$ | $\begin{gathered} 0.464 \\ 3934 \end{gathered}$ | $\begin{aligned} & 0.562 \\ & 3934 \end{aligned}$ | $\begin{aligned} & 0.562 \\ & 3934 \end{aligned}$ | $\begin{aligned} & 0.930 \\ & 3934 \end{aligned}$ |

[^5]Table 4. Local. "Determinants" of Union President Compensation
Dependent Variable is Ln (President Compensation)

|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Ln(membership) | $\begin{gathered} 0.897^{* * *} \\ (0.003) \end{gathered}$ |  |  | $\begin{gathered} 0.523^{* * *} \\ (0.004) \end{gathered}$ |  | $\begin{gathered} 0.686^{* * *} \\ (0.004) \end{gathered}$ | $\begin{gathered} 0.688^{* * *} \\ (0.004) \end{gathered}$ | $\begin{gathered} 0.361^{* * *} \\ (0.007) \end{gathered}$ |
| Ln(avg member wage) |  | $\begin{gathered} 0.647^{* * *} \\ (0.007) \end{gathered}$ |  |  | $\begin{gathered} 0.347^{* * *} \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.584 * * * \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.583 * * * \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.282 * * * \\ (0.006) \end{gathered}$ |
| Ln(assets) |  |  | $\begin{gathered} 0.633^{* * *} \\ (0.002) \end{gathered}$ | $\begin{gathered} 0.356 * * * \\ (0.003) \end{gathered}$ | $\begin{gathered} 0.600^{* * *} \\ (0.002) \end{gathered}$ | $\begin{gathered} 0.215^{* * *} \\ (0.003) \end{gathered}$ | $\begin{gathered} 0.213 * * * \\ (0.003) \end{gathered}$ | $\begin{gathered} -0.034^{* * *} \\ (0.004) \end{gathered}$ |
| Year effects | no | no | no | no | no | no | yes | yes |
| Org effects | no | no | no | no | no | no | no | yes |
| Constant | $\begin{gathered} 3.989 * * * \\ (0.019) \end{gathered}$ | $\begin{gathered} 2.543^{* * *} \\ (0.072) \end{gathered}$ | $\begin{gathered} 1.889 * * * \\ (0.026) \end{gathered}$ | $\begin{gathered} 2.080 * * * \\ (0.024) \end{gathered}$ | $\begin{gathered} -1.214^{* * *} \\ (0.054) \end{gathered}$ | $\begin{gathered} -3.079 * * * \\ (0.047) \end{gathered}$ | $\begin{gathered} -3.018^{* * *} \\ (0.055) \end{gathered}$ | $\begin{gathered} 4.599 * * * \\ (0.085) \end{gathered}$ |
| $\begin{aligned} & \text { Adj. } \mathrm{R}^{2} \\ & \mathrm{~N} \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.520 \\ & 71397 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.101 \\ & 71397 \\ & \hline \end{aligned}$ | $\begin{aligned} & 0.514 \\ & 71397 \\ & \hline \end{aligned}$ | $\begin{array}{r} 0.592 \\ 71397 \\ \hline \end{array}$ | $\begin{array}{r} 0.542 \\ 71397 \\ \hline \end{array}$ | $\begin{aligned} & 0.663 \\ & 71397 \\ & \hline \end{aligned}$ | $\begin{array}{r} 0.664 \\ 71397 \\ \hline \end{array}$ | $\begin{array}{r} 0.942 \\ 71397 \\ \hline \end{array}$ |

Note: Standard errors are in parentheses.

* p -value $<.10$
** p -value $<.05$
*** p-value < . 01


[^0]:    ${ }^{1}$ At the same time, equity compensation in for-profit firms is often an important fraction of total compensation.

[^1]:    ${ }^{2}$ A more complicated specification may replace the average wage of union members with the union wage relative to the non-union wage. We do not explore that in this paper.

[^2]:    ${ }^{3}$ LM-2. LM-3. and LM-4 data are actually available back to 1959 (the date of the passage of the Labor-Management Reporting and Disclosure Act) on microfilm. We are in beginning stages of collecting data from years prior to 2000.

[^3]:    ${ }^{4}$ See Rasian (1983) for further discussion of the appropriateness of the assumption that union members during this period paid. on average. between $1.13 \%$ and $1.6 \%$ of their wages in union dues.

[^4]:    Source: LM-2 Data

[^5]:    Note: Standard errors are in parentheses.

    * p-value < . 10
    ** p-value $<.05$
    *** p-value $<.01$

