The Impact of Union Corruption on Union Membership

Coombs, Christopher and Cebula, Richard

Louisiana State University-Shreveport, Jacksonville University

27 November 2009

The Impact of Union Corruption on Union Membership

CHRISTOPHER K. COOMBS and RICHARD CEBULA*

This paper examines the relationship between union corruption actions and union membership. State-level data from the Office of Labor-Management Standards, and other sources, are utilized over two study periods (1974-2000 and 2001-2008) to test three hypotheses, including the union corruption hypothesis, as possible explanations for the decline in union membership in the United States over time. Although our initial findings suggest a negative relationship exists between union corruption and membership, after removing the possibility of simultaneous equations bias, we find that changes in corruption do not influence changes in union membership in our sample.

If ever they write the obituary for tbe labor movement in this country, the cause of death will be listed as "suicide." Left to mourn will be the countless decent, hardworking rank-and-fi lers who were betrayed and bled by their ostensible leaders.

Editorial, *Daily News,* Mar. 5, 1999

Introduction

THE UNITED STATES HAS WITNESSED A CONSISTENT DECLINE IN PRIVATE SECTOR UNION MEMBERSHIP, on average, since the mid-l 950s. Furthermore, the private sector unionization rate has fallen from an average of 22.6 percent in 1974 to 11.4 percent in 2008. If it is to grow in the future, it is important to understand the historical factors limiting the influence of American trade unionism.

Although illegal union activities are well documented and have received a good deal of publicity over time, the argument that it" can account for at least some of the decline in membership is relatively novel. There have been studies providing overviews of the prevalence of union corruption in the United States

* The authors' affiliations are, respectively, Assistant Professor of Economics, Louisiana State University in Shreveport, Shreveport, Louisiana. E-mail: *chris.coombs@lsus.edu;* The Billy J. Walker/Wells Fargo Endowed Professor of Finance, Jacksonville University, Davis College of Business, Jacksonville, Florida.

but to our knowledge, only one study exists that quantifies the dollar amount associated with this particular form of fraudulent activity.[1] To date, however, no empirical examination has focused on the potential negative impact of corn1ption on union membership.

To the extent that unions are infiltrated with corruption, such as racketeering, embezzlement, fraud, theft, and linkages to organized crime, the primary victims are the rank-and-file union members. At the very least, the cost incurred from this outcome is that the terms of their collective bargaining contracts are not completely satisfied. However, personal safety can aJso be jeopardized; alternatively, or in addition, pension funds may be in jeopardy (become "emaciated"). To the extent that organized crime co-exists within a union in a leadership role, it is possible that union officials neither possess the administrative skills nor the interest in furthering the initiatives or addressing the grievances and concerns of the membership. As an example, one can simply envision a corrupt union officer turning a blind eye to unsafe working conditions in exchange for bribes (Jacobs 2006). Moreover, according to Jacobs (2006: 101), "The members of racketeer-ridden unions suffer on account of the wholesale violation of their rights of free speech, participation in union elections, and fair representation in grievance proceedings."

The basic purpose of this study is to identify the potential effect of union financial corruption on the behavior of union members. That is, we test the empirical validity of the "union corruption" hypothesis, which contends that corruption in unions serves as a signal to its members that their interests are not supported by the union, thereby decreasing the expected net benefits of union membership. The hypothesis argues that union corruption has reduced the demand for union membership and therefore contributed to the decline in union density within the U.S. labor force. As an extension of Freeman and Medoff (1984), who show that, at least in the eyes of the rank-and-file, corruption among union leadership during the 1969-1978 period is not particularly widespread, we test the hypothesis using state-Jevel data during the 2001-2008 period. As observed below, only relatively recent access to union con-uption data suggests that any quantitative assessment of its impact may risk being labeled as premature. Nonetheless, the evidence that we do find indicates declines in union membership in states with more cases of union corruption, everything else the same. However, when addressing the potential issue of simultaneity bias, the parameter estimate for union corruption is no longer statistically significant.

[1] See Hutchison (1972), Horowitz (1999), Chavez and Gray (2004), and Jacobs (2006), for example, on the history of COJTUption in unions. See Thieblot (2006) for an overview of the financial concern of union COffUption.

The study is organized as follows: the next section reviews the literature on the major factors alleged to play a role in the decline in private sector union membership in the United States over time. The analysis then provides the variables used in the analysis and the estimating equation. Using cross-sectional time-series data, the subsequent section provides the empirical results for the "union corruption" hypothesis. The final section provides concluding remarks.

Literature Review

To date, four major hypotheses have been proposed to explain the steady decline in private sector union membership over the last several decades. The "structural" hypothesis (Farber 1985; Freeman 1985; Moore and Newman 1988; Neumann and Rissman 1984) argues that changes in the structure and composition of the labor force have caused the decline in union density. For example, proponents argue that over time decreases in employment in relatively strongly unionized sectors, such as the goods producing sector, has contributed to the decline in union membership. Overwhelmingly, these studies find support for this hypothesis and when other hypotheses are tested, the structural variables are usually included as standard controls.

Freeman and Medoff (1984) and Freeman (1985) review a series of studies that analyze the effect of managerial opposition to unionism on its membership. There are three basic ways that management can oppose unionism. First, management can engage in "positive labor relations," which equates to offering workers wages that compete with union wages. Second, management can conduct tough legal campaigns to convince workers that their interests will be better served by remaining nonunion. Third, management can engage in illegal activities to thwart union success. Within Freeman and Medoff's (1984) review, Dickens (1983) finds support for the "management opposition" hypothesis whereas the *earlier* study by Getman, Goldberg, and Herman (1976) rejects the hypothesis that firm opposition has caused a decline in union membership. Due to data limitations, most of these and other more recent studies focus primarily on illegal campaigning, as measured by unfair labor-practice complaints, to test the hypothesis. More contemporary studies such as Freeman (1988), Reder (1988), and Farber (1990) provide evidence in support of the "management opposition" hypothesis.

According to the "changes in public policy" or "government substitution" hypothesis, changes in public policy can influence the demand for and supply of union services by altering the benefits of unionization and/or the costs of organizing. Changes in public policy include passage of the Taft-Hartley Act

in 1947, specifically the provision dealing with right-to-work laws. In a very comprehensive study by Davis and Huston (1995), it is found that passage of a right-to-work law in a state decreases the probability of union membership in that state by 8.2 percentage points. However, the earlier study by Warren and Strauss (1979) does not find evidence of a negative effect on union membership from this particular form of policy/statute. Moore (1998) provides a review of the more recent determinants and effects of right-to-work laws. Neumann and Rissman (1984), Moore and Newman (1988), and Moore, Newman, and Scott (1989) test the effect that government's provision of certain social welfare benefits has on union membership. Coombs (2008) provides an extensive review of the literature that collectively has suggested mixed results on whether this particular form of policy substitutes for the private provision of those benefits by unions. Additionally, Coombs (2008) reviews the literature that empirically examines the argument that union membership is affected by the manner in which different states have interpreted the common-law doctrine of "employment-at-will." Among the findings, Neumann and Rissman (1984) suggest that a deterrent to a state's union growth is the implicit contract exception, wherein it is found that a binding contract has been established, such as through oral statements of employer policy, established past practices of the employer, or policies expressed in a personnel manual, requiring just cause for dismissal.

The "union organizing" hypothesis contends that a decline in union organizing efforts contributed to the decline in union membership. Voos (1983, 1984) finds that the amount of a union's organizing activity, as measured by its expenditures on organizing programs, has a direct association with organizing success. Using the data in Voos (1983, 1984) on union organizing expenditures per nonunion worker in the 1950s, 1960s, and 1970s, Freeman and Medoff (1984) estimate that possibly as much as a third of the decline in union success through NLRB election over this period is linked to reduced labor organizing activity.

With respect to the "union corruption" hypothesis, Freeman and Medoff (1984) provide a table of total convictions, from 1969 to 1978, for criminal activity in labor unions, suggesting that the nature and incidence of union corruption is small, i.e., the vast majority of union officials carry out their duties in a law-abiding, responsible manner. However, according to Thieblot (2006: 513), "...corruption proceeds at a pace that cannot be considered abeITant behavior or limited in scope and breadth." Concluding that corruption in American labor unions is a "widespread plague that may affect their future viability," Thieblot (2006: 531) finds that between the middle of 1998 and the end of 2005, there were 1,238 documented instances of corruption in American labor unions, distributed among 137 different organizations. Furthennore, although the listing includes some of the smallest unions, most national level

unions appeared in the listing. Additionally, according to the Office of Inspector General in reporting its *Semiannual Report to Congress* for the period ending September 30, 2008, labor racketeering continues to have a negative impact on American workers, employers, and the public through reduced wages and benefits, diminished competitive business opportunities, and increased costs for goods and services. To the extent that the scope of union corruption is more pervasive than first perceived and/or to the extent that it has increased in magnitude, an interesting question is whether this conduct is a possible explanation of the decline in unionism (the percentage of the labor force belonging to unions) in the United States over the last few decades. In other words, the basic issue of concern is whether diminished unionization is a reflection of workers' preferences for unions that are not marred by corruption.

Estimating Equations and Variables

The present study uses a supply and demand reduced-form model of union services to explain the variation in the extent of union membership among states over two periods: 1974-2000, and 2001-2008. Ashenfelter and Pencavel (1969) is the seminal piece of literature that systematically analyzes the determinants of union membership within the context of a demand and supply framework. Historically, it has been difficult to obtain data on the relative price of union membership, which leads to estimation of reduced-form equations for unionism rather than structural equations describing the demand for and supply of union services. Of course, when the supply of and demand for union services are equal, the equilibrimn level of unionization in the system exists. The various hypotheses presented in the literature pose factors that cause either the demand curve or supply curve of union services to shift, which results in a new equilibrium level of unionization. We employ the supply and demand reduced-form model of union services over the longer period for preliminary tests of some of the alternative hypotheses described above. We describe these hypotheses and the use of the longer study period in greater detail below. The shorter period is utilized to control for the other hypotheses but to specifically test the union corruption hypothesis. We are limited to this sample period because data on civil and criminal investigations of alleged violations of the Labor-Management Reporting and Disclosure Act of 1959 (LMRDA) and related laws, provided by the U.S. Department of Labor's Office of Labor-Management Standards (OLMS), is made available starting in 2001. These investigations provide the information for our measure of union corruption.[2]

[2] Source: http://www.dol.gov/olms/.

In pursuit of its objectives, there are as many as nine independent/explanatory variables testing up to three hypotheses to explain the decline in union density; these specific variables, and the dependent variable, are discussed below.

Dependent Variable

Union Density. Using Hirsch and Macpherson (2003), and data from the authors' websites, we define union density as the percentage of a state's civilian employment population that are union members.[3] This dependent variable is adopted to investigate the impact of union financial corruption on union membership.

Independent Variables

Union Corruption Hypothesis Variable. Examples of kickbacks and extortion, as Freeman and Medoff (1984) show, are the most prevalent forms of criminal action *associated with violence* within unions. However, according to Thieblot (2006), financial con-uption-embezzlement, pension malfeasance, misuse of funds, and so forth-is the simplest and most frequent form of corruption detected. Moreover, as Freeman and Medoff (1984: 211-12) observe, "Embezzling resources from a union treasury or a union-management health, welfare, or pension fund ... receives the greatest publicity ... and are generally *nonviolent activities."* This sort of corruption, as Thieblot (2006: 515) states, "has been practiced in unions ... by persons at almost any level physically able to touch their organization's income stream, especially if they have some measure of check-writing authority," and clearly has the direct effect of decreasing the net benefits of union membership (although in many cases, when this form of corruption is uncovered, some degree of restitution is made). However, the negative publicity received from this internal mistreatrnent could nevertheless lead to a decrease in the perceived net benefits of union membership at the margin, especially for those members who suspect that there is a lack of obligation to represent their best interests.

Corruption incidents: Office of Labor-Management Standards staff conduct investigations to determine whether violations of the LMRDA provisions have occurred. Investigations are initiated based on various sources such as complaints from union members, infonnation developed by OLMS as a result of

[3] Source: http://www.unionstats.com.

reviewing reports filed, and information developed during an OLMS audit of a union's books and records. Investigations may involve civil matters (such as an election of union officers) or criminal matters (such as embezzlement of union funds). Since 2001, both civil and criminal enforcement actions of the OLMS's actions have been general disclosure. As presented by Thieblot (2006), counting criminal actions is always difficult and somewhat subjective. Using the OLMS's list, we had to carefully check to ensure not to multiple count. That is, over the course of an investigation, the OLMS can list the indictment, information, charge, guilty plea, conviction, and sentence of a defendant. In these cases, we made a point to include each incident only once through cross-referencing by the name(s) of the defendant(s). This was not an issue for civil cases given the nature of these matters and the relatively low rate of occurrence over time. For our analysis, we count the number of civil and criminal actions for each state over the period 2001-2008 as a measure of union corruption. Each case lists the state's district court providing us with the incident in that state.

Structural Hypothesis Variables. (a) *The percentage of nonwhites in the state's labor force:* In theory, there is both a demand and supply effect with respect to the relationship between nonwhites in the labor force and union membership. Nonwhites may have a higher demand for union services because of their perceived need for protection against discrimination. On the other hand, union leaders' taste for discrimination increases the costs of organizing nonwhites, lowering the supply of union services to them. Most of the existing empirical literature indicates that the demand effect dominates and that there is a positive relationship between nonwhites in the labor force and union membership.[4] In a relatively more recent study, however, over the period 1950-1980, Moore and Newman (1988) find no evidence of a relationship between nonwhites in the labor force and union density. Because the two forces work in different directions with respect to the equilibrium level of union density, we do not hypothesize a *net* relationship, *ex ante*.

(b) *The percentage of females in the state's labor force:* Because women on the average tend to move in and out of the labor force relatively more frequently than men, they are likely to have a lower demand for union services. Moore and Newman (1975, 1988) and Hirsch (1980) find evidence for this hypothesis. Farber (1985), however, argues that when other occupational factors are accounted for, there is no difference in the demand for union services between women and men. Further, over time, women's attitudes toward unions may change. For example, to the extent that there are relatively more single

[4] See Moore and Newman (1975), Lumsden and Petersen (1975), Hirsch (1980), and Farber (1985).

women (perhaps with children) in the labor force today, they might have a demand for union services, particularly services that include health care. Additionally, increased stability of einployment for women and reduced discrimination against women over time could positively affect their demand for union membership. Although we do not include occupational factors in this analysis, we do not posit a relationship under the presumption that the taste factor and mobility factor work in opposition to one another with respect to the equilibrium level of union membership.

(c) *The percentage of 16-24 year olds in the state's labor force:* There is some evidence to suggest that union wage premiums are higher for relatively younger members and this might imply a higher demand for union services. It is important to consider, however, that over a relatively long time period, this age variab le · also has a taste or cohort characteristic embodied. That is, the group of workers who are 16-24 years old in 2008 is not the same group of workers that were 16-24 years old in 1974; in fact, the 2008 group were not even born. Tastes and attitudes toward unions could be quite different from those of workers age l 6-24 today compared to workers age 16-24 over thirty years ago. The expected influence of the young labor force variable on union density is therefore unclear. However, over a shorter period (2001-2008), we can expect less, if at all, of a cohort effect.

(d) *The percentage of 55-64 year olds in the state's labor force:* Freeman (1981) presents evidence indicating that fringe benefits, especially with respect to pension plans, are superior in the union sector. This would arguably increase relatively older workers' demand for union membership. Again, though, with this group we can expect to also have a cohort or taste characteristic embodied when analyzing over a longer time period; the direction of the effect is unclear. Over a shorter period, however, the taste or cohort factor becomes less influential. Perhaps most importantly, to the extent that the union sector also establishes better-quality health care insurance, we would expect workers in this age group to have a higher demand for union services.

(e) *The percentage of the state population living in urban · areas:* To the extent that organizing costs are relatively lower in urban areas, the supply of union services to these areas is arguably greater than rural areas. Also, Moore and Newman (1988) argue that urban environments are more conducive to collectivists' attitudes. For these reasons, we expect a positive relationship between urban population and union density.

(f) *The percentage of the state's labor force in the goods producing sector:* Historically, union membership in the United States has been concentTated in a relatively small number of industries, usually associated with heavy-goods production. Within the mining, constiuction, manufacturing, and transportation industiies, it is possible that organizing costs are relatively low. It is also

plausible that the work environment (i.e., working conditions) in these industries lead to a higher demand for union services. Following the existing literature, we expect a positive relationship between the extent of unionization and this variable.

Management Opposition Hypothesis Variable. The number of CA cases in a state as a percentage of eligible voters: As reported in the National Labor Relations Board *Annual Reports,* for each state, we include the number of unfair practices charged against management in all CA cases in NLRB certification elections, scaled by the number of employees eligible to vote. CA cases refer to charges that employers violated section 8(a) of the Taft-Hartley Act. Although the empirical literature has provided mixed evidence, in theory management opposition negatively affects both the demand for and supply of union services. Moore and Newman (1988) find no statistical effect of management opposition on union density over the 1950-1980 period. Freeman and Medoff (1984) however, through their own analysis and a review of the literature, argue that management opposition is one of the biggest influences on the decline in unionization in the United States. We expect a negati ve relationship between our management opposition proxy and the extent of union density.

Economic Control Variables. (a) *The state s consum er price index:* We treat the rate of inflation as exercising an effect of variation in the economic environment on union membership.[5] Although we might expect that the law of demand would hold with regards to union membership , the consmner price index includes the prices of many (in excess of 90,000 categories) goods and services. Therefore, one might argue that the rationale for the substitution effect (where more [less] of a *specific* product is purchased because it becomes relatively cheaper [more expensive]) is not as a practical matter applicable. On the other hartd, to the extent that unionization results in relatively higher nominal wages, an increase in the prices that households pay for goods and services could lead individuals to desire union membership in order to mitigate the effects thereof on their real wages. On these theoretical grounds, we therefore expect the impact of the consumer price index on union membership to be positive.

(b) *The state :S unemploym.ent rate:* An additional factor adopted to ascelain whether union membership is affected by economic conditions in the economy is the state's unemployment rate.[6] This variable has been routinely included in union growth models and generally accounts for worker discontent associated

[5] Source: Bureau of Labor Statistics; http://www.bls.gov/cpi/.

[6] Source: U.S. Census Bureau, Statistical Abstract of the United States. Labor Force, Employment, and Earnings; Unemployment Rates by State and Sex.

TABLE 1

MODEL DESCRIPTIVE STATISTICS: VARIABLE MEANS

Variable	1974-2000	2001-2008	t-statistic
Union density (%)	16.646 (7.345)	11.551 (5.616)	12.765 (0.000)
Percentage of nonwhites in labor force	9.043 (8.681)	9.160 (9.112)	0.233 (0.816)
Percentage of females in labor force	44.160 (2.558)	46.323 (1.819)	15.723 (0.000)
Percentage of labor force aged 16-24	19.397 (3.057)	15.774 (1.814)	22.512 (0.000)
Percentage of labor force aged 55-64	10.379 (1.741)	12.553 (1.580)	22.3 (0.000)
Percentage of population living in urban areas	68.438 (14.427)	71.654 (14.788)	3.875 (0.000)
Percentage of labor force in goods producing sector	26.428 (9.013)	15.365 (3.139)	24.099 (0.000)
Number of CA cases per eligible voter (%)	10.316 (9.926)	17.925 (29.608)	7.933 (0.000)
Consumer price index	1.148 (0.438)	1.911 (0.215)	33.609 (0.000)
Unemployment rate (%)	6.133 (2.107)	4.955 (1.108)	10.728 (0.000)
Corruption incidents		3.065 (4.001)	
N	1300	400	

NOTE: Standard deviations in parentheses. Excludes District of Columbia. Column 4 reports the t-statistic (*p* values in parentheses) from a *t* test that the differences in means equal zero between the the two sample periods.

wth uncertainty regarding job loss during phases of the business cycle when cyclical unemployment is increasing. Therefore, within a simple reduced-form model of the demand for and supply of union services, we expect that a higher unemployment rate will lead to an increase in the demand for union representation to reduce the risk of unemployment in the future. Although some of the previous literature has controlled specifically for cyclical unemployment, we follow the general convention and inciude all types of unemployment.[7]

In testing the union corruption hypothesis, in addition to other hypotheses, within a simple reduced-form model, the objective is to measure the relative contribution of the variables to cross-sectional variations in the degree of unionization among the states over the period 2001-2008. Because of data limitations with respect to our key independent variable, however, support for or against the additional hypotheses could be misleading over the shorter period to the extent that these factors were influential prior to 2001 but have become less important by the beginning of the twenty-first century. In other words, although we cannot systematically test for the union corruption hypothesis prior to 2001, we can test for earlier evidence of the structural and management hypothesis, and we do this over the period 1974-2000.

Table 1 provides the descriptive statistics for the variables included in the model. Also provided are *t* values from *t* tests that the differences in means equal zero between the two sample periods. With respect to the variables used

[7] Ashenfelter and Pencavel (1969) included the amount of unemployment in the preceding trough of the business cycle as an explanatory variable for the annual percentage change in trade union membership. Bain and Elsheikh (1976) separated unemployment changes into positive and negative components to allow for asymmetric effects.

to test the various hypotheses, this provides an illustration of the trend that has taken place in the United States from 1974-2008, on average.

In order to estimate a model relating the behavior of union members to financial corruption, we initially propose the method of pooled ordinary least squares (Wooldridge 2002). The basic model can be written, for a randomly drawn cross-section observation *i,* as

$$y_{it} = X_{it}\beta + \mu_i + \in_{it} \qquad t = 1, 2, \ldots, T \tag{1}$$

where *Yit* is union density in state *i* in year *t; Xit* is 1 x *K* and can contain observable variables that change across *t* but not *i,* variables that change across *i* but not *t,* and variables that change across *i* and *t; μi* is an unobserved, time-constant variable specific to the individual cross-sectional unit *i;* and Ei, is an idiosyncratic error term. In our analysis, we could consider that *μ* contains unobserved state characteristics that may have an effect on the process of union membership and can be viewed as being constant over the time period in question. In this case, we would treat *μi* as a parameter to be estimated for each *i* by including a dummy variable for each state. The dummy variable regression method gives the same estimates of the parameters as fixed effects estimation. However, one of the assumptions of the fixed effects estimator, and therefore the dummy variable estimator, is that the idiosyncratic errors Eit have a constant variance across *t* and are serially uncorrelated. In addition, it is assumed that the disturbances have different variances for each cross-section and are constant within each *i.* If within-unit observations are not independent of one another, this assumption is violated. Using the robust clustered variance estimator will provide efficient parameter estimates and correct standard errors for hypothesis tests.

Empirical Results

Table 2 includes the results for two moqels that will provide our analysis of the structural, manage hent opposition, and union corruption hypothesis. For each regression, the dependent variable is union membership as a percentage of employees in nonagricultural establishments. The earlier sample period includes state-level data from 1974-2000; the more recent period includes state-level data from 2001-2008. In both samples, the District of Columbia was excluded from the regression, which leads to a sample size of $N = 1700$ and $N = 400$ for the longer and shorter periods, respectively.[8] Preliminaiy tests

[8] It was concluded, through regression diagnostics, that data for several of the variables for the District of Columbia presented nwnerous outliers. Output from the regression diagnostics is available upon request.

TABLE 2

REGRESSION RESULTS OF THE UNION CORRUPTION HYPOTHESIS

Variable	1974-2000	2001-2008
Percentage of nonwhites in labor force	0.094 (0.058)	0.115 (0.096)
Percentage of females in labor force	-0.355 (0.125)***	-0.021 (0.070)
Percentage of labor force aged 16-24	-0.202 (0.078)**	-0.068 (0.080)
Percentage of labor force aged 55-64	0.206 (0.108)*	0.182 (0.119)
Percentage of population living in urban areas	-0.071 (0.078)	0.272 (0.011)***
Percentage of labor force in goods producing sector	0.123 (0.077)	0.061 (0.069)
Number of CA cases per eligible voter	0.005 (0.005)	-0.002 (0.002)
Consumer price index	-0.141 (0.474)	0.101 (0.298)
Unemployment rate	0.205 (0.071)***	-0.048 (0.150)
Corruption incidents		-0.072 (0.016)***
Constant	46.691 (9.566)***	-2.186 (3.222)
N	1300	400
Within R^2	0.77	0.17

NOTE: Robust standard errors in parentheses; ***, **, and *indicate significance at 0.01, 0.05, and 0.10 level, respectively. All regressions include state and year dummy variables.

for AR(1) serial correlation include coefficients and standard errors of .6238 (0.0197) and .2858 (0.0599) for the longer and shorter sample periods, respectively. Additionally, tests for heteroskedasticity include *F* statistics of 6.31 ($p = 0.0000$) and 1.97 ($p = 0.0001$) for the longer and shorter sample periods, respectively. Both models, therefore, include robust standard errors using the robust clustered variance estimator.

A number of interesting patterns emerge comparing across the two models. First, the negative influence of the percentage of females in the labor force tends to decrease over the sample period. Moore and Newman (1988) find that over their sample period (1950-1980) the opposite actually occurred. They explain that over this period, female labor force participation was growing but in occupations that are traditionally more difficult to organize. Cebula and Coombs (2008) analyze factors accounting for the recent decline in female labor force participation. Among the findings are negative effects from increases in household income and increases in the proportion of the population that is nonnative to the United States. To the extent that the decline in female labor force participation is largely from those occupations in less unionized sectors, this could very well explain the diminishing effect. Hence, the difference in parameter estimates across the two sample periods may reflect compositional changes more than changes in attitudes or preferences toward unions.

Second, compared to Moore and Newman (1988), we find the same respective signs on our parameter estimates for relatively younger and older workers. Additionally, for our sample period, the negative effect of a young labor force and the positive effect of a senior labor force tend to decrease. The negative coeffi-

cient on the younger labor force variable was not necessarily anticipated unless it is measuring a cohort or taste effect. It could be, however, that relatively younger workers are more independent and less in favor of collectivist ideas.

Overall, we get the same signs for our structural variables that are found in most of the earlier literature. Although not statistically significant by conventional standards, the coefficient on the percentage of nonwhites in the labor force is positive in both sample periods. Over the period 1950-1980, Moore and Newman (1988) also find a positive coefficient. Additionally, the magnitude (0.119) is close to what we attain in this analysis.

One somewhat surprising result is that the coefficient on goods producing labor force is not statistically significant. Although in this case the anticipated sign is obtained and the coefficient is *close* to being statistically significant by conventional standards, its statistical insignificance is not altogether surprising since Moore and Newman (1988) also did not attain statistical significance over their sample period.

We find no support for the management opposition hypothesis. Moore and Newman (1988) also do not find statistical support but Freeman and Medoff's (1984) survey provides sufficient examples for the hypothesis that management engages in tactics that have a negative influence on unions in the workplace. Because management does not have to illegally campaign to have a negative influence on union membership, it is of course possible that we may have not adequately proxied for the management opposition hypothesis.

Our measure for union corruption does indicate that union membership is negatively affected by incidents such as embezzlement, theft, and union officer elections. The coefficient on corruption incidents implies that for each case of corruption, union density decreases by 0.07 percent, on average, holding all other variables constant. If there are 30 cases in a year, such as what we tabulated for New York in 2003, there would be a negative effect of 2.1 percent on union density, everything else constant. In 2008, we counted 25 total cases of union corruption in Pennsylvania. This would have a negative effect of 1.8 percent on union membership, ceteris paribus.

To the extent that these findings are convincing, they are even more striking if the union corruption hypothesis follows a similar trend to that of the structural hypothesis and has become less important over time. Unlike proxying for the management opposition hypothesis, there is no legal corruption and data provided by OLMS is accurate and provides a clear measure of corruption in unions. If there is any weakness, however, it is certainly plausible that some corruption within unions has not been reported or discovered from financial reports. In this case, our results would be biased downwards.

Another issue that would question the results of the union conuption hypothesis is the possibility of a simultaneity bias. Investigations of corruption

are initiated based on various sources such as complaints from union members, information developed by OLMS as a result of reviewing reports filed, and information developed during an OLMS audit of a union's books and records. With respect to reports of corruption by members, this could be influenced by the relative strength of the union. That is, are members more or less likely to report corruption when the union is popular? Is corruption more or less appealing when the membership is strong? With respect to audits, we have no information about the protocol used that determines when an audit would take place. Therefore, we cannot rule out the possibility that the strength of the union (defined perhaps by membership) has some type of relationship with the probability of audit and, in tum, audits influence findings of corruption. It is possible that the bias is positive or negative, or if more than one bias exists, both. Regardless of the process of definition, if stronger unionization leads to more corruption, our initial results would be biased upward because part of the negative effect of union corruption on union density would be offset by the positive effect running in the opposite direction. In contrast, if there is a negative relationship between union density and corruption, our results would be biased downward.

Correction of this problem requires the estimation of a simultaneous equations model with instnlmental variables in the transfonned equation.[9] Of course, one of the challenges of this approach is that it is often difficult to obtain a valid instrument. For this analysis, we need a variable that is correlated with the endogenous variable (union corruption) and is uncorrelated with the errors in the reduced-form model of union density.

To facilitate the instrumental variable method, we use arrests in state *i* in year *t* as an instrument for union corruption in state *i* in year t.[10] To increase the likelihood of a correlation with the types of corruption within unions, we limit arrests to forgery, counterfeiting, embezzlement, fraud, and stolen property. The Spearman rank correlation coefficient between corruption incidents and arrests is 0.61 ($p = 0.000$). When considering the potential for correlation between our instrument and the error term in the reduced-form model of union density, we should consider other factors of union membership that have not been included. For example, the union organizing hypothesis argues that a decrease in organizing efforts contributed to the decline in union membership. To the extent that the union organizing hypothesis is valid, if we can make an argument that a correlation exists between organizing efforts and arrests, our

[9] We ran an auxiliary regression with corruption incidents as the dependent variable and a lag of union density as an independent variable. The results provided a coefficient on lagged union density equal to 0.226 and a standard error of 0.1 04 indicating union conuption should be treated as an endogenous variable.

[10] Source: http://www.fbi.gov/ucr/ucr.htm#ciu s.

TABLE 3

SIMULTANEOUS EQUATION ESTIMATES OF THE UNION CORRUPTION HYPOTHESIS, 2001-2008

Variable	2001-2008
Percentage of nonwhites in labor force	0.135 (0.101)
Percentage of females in labor force	-0.024 (0.073)
Percentage of labor force aged 16-24	-0.043 (0.080)
Percentage of labor force aged 55-64	0.191 (0.117)
Percentage of population living in urban areas	0.275 (0.012)***
Percentage of labor force in goods p(oducing sector	0.065 (0.072)
Number of CA cases per eligible voter	-0.002 (0.002)
Consumer price index	0.078 (0.291)
Unemployment rate	-0.057 (0. 54)
Corruption incidents	-0.084 (0.089)
Constant	-2.583 (3.236)
N	400

NOTE: Robust standard errors in parentheses; *** indicates significance at 0.01 level. Regression includes state and year dummy variables.

instrument would be invalid. Fmiher, the government substitution hypothesis contends that government's provision of union-like services has provided a less expensive substitute for the services that unions provide. Once again, if the government substitution hypothesis does explain some of the decline in union density in the United States over time, if there is a correlation between these provisions and arrests, our instrument would be considered invalid. With respect to the examples provided and other factors not considered, we assume there does not exist a correlation between arrests in state *i* and the error term in the reduced-form model of union density.

The results of estimating the union corruption hypothesis using the instrmnental variable method are reported in Table 3. We present only the results of the reduced-form model of union density since estimation of the equation explaining union corruption is not of consequential interest to the present discussion.[11] Almost identical to the results of the union corruption hypothesis model in Table 2, most of the coefficients are not statistically significant compared to the earlier sample period. Also, compared to Table 2 all coefficients exhibit the same sign and are similar in magnitude. The only statistically significant coefficien t is for the percentage of the population living in urban areas variable.[12] Most importantly, however, is that the coefficient on union corruption is now

[11] The estimate from the first stage equation can be obtained from the authors upon request. We assume that union conuption is related to the following variables: arrests, the number of CA cases per eligible voter, and representational disbursements by unions.

[12] The statistically significant coefficient on urbanization rate implies that the rank condition for identifying the first equation is satisfied. Incidentally, the coefficient on arrests in the first equation is positive and statistically significant, indicating that the second equation in the system is identified.

slightly larger but no longer statistically significant. Thus, with the removal of simultaneity bias, there appears to be no support for the union corruption hypothesis, at least with respect to corruption over the years 2001-2008.

Conclusion

We have considered empirically the "union corruption" hypothesis. To the extent that corruption in American labor unions is as widespread as some suggest and the viability of its survival is questioned based on this argument, we would expect union membership to be negatively affected by this behavior. This study has employed a fixed effects model with cross-sectional time-series data in an attempt to determine whether union corruption negatively influences incumbent and potential union members' attitudes toward union membership. Evidence of heteroskedasticity and serial correlation warranted the use of a robust clustered variance estimator. Further, in the empirical work, we allow for the possibility that the direction of causality between union corruption and membership runs in both directions.

Overall, we find the panel data evidence of a negative corruption effect on union density to be mixed. Measured as both criminal and civil actions, our initial findings are that union corruption in a state negatively affects union density in the state over the 2001-2008 period. However, to the extent that union corruption should be treated endogenously, removal of simultaneity bias results in a larger (negative) coefficient for the union corruption variable but it fails to obtain statistical significance.

The latter results, similar to what Freeman and Medoff (1984) suspected a number of years ago, suggest several possibilities. One is that union members are satisfied when restitution is made. To the extent that the net benefits of union membership are not affected as a result of the state district court's sentencing phase that includes restitution, we would not expect union membership in the state to be negatively impacted. In some cases, at the time of sentencing, all or part of restitution had been made by the defendant(s). Or, as Freeman and Medoff (1984) argue, perhaps union corruption may be limited in scale; or, it may not generate sufficient awareness due to lack of exposure. By contrast, to the extent that the Department of Labor's OLMS staff has increased investigations as a result of putting union financial reports under a microscope, workers may feel secure that this illegal activity will not continue. This suggests that members expect their interests are supported, in this case, with the Department of Labor's complementary association. In conclusion, we are inclined to argue that the mixed results found in this analysis suggest more work is needed as more reports are filed by unions and more or less corruption

is uncovered. The implication that changes in union membership possibly impact corruption activity, findings of corruption, and/or reports of corruption suggests that union corruption should also be treated endogeneously.

REFERENCES

Ashenfelter, Orley, and John Pencavel. 1969. "American Trade Union Growth: 1900-1960." *Quarterly Journal of Economics* 83(August): 434-48.

Bain, George, and Farouk Elsheikh. 1976. *Union Growth and the Business Cycle.* Oxford: Blackwell.

Cebula, Richard J., and Christopher K. Coombs. 2008. "Recent Evidence on Factors Influencing the Labor Force Participation Rate." *Journal of Labor Research* 29(Summer): 272-84.

Chavez, Linda, and Daniel Gray. 2004. *Betrayal: How Union Bosses Shake Down Their Members and Corrupt American Politics.* New York: Crown Forum (Random House).

Coombs, Christopher K. 2008. "The Decline in American Trade Union Membership and the 'Government Substitution' Hypothesis: A Review of the Econometric Literature." *Journal of Labor Research* 29(Spring): 99-113.

Davis, Joe C., and John H. Huston. 1995. "Right-to-Work Laws and Union Density: New Evidence from Micro Data." *Journal of Labor Research* 16(Summer): 223-9.

Dickens, William F. 1983. "Union Representation Elections: Campaign and Vote." Ph.D. dissertation, MIT, Cambridge, Massachusetts.

Farber, Henry S. 1985. "The Extent of Unionism in the United States?" In *Challenges and Choices Facing American Labor,* edited by Thomas A. Kochan. Cambridge, MA: MIT Press.

——. 1990. "The Decline in Unionization in the United States: What Can Be Learned from Recent Experience?" *Journal of Labor Economics* 8(Winter): S75-105.

Freeman, Richard B. 1981. "The Effect of Unionism on Fringe Benefits." *Industrial and Labor Relations Review* 34(July): 489-509.

——. 1985. "Why are Unions Faring Poorly in NLRB Representation Elections?" In *Challenges and Choices Facing American Labor,* edited by Thomas A. Kochan. Cambridge, MA: MJT Press.

——. 1988. "Contraction and Expansion: The Divergence of Private Sector and Public Sector Unionism in the United States." *Journal of Economic Perspectives* 2(Spring): 63-88.

——, and James L. Medoff. 1984. *What Do Unions Do?* New York: Basic Books.

Getman, Julius G., Stephen B. Goldberg, and Jeanne B. Hemlan. 1976. *Union Representation Elections: Law and Reality.* New York: Russell Sage Foundation.

Hirsch, Barry T. 1980. "The Determinants of Unionization: An Analysis of Interarea Differences." *Industrial and Labor Relations Review* 33(January): 147-61.

——, and David A. Macpherson. 2003. "Union Membership and Coverage Database from the Current Population Survey." *Industrial and Labor Relations Review* 56(.Tanuary): 349-54.

Horowitz, Carl F. 1999. *Union Corruption: Why it Happens, How to Combat It.* Springfield, VA: National Institute for Labor Relations Research.

Hutchison, John. 1972. *The Imperfect Union: A History of Corruption in American Trade Unions.* New York: E.P. Dutton.

Jacobs, James B. 2006. *Mobsters, Unions, and Feds: The Mafia and the American Labor Movement.* New York: New York University Press.

Lumsden, Keith, and Craig Petersen. 1975. "The Effect of Right-to-Work Laws on Unionization in the United States." *Journal of Political Economy* 83(December): 1237-48.

Moore, William J. 1998. "The Determinants and Effects of Right-to-Work Laws: A Review of the Recent Literature." *Journal of Labor Research* 19(Fall): 445-69.

——, and Robert J. Newman. 1975. "On the Prospects of American Trade Union Growth: A Cross-Section Analysis." *Review of Economics and Statistics* 57(November): 435-45.

——, and . 1988. "A Cross-Section Analysis of the Postwar Decline in American Trade Union Membership." *Journal of Labor Research* 9(June): 111-25.

——— ——, and Loren C. Scott. 1989. "Welfare Expenditures and the Decline of Unions." *The Review of Economics and Statistics* 71(May): 538-42.

Neumann, George, and Ellen Rissman. 1984. "Where Have All the Union Members Gone?" *Journal of Labor Economics* 2(April): 175-92.

Reder, Melvin W. 1988. "The Rise and Fall of Unions: The Public Sector and the Private." *Journal of Economic Perspectives* 2(Spring): 89-110.

Thieblot, Armand J. 2006. "Perspectives on Union Coiruption: Lessons from the Databases." *Journal of Labor Research* 27(December): 513-36.

Voos, Paula. 1983. "Union Organizing: Costs and Benefits." *Industrial and Labor Relations Review* 36(July): 576-91.

——. 1984. "Trends in Union Organizing Expenditures." *Industrial and Labor Relations Review* 38(October): 52-63.

Warren, Robert S., and Robert P. Strauss. 1979. "A Mixed Logit Model of the Relationship Between Unionization and Right-to-Work Legislation." *Journal of Political Economy* 87(June): 648-55.

Wooldridge, Jeffrey M. 2002. *Econometric Analysis of Cross Section and Panel Data.* Cambridge, MA: MIT Press.