Accounting for the Decline of Unions in the Private Sector, 1973–1998*

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I. Overview

After documenting the long decline in private sector unionism over the last 50 years, we present an accounting framework that decomposes the sharp decline in the private sector union membership rate into components due to (1) differential growth rates in employment between the union and nonunion sectors and (2) changes in the union new organization rate (through NLRB-supervised representation elections). We find that most of the decline in the union membership rate is due to differential employment growth rates and that changes in union organizing activity had relatively little effect. Given that the differential employment growth rates are due largely to broader market and regulatory forces, we conclude that the prospects are dim for a reversal of the downward spiral of labor unions based on increased organizing activity.

II. The Issue

In 1956, one in three private sector workers were members of labor unions. By 1998, fewer than one in ten were members of unions. In stark contrast, the union membership rate among public sector workers increased from 12 percent to 39 percent over the same period.

While the increase in public sector unionism appears well understood, there is substantial disagreement about reasons for the sharp decline in the private sector union membership rate.[1] Many observers have argued that union decline is rooted in a failure of union organizing activity in the 1970s and 1980s. Some focus on the intensified opposition to unions by employers (Freeman, 1988; Weiler, 1983). Another view is that changes in the administration of the National Labor Relations Act (NLRA) due to changes in composition of the National Labor Relations Board (NLRB) (Levy, 1985). Others claim that changes in the U.S. economic environment substantially reduced the attractiveness of unions to workers and the acceptability of unions to employers. In this view, the economic environment became increasingly open to foreign competition in product markets and capital became more mobile internationally (Macpherson and Stewart, 1990; Troy, 1986). Consequently, unions could no longer guarantee their workers higher wages while maintaining reasonable levels of job security.

Herein we present an accounting framework that decomposes the sharp decline in the private sector union membership rate into components due to (1) differential growth

rates in employment between the union and nonunion sectors and (2) changes in the union new organization rate (through NLRB-supervised representation elections). We use this framework to contrast two explanations for the decline of union membership in the private sector. The first explanation emphasizes the level of union organizing activity. The second is based on differential employment growth rates in the union and nonunion sectors. Our goal is to evaluate the prospects for an increase in organizing activity sufficient to reverse the downward spiral of labor unions.

Although our analysis focuses on the twenty-five years from 1973 using data from the Current Population Survey (CPS), we begin by presenting the facts on the union membership rate over the last century, from 1880 through 1998. After placing the last quarter of the 20th century in the context of the longer historical record, we use recent work by Card (1996) to adjust for classification error of union status in the CPS. We then compute an adjusted series on the private sector union membership rate and document its decline from 1973–1998. Section IV presents an accounting framework that decomposes the change in the union membership rate into components due to (1) differential growth rates in employment between the union and nonunion sectors or (2) the level of the union new organization rate (through NLRB-supervised representation elections). We find that most of the decline in the union membership rate is due to differential employment growth rates in the union and nonunion sectors, and that it would take extremely large increases in union organizing activity to significantly influence the union membership rate. Finally, section V offers some rough calculations of the financial resources required to mount an organization effort of sufficient scale. The resources required, particularly on a per-union-member basis, are quite large.

We conclude that the decline in the private sector union membership rate was due primarily to changes in the economic environment that made union representation of less value to workers or more costly to employers. Increased global competitiveness and mobility of capital were likely important contributing factors. The decline in union organizing activity through NLRB-supervised representation elections was a marginal contributor to the decline in the union membership rate. In order to yield a substantial increase in the union membership rate in the long run, the level of union organizing activity would have to increase by at least an order of magnitude. This would require either a substantial change in the economic environment (perhaps as a result of a partial withdrawal of the U.S. from the global economy) or a drastic modification of the NLRA (well beyond the modest reforms that have failed to win adequate political support over the last 25 years). The prospects for either of these scenarios are dim, and we are forced to conclude that a resurgence of labor unions in the private sector in the foreseeable future is unlikely.

III. The Decline in the Union Membership Rate

The Long Historical Record: 1880–1998. Figure 1 contains a plot of union membership rates among nonagricultural employees from 1880–1998.[2] This figure shows a rather remarkable pattern. The union membership rate was less than 5 percent in the early 1880s, and, with advances and retreats, rose to peaks of 34.2 percent in 1945 and 33.5

Figure 1

*Union Membership Rate, Nonagricultural Workers, 1880–1998*
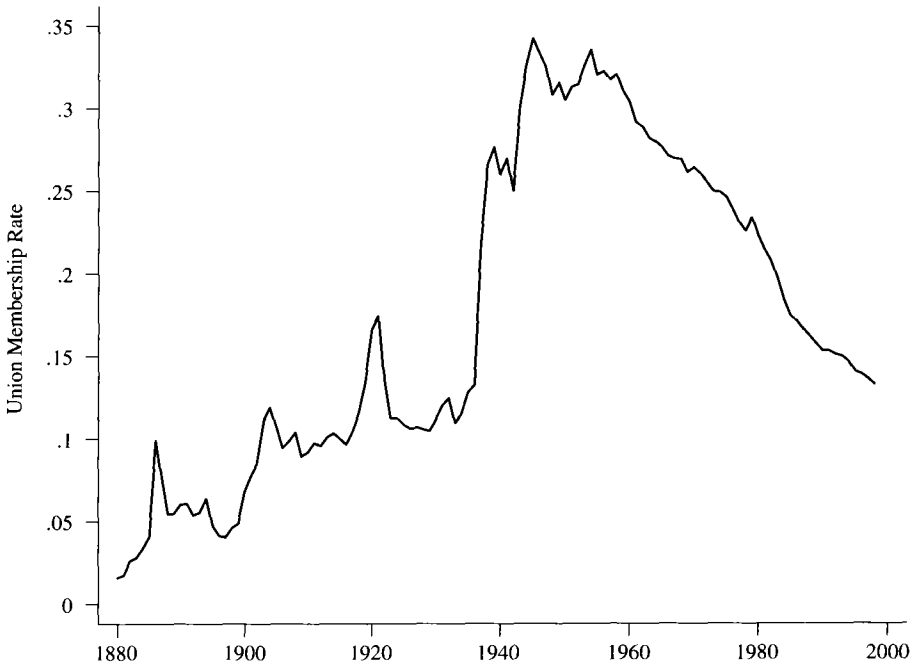
percent in 1954. The record since that time has been one of steady decline to a low of 13.3 percent in 1998. Freeman (1998) characterizes the early record (through the early 1950s) of union growth as a series of discontinuous spurts followed by periods of decline. On that basis, the period since 1954 is best characterized as a long decline after the large spurt (or set of spurts) from the mid-1930s through the mid-1950s. Freeman's conclusion is that, in general, unions grow in spurts and not through slow and steady additions to membership over long periods of time.[3] These spurts originate in periods of intense social unrest (the 1930s) and wars (World War II and Korea). But later wars (Vietnam) and periods of social activism (the 1960s) have not resulted in spurts of organization. So, while future union growth may depend on another spurt occurring, we have little guide to what might trigger such an episode of dramatic growth.

Union Membership and Coverage in the Private and Public Sectors. Using data from the CPS, we can calculate distinct union membership rates in the private and public sectors over the 1973–1998 period.[4] Figure 2 verifies the well-known fact that union membership rates in the private and public sectors have followed very different paths

over the past quarter century. The private and public sector union membership rates were approximately equal in 1974 at about 25 percent and have diverged since. The public sector union membership rate increased rapidly through 1980 to about 36 percent and has increased only slightly since.[5] In contrast, the private sector union membership rate declined over the entire period to a low of 9.7 percent in 1998, though it appears that the rate of decrease in the membership rate was largest between 1980 and 1985.

Figure 2 also contains plots of the union coverage rate (the fraction of workers who are either members of a union or are covered by a collective bargaining agreement on their main job) from 1978–1998.[6] It is interesting to note that the free-rider rate (the fraction of covered workers who are not union members) is much larger in the public sector.[7] The free-rider rate in the private sector has been steady at about 8 to 9 percent since 1978. The free-rider rate in the public sector was about 17 to 18 percent in the early 1980s and has decreased to 12 to 13 percent since that time. The free-rider rate in the private sector reflects, at least in part, the presence of right-to-work laws in 19 states (in 1976). Based on the CPS data, the free-rider rate in the private sector between 1978 and 1998 was 15.0 percent in states with right-to-work laws and 7.5 percent in states without right-to-work laws. Similarly, the free-rider rate in the public sector over the same period was 26.0 percent in states with right-to-work laws and 12.8 percent in states without right-to-work laws.

Figure 2

Private and Public Sector Unionization Rates, 1973–1978
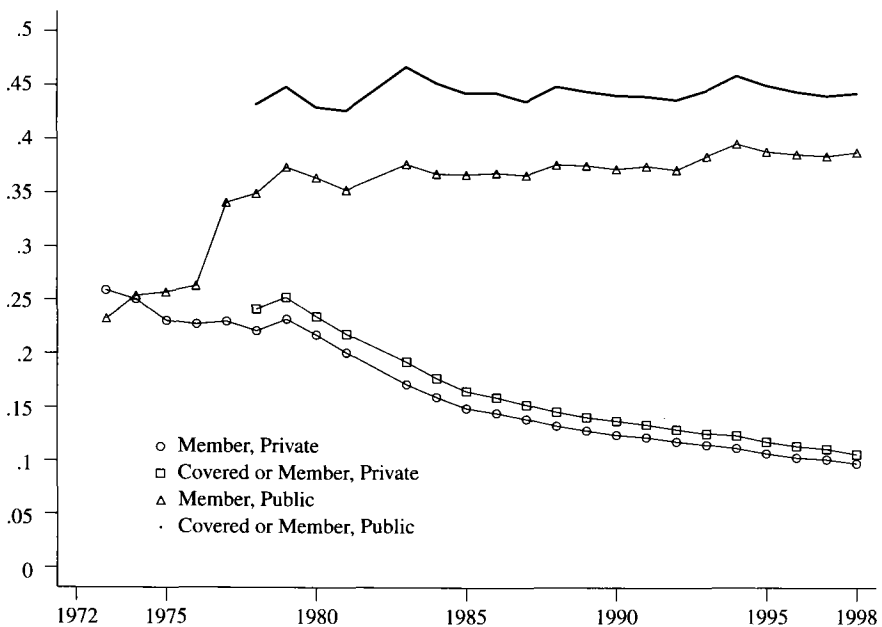
Given the closeness with which the coverage and membership series move and the fact that a consistent series on membership is available since 1973, we proceed using union membership rates for our analysis of the decline in private sector unionization.

The long time series in Figure 1 understates the decline in the private sector union membership rate since 1973 because it combines the public and private sectors. Still, it is clearly the case that, by studying the period since 1973, we are joining the middle of a longer run process. The union membership rate has been declining since at least the early 1960s. Nonetheless, examining the processes affecting the union membership rate since 1973 has important implications for the longer time series.

Adjusting for Classification Error in the CPS. Card (1996) presents evidence of misclassification of self-reported union status of private sector workers in the CPS. The evidence comes from a 1977 validation survey designed to measure the reliability of job data in the CPS (Mellow and Sider, 1983). The survey gathered data on union status not only from the CPS but also from the respondent's employer. Card (1996) analyzes the pattern of responses and concludes that the data are consistent with a classification error rate (both false negatives and false positives) of about 2.7 percent.[8] In other words, 2.7 percent of individuals who are, in fact, union members report that they are not union members (false negatives). Analogously, 2.7 percent of workers who are not union members report that they are union members (false positives). Given that there are more workers who are not union members than there are workers who are union members, the union membership rate estimated from the CPS will be biased upward. In what follows, we derive a time series on the union membership rate that is adjusted for classification error.

Let r_t^* represent the union membership rate in year t as measured in the CPS and let r_t represent the true union membership rate. Denote the misclassification rate by λ. On this basis, the observed union membership rate is

$$r_t^* = (1-\lambda)r_t + \lambda(1-r_t) \tag{1}$$

$$= r_t + \lambda(1 - 2 r_t), \tag{2}$$

where the first term in equation 1 is the part of the observed union membership rate that comes from actual union members but is biased downward by the classification error and the second term is the part of the observed union membership rate that comes from misclassification of nonunion workers. The bias in the observed union membership rate is

$$r_t^* - r_t = \lambda(1 - 2 r_t). \tag{3}$$

Clearly, as long as $r_t < 0.5$, the observed union membership rate is biased upward and the size of the bias is negatively related to the true unionization rate. Finally, equation 2 can be solved for the actual union membership rate as a function of the observed union membership rate and the misclassification rate. This adjusted union membership rate is

$$r_t = (r_t^* - \lambda)/(1 - 2 \lambda). \tag{4}$$

Using Card's (1996) estimate of the misclassification rates, $\lambda = 0.027$, the observed private sector union membership rate of 25.9 percent in 1973 translates into an actual union membership rate of 24.5 percent for a bias of 1.4 percentage points. However, the observed private sector union membership rate of 9.7 percent in 1998 translates into an actual union membership rate of 7.4 percent for a bias of 2.3 percentage points. In the limit, an observed union membership rate of 2.7 percent (the same value as the misclassification rate) would imply an actual union membership rate of zero.

Figure 3 plots the unadjusted and adjusted private sector union membership rates by year assuming a misclassification rate of 0.027, and it verifies the slightly larger decline in the union membership rate between 1973 and 1998. We use this adjusted union membership rate (equation 4) in the remainder of our analysis, but the results are qualitatively identical using the unadjusted rate.

IV. *Accounting for the Decline in the Union Membership Rate*

In this section, we use a simple accounting framework to decompose the decline in the union membership rate into components due to the level of union organizing and the differential in the rates of employment growth between the union and nonunion sectors.[9] Define the union membership rate in year t as r_t. This is

$$r_t = U_t / (U_t + N_t),\tag{5}$$

where U_t and N_t are period t employment levels in the union and nonunion sectors, respectively. We can express the evolution of employment in the two sectors as

$$U_t = (1+\theta_t)U_{t-1} + \psi_t(1+\phi_t)N_{t-1}\tag{6}$$

$$N_t = (1+\phi_t)N_{t-1} - \psi_t(1+\phi_t)N_{t-1},\tag{7}$$

where θ_t and ϕ_t are the growth rates between $t-1$ and t of union and nonunion employment, respectively, and ψ_t is the new-organization rate (defined as the fraction of potential nonunion employment in period t that unions organized successfully).[10]

These expressions highlight the sources of growth of union and nonunion employment. Growth in the union sector includes growth of employment in unionized establishments at the rate θ_t and organization of nonunion workers at the rate ψ_t. Growth in the nonunion sector includes growth of employment in nonunion establishments plus employment in new establishments (at the composite rate ϕ_t) net of new organization $(-\psi_t)$.[11] In this framework, total employment in period t is

$$L_t = U_t + N_t\tag{8}$$

$$= (1+\theta_t)U_{t-1} + (1+\phi_t)N_{t-1}\tag{9}$$

and is independent of the quantity of union organizing activity.

Using equations 6 and 7, the current unionization rate r_t can be expressed as a function of past employment in the two sectors and the new organization rate (ψ_t). This is

$$r_t = [(1+\theta_t)U_{t-1} + \psi_t(1+\phi_t)N_{t-1}]/(1+\theta_t)U_{t-1} + (1+\phi_t)N_{t-1}]\tag{10}$$

$$= [(1+\theta_t)r_{t-1} + \psi_t(1+\phi_t)(1-r_{t-1})]/[(1+\theta_t)r_{t-1} + (1+\phi_t)(1-r_{t-1})]\tag{11}$$

Figure 3

*Private Sector Union Membership Rate,
Classification Error Adjustment*
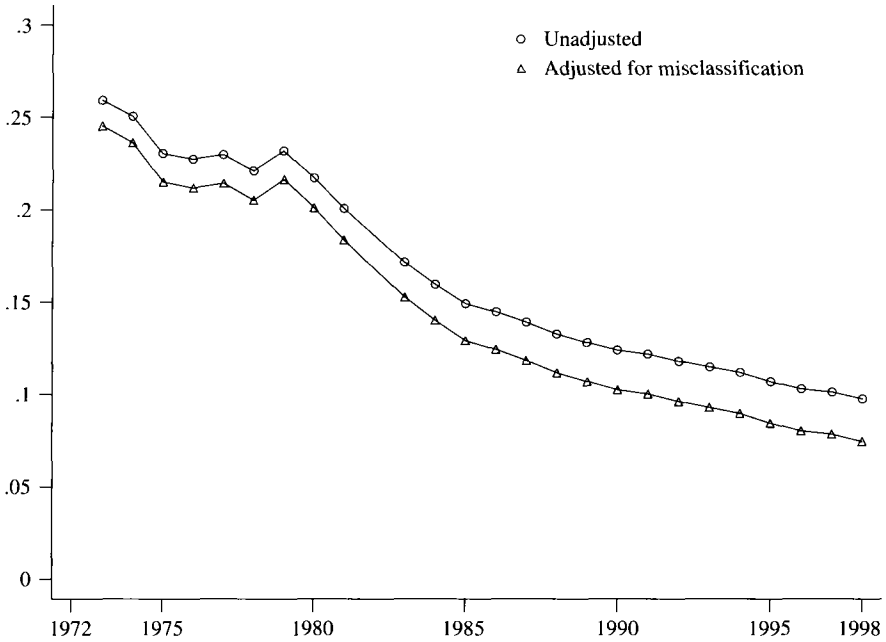
$$= [r_{t-1} + \psi_t(1+\delta_t)(1-r_{t-1})]/[r_{t-1} + (1+\delta_t)(1-r_{t-1})], \tag{12}$$

where δ_t is the rate of employment growth in the nonunion sector relative to the rate of employment growth in the union sector defined by

$$1+\delta_t = (1+\phi_t)/(1+\theta_t) \tag{13}$$

Since union and nonunion employment growth rates are generally small (< 0.1), a reasonable approximation to the relative rate of employment growth is

$$\delta_t = \phi_t - \theta_t. \tag{14}$$

Equation 12 expresses the evolution of the union membership rate as a function of the lagged union membership rate (r_{t-1}), employment growth in the nonunion sector relative to the growth in the union sector (δ_t), and the new organization rate (ψ_t).

The steady-state union membership rate at any level of new organization and employment growth rates is derived by setting $r_t = r_{t-1}$ in equation 12 and solving for r. The result is

$$r_{ss} = \phi_t \left[(1+\delta_t)/\delta_t \right], \tag{15}$$

where r_{ss} is the steady-state union membership rate. The required new-organization rate for any given steady state is

$$\psi_t^{ss} = r_{ss} = \delta_t/(1+\delta_t). \tag{16}$$

If the two sectors grow at the same rate ($\delta_t = 0$), no new organizing is needed to maintain union density. However, if employment in the union sector grows less rapidly than in (or falls relative to) the nonunion sector ($\delta_t > 0$), successful union organizing is required to maintain the union membership rate. It is also clear that the required new organization rate in a steady state is directly related to the union membership rate.

This framework allows us to measure the relative roles of (1) differential rates of employment growth between the union and nonunion sectors and (2) low levels of new union organization in accounting for the decline in the private sector union membership rate between 1973 and 1998. We now turn to this analysis.

Measuring the New Organization Rate. The NLRA provides the central mechanism through which jobs become unionized. The NLRA, passed in 1935, guarantees the rights of workers to organize and bargain collectively with their employers. The Act also specifies a procedure for unions to become recognized as the exclusive bargaining agent of workers. The procedure is initiated when a large proportion (at least 30 percent) of workers show interest in union representation by signing authorization cards. The union then petitions the NLRB to conduct a representation election. Employers and unions campaign among workers from the time of the petition until the election. The NLRA also defines a set of unfair labor practices (ULP) that limits the use of threats, dismissals, and coercion to influence the vote or the organizing process, more generally. Violations can be challenged by bringing ULP charges before the NLRB.

In the early post-NLRA years substantial organization happened outside the NLRB election process through the use of "recognition strikes" and "card checks." The definition of the former is self-evident. Organization through card checks occurred when employers agreed, without an election, to recognize a union and bargain following a strong show of interest by workers through signed authorization cards. While systematic evidence on the quantity of organizing through these mechanisms is difficult to come by, the general perception is that they have become much less important in new organizing. Some argue that unions may now be moving to organize outside the NLRB procedure (Bronfenbrenner et al., 1998, pp. 69-119). Our estimates of current organizing activity would be biased downward as a result. Union membership records might provide information about non-Board organizing activity, but such records are themselves subject to a variety of biases (Bain and Price, 1980, p. 5). In any event, our analysis below indicates that any underestimate of the level of organizing is likely to be small compared to the massive effect of sectoral differences in employment growth.

Representation election activity and outcomes. The upper panel of Figure 4 presents the number of NLRB-supervised representation elections and the total votes cast each year from 1973–1998. The defining feature of these time series is the sharp decline in organizing activity in the early 1980s. The number of elections held fell by almost 50 percent from about 8000 in 1980 to about 4400 in 1990. The number of votes eligible

Figure 4

NLRB Election Activity, 1973–1998

Number of Elections and Total Votes Cast

Union Win Rate and Vote Share
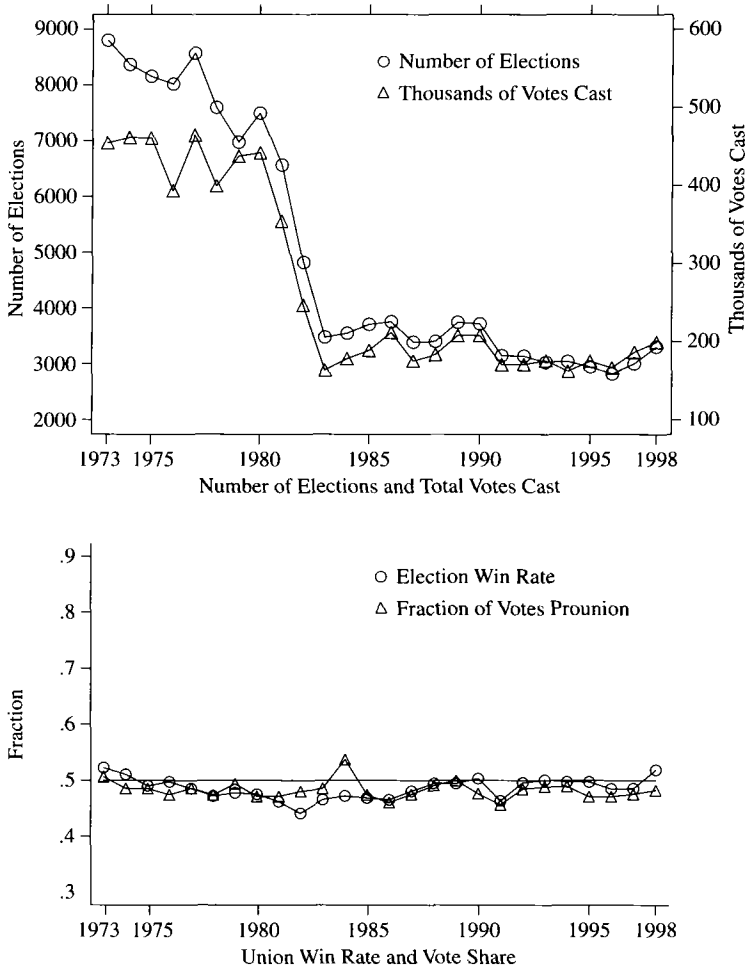
to be cast fell from about 512,000 to about 221,00 over the same period, a drop of over 50 percent. Since 1983, the election activity has held steady at a relatively low level.

Even the small number of workers voting in representation elections overstates actual new union organization since unions do not win all elections. The probability of a union win declined between 1940 and 1975. The lower panel of Figure 4 plots the union win rates and pro-union vote share in representation elections held between 1940 and 1998.[12] Since the mid-1970s the union win rate and the pro-union vote share have been steady at just about 50 percent.

An additional factor intervening to reduce the effective amount of new organization is the increased difficulty newly organized workers have had in negotiating a first contract with employers. While there are no systematic data on representative samples of union-won elections, Weiler (1984) analyzes a small number of surveys and finds that the fraction of union wins yielding first contracts fell from 86 percent in 1955 to 63 percent in 1980.[13] Thus, even the already small new-organization rate based on the number of workers in potential bargaining units where unions won elections overstates the number of newly organized workers.

The new-organization rate: Two definitions. It is clear that union organizing through NLRB elections is small relative to the labor force. In order to measure this more precisely, we operationalize the new-organization rate, referred to earlier as ψ_t, as the product of the election rate (e_t) and the union win rate in elections held (w_t). The election rate is defined as the fraction of *nonunion* workers in period t who are eligible to vote in NLRB elections.[14] The union win rate is defined as the fraction of workers eligible to vote in representation elections who are in units where the union won the election.[15] The win rate is appropriately computed by dividing the number of eligible voters in union-won elections by the total number of eligible voters that year. However, the number of eligible voters in union-won elections is not available prior to 1973, so we use the pro-union vote share as a proxy when constructing our long time series. On this basis the nonunion-based new-organization rate is

$$\psi_t = e_t w_t. \tag{17}$$

This measures the fraction of nonunion workers who are newly organized through NLRB representation elections, and it indicates how intensively unions are organizing potential members.

While most of our analysis focuses on the nonunion-based new-organization rate, a union-based measure is also interesting. The election rate can be defined alternatively as the ratio of the number of workers eligible to vote in representation elections divided by *union* employment. This measure highlights the extent to which unions "tax" themselves to organize new members. Since unions derive organizing resources from their members, normalizing the level of organizing activity this way helps describe the "tax rate" levied on union members to finance new organization. Denote this union-based election rate by e_t^u so that the union-based new-organization rate is

$$\psi_t^u = e_t^u w_t. \tag{18}$$

The data requirements for computation of the new organization rate by either definition are substantial. Information is required on the number of individuals eligible to vote in representation elections, the number of individuals eligible to vote who were in units where the union won the election, private sector employment, and the fraction of private sector employment unionized. All of these measures can be calculated using micro-level data available since 1973 from the NLRB and the CPS.

We use the NLRB data directly to measure the number of workers who voted in elections and the number in union-won elections. We compute employment levels in the

union and nonunion sectors in three stages. First, we use data from the Bureau of Labor Statistics (Series ID LFS11000000) on monthly civilian employment to compute annual employment levels as the average of the monthly values in each year. Second, we compute the fraction of employment in each year that is in the private sector and the fraction that are union members within the private sector. These fractions are computed using the May CPS from 1973–1981 and the merged outgoing rotation group CPS data from 1973–1998.[16] Third, employment in the union and nonunion sectors in year t is then given by

$$U_t = r_t p_t L_t \tag{19}$$

$$N_t = (1-r_t)p_t L_t, \tag{20}$$

where r_t is the adjusted union membership rate; p_t is the fraction of employment that is in the private sector; and L_t is total employment. These employment levels are then used in calculating the new-organization rates by the two definitions.

With all of the components of the election rate and the union win rate in place, we calculated the new-organization rate using both the nonunion and union basis for computing the election rate. Figure 5 contains the nonunion- and union-based new-organization rates (ψ_t and ψ_t^u, respectively) over the 1973–1997 period. Substantively, the

Figure 5

The New-Organization Rate, 1973–1997
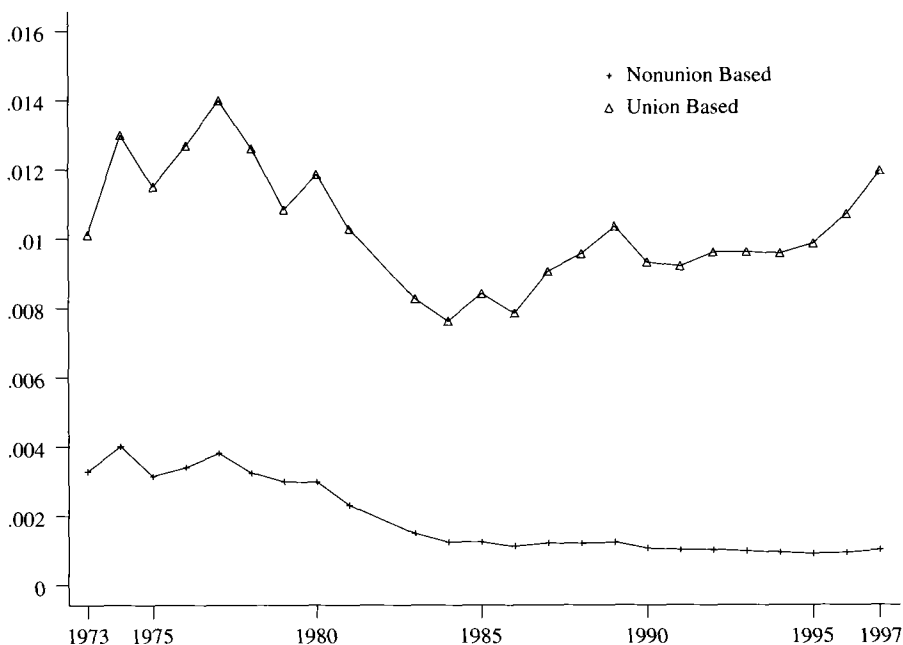
nonunion based new-organization rate has been very small since 1973, but it declined substantially in relative terms in the early 1980s from over 0.3 percent in the late 1970s to about 0.1 percent by the late 1980s. Most of this decline happened between 1981 and 1983. The union-based new-organization rate is clearly much higher than the nonunion-based rate, not surprisingly given the small share of union employment in the private sector work force. The union-based series also shows the sharp decline in the early 1980s even more clearly than the nonunion based series. It is interesting that the union-based new-organization rate shows an increase since the mid-1980s, suggesting that unions have devoted increased resources to organizing relative to their membership. But it is also interesting that this trend has not reversed the decline in the nonunion-based new-organization rate.

The sharp decline in the new-organization rate in the early 1980s is due to reduced election activity rather than a decline in union electoral success (Figure 4). This is consistent with a simple economic model of union decision-making where unions decide whether to undertake elections based on (1) the costs of the organizing campaign, (2) the expected probability of winning, and (3) the benefits of winning. Such a model suggests that, when the organizing environment becomes less hospitable to unions (as it likely did in the 1980–1983 period), unions contest only those elections where a "reasonable" chance of success remains. The result will be a sharp decline in the election rate but relatively little change in the union win rate.[17]

Measuring the Relative Employment Growth Rates. The union and nonunion employment growth rates (θ_t and ϕ_t, respectively) are defined implicitly in equations 6 and 7. Solving these relationships for θ_t and ϕ_t yields

$$\theta_t = (U_t - U_{t-1})/U_{t-1} - [\psi_t/(1-\psi_t)]N_t/[U_{t-1}] \tag{21}$$

and

$$\phi_t = (N_t - N_{t-1})/N_{t-1} - [\psi_t/(1-\psi_t)]N_t/[N_{t-1}]. \tag{22}$$

These are based on the measured employment growth in each sector adjusted for union organizing (measured by ψ_t).[18] If there were no union organizing ($\psi_t = 0$), θ_t and ϕ_t are simply the measured rates of employment growth in the union and nonunion sectors, respectively. In fact, the union organizing rate has been substantially less than 0.005 per year over the 1973–1998 period, so the organizing adjustment is small.

The top panel of Figure 6 contains the time series of measured employment growth rates in the union and nonunion sectors between 1973 and 1998. There is a substantial differential in growth rates, with union employment shrinking by an average of 2.9 percent per year and nonunion employment growing at an average of 2.8 percent per year. The growth rate of union employment was much more volatile than the growth rate of nonunion employment. The standard deviation of the union growth rate was 4.9 percentage points while the standard deviation of the nonunion growth rate was only 1.7 percentage points. The relatively high volatility of the union growth rate is due to large fluctuations prior to 1984. Since 1984, both sectors have had comparable variability in growth rates with standard deviations of about 1.5 percentage points.

Figure 6

Employment Growth Rates by Sector, 1973–1998

Measured Employment Growth Rates, by Sector

Adjusted Employment Growth Rates, by Sector

Relative Growth Rates $((1+\phi_t)\,/\,(1+\theta_t)-1)$
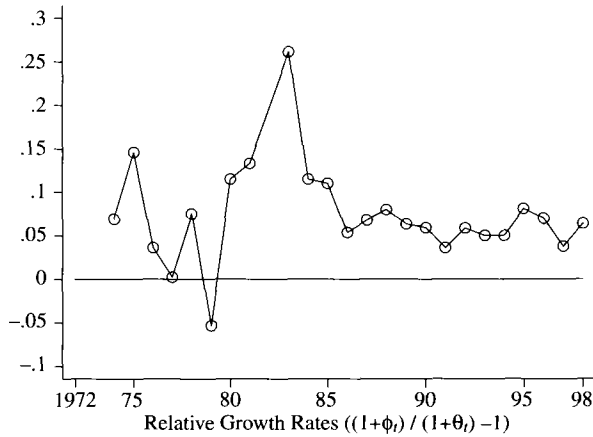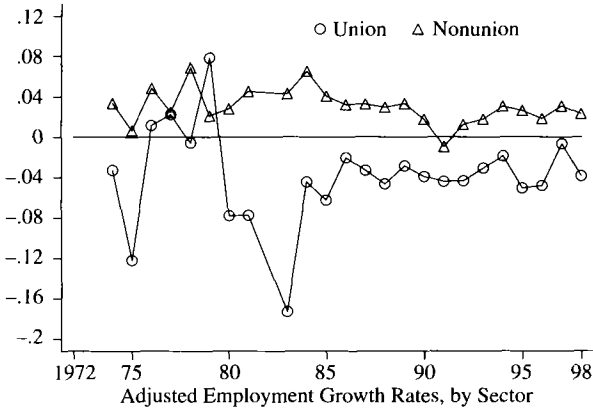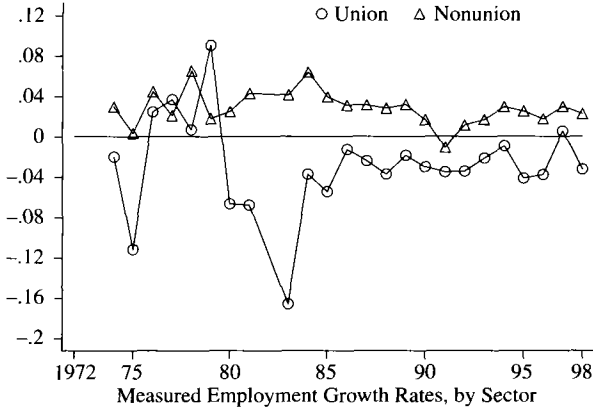
The middle panel of Figure 6 contains the employment growth rates in the union and nonunion sectors adjusted for union organizing activity (θ and ϕ, as defined in equations 21 and 22). Not surprisingly, given the very low level of new organization, these adjusted growth rates are very close to the unadjusted growth rates in the top panel of Figure 6.

The bottom panel of Figure 6 contains the relative employment growth rate, δ, as defined in equation 13. This plot verifies the consistently higher employment growth rate in the nonunion sector than in the union sector. In fact, there is only one year in the sample where the union growth rate exceeded the nonunion growth rate (1979), and there are only four years between 1973 and 1998 where the union growth rate was even positive. In contrast the nonunion employment growth rate was positive in all but one year, 1991.[19] On average, the relative employment growth rate was 0.074 between 1973 and 1998, and it averaged 0.063 since 1985 and 0.056 since 1990.

The Role of the New-Organization Rate in the Decline of the Union Membership Rate. Given the consistently higher employment growth rates in the nonunion sector relative to the union sector documented in Figure 6, it is clear that substantial new union organization would be required to maintain the union membership rate at the level of the previous year. The upper panel in Figure 7 contains the actual union-organizing rate and the rate required to maintain the steady-state year by year, as defined in equation 16. Examples of the required organization rate are the rate of organization required in 1974 to maintain the union membership rate at the 1973 level given the 1974 union and nonunion employment growth rates and the rate of organization required in 1994 to maintain the union membership rate at the 1993 level given the 1994 union and nonunion employment growth rates. The required organization rate exceeds the actual organization rate in all but two years, and the average difference is substantial. The required organization rate averages 1.0 percent between 1974 and 1997 while the actual organization rate averages only 0.18 percent over the same period. The required union organizing rate falls steadily from the mid-1980s because the union membership rate has been falling, and from equation 16, the required organization rate is directly related to the level of the union membership rate.

The lower panel in Figure 7 contains the actual union-organizing rate and the rate required to maintain the steady-state union membership rate at the 1973 level (24.5 percent) in each year given the union and nonunion employment growth rates prevailing each year. This is computed directly from equation 16 assuming that $r_{ss} = 0.245$, and because the actual union membership rate is declining over time, it is higher than the organization rate required to maintain the union membership rate at the previous year's level. It is clear that substantial new organizing is required to maintain the 1973 union membership rate in the face of the large difference in employment growth rates. Over the entire time period unions would need to capture 1.6 percent of the nonunion work force each year.

Figure 8 offers another view of the effect of increasing union organizing activity on the union membership rate, given observed union and nonunion employment growth
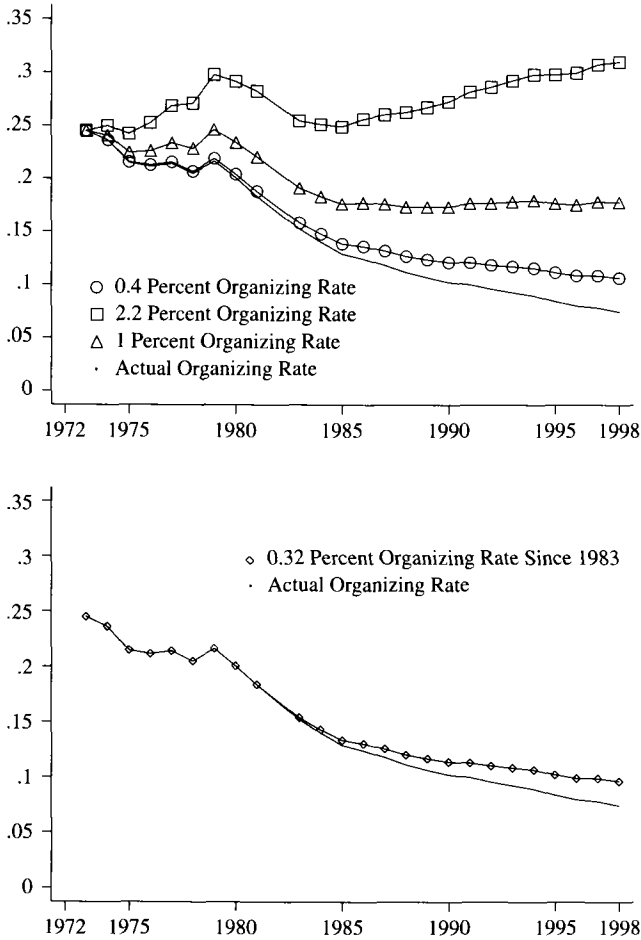
Figure 7

Union Organizing Rate Required in Steady State

Organizing Rate Required to Maintain Previous Year's Rate

Organizing Rate Required to Maintain 1973's Rate
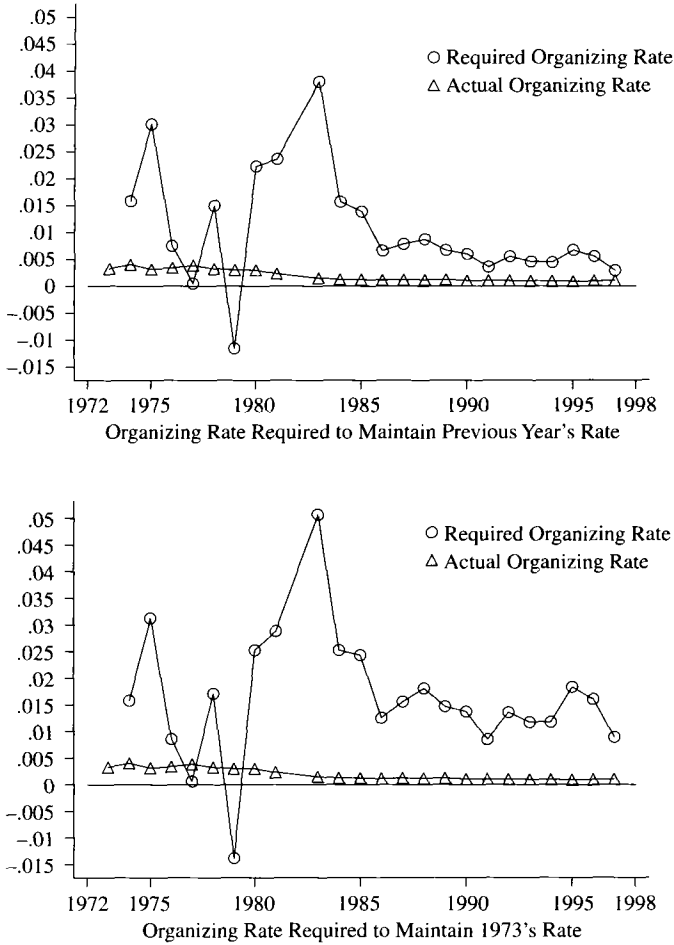
rates. The top plot shows the predicted union membership rate by year, based on equation 12, under various assumptions regarding the level of union organizing activity. The assumed values range from the observed level of union organizing activity to organization of 2.2 percent of the nonunion work force each year. Three hypothetical levels of the new organization rate are included in Figure 8: 0.4 percent, 1.0 percent, and 2.2 percent, along with the actual new-organization rate.

The actual organization rate yields the bottom series on the union membership rate in the top panel of Figure 8. This series starts at 24.5 percent in 1973 and falls to 7.4 percent by 1998. While not shown in Figure 8, if there had been no organization,

Figure 8

Hypothetical Union Membership Rates
at Assumed Levels of Organizing Activity, 1973–1998

.35
.3
.25
.2
.15
.1
.05
0

O 0.4 Percent Organizing Rate
□ 2.2 Percent Organizing Rate
△ 1 Percent Organizing Rate
· Actual Organizing Rate

1972 1975   1980   1985   1990   1995 1998

.35
.3
.25
.2
.15
.1
.05
0

◇ 0.32 Percent Organizing Rate Since 1983
· Actual Organizing Rate

1972 1975   1980   1985   1990   1995 1998

the union membership rate would have fallen only an additional 1.7 percentage points by 1998 to 5.7 percent. This illustrates that the total quantity of new union organization since 1973 has had only a minor effect on the union membership rate.

If unions were able to organize 0.4 percent of the nonunion work force each year (slightly more than double the actual organization rate), the union membership rate would have been 3.2 percentage points higher in 1998 at 10.6 percent. While this is a clear improvement over the actual rate of 7.4 percent, it is still nowhere near the level of union membership that prevailed in the 1970s and it implies that the union membership would have continued to decline through the 1990s.

A new-organization rate of 1 percent per year (more than 5 times the actual organization) would have had a much larger effect. The union membership rate would have been 17.8 percent in 1998, more than double the actual rate in that year. Perhaps more interestingly, a new-organization rate of 1 percent per year would have resulted in a stable union membership rate since 1985 of about 17.5 percent. However, to put this in historical context, a new-organization rate of 1 percent has not been seen since 1955, at the tail end of the last spurt of union growth (Figure 1). If the union membership could have reached 17.5 percent, as suggested by this counterfactual, a new-organization rate of 1 percent of nonunion employment would translate into a new-organization rate of over 4.7 percent of the union work force. Even this rate of resource commitment by the union sector is larger than any value observed since 1950. And, at the current rate of union membership of 7.4 percent, the 1 percent nonunion organization rate translates into a new-organization rate of over 12 percent of the union work force.

Our most optimistic counterfactual is a new-organization rate of 2.2 percent, corresponding to the average new-organization rate over the high-growth 1940–1955 period. This is more than twenty times the actual new-organization rate observed over the 1973–1998 period, and it would have yielded a union membership rate of 31.0 percent by 1998. Sustaining a new-organization rate of 2.2 percent of the nonunion work force with a union membership rate of 31 percent would require a resource commitment by the union sector sufficient to organize 4.9 percent of the union work force each year. This is larger than any value seen since 1950. Given the current union membership rate of about 7.5 percent, a new-organization rate of 2.2 percent of nonunion employment translates into a new-organization rate of over 25 percent of the union work force. This rate of resource commitment by the union sector is three times that observed even at the peak of the 1940s growth spurt (Farber and Western, 2000).

The conclusion we draw from the analysis of the counterfactual organization rates in the upper panel of Figure 8 is that a sustained dramatic increase in organizing could increase the union membership rate. But the per union member resources required at current low levels of union membership are likely to be prohibitively large.

Our review of union election data showed a sharp drop in union organizing activity in the early 1980s. The new-organization rate was 0.32 percent in 1980 and fell sharply to 0.15 percent by 1983 and 0.12 percent by 1984. The new-organization rate never reached even 0.13 percent subsequently. An interesting counterfactual is to compute union membership rates since 1983 assuming that the new-organization rate held steady at 0.32 percent per year since 1983 rather than falling below 0.13 percent. This counterfactual is presented in the lower plot in Figure 8.

Holding the new-organization rate at the 0.3 percent level does have some effect on the union membership rate. The actual union membership rate fell from 18.4 percent in 1981 to 7.4 percent in 1998. If the new-organization rate had held at 0.3 percent between 1983 and 1998, the union membership rate would have fallen to 9.7 percent. Thus, about 20 percent of the decline in the union membership rate between 1983 and 1998 (2.3 of 11 percentage points) can be accounted for by the drop in the new-organization rate since the early 1980s.

The Role of Differential Employment Growth Rates in the Decline in the Union Membership Rate. It is obvious that differential employment growth rates between the union and nonunion sectors are an important part of the explanation for the decline in the union membership rate. Because employment in the nonunion sector has been growing much more rapidly than in the nonunion sector over the entire period we study, substantial new organization is required in order even to hold the rate of union membership fixed. Note that this is the natural state of affairs in the U.S. institutional setup where new jobs, by and large, are "born" nonunion and must be organized in order to become unionized.[20] Given the robust net employment growth averaging about 2 percent a year since the 1970s, there is a natural depreciation of the union membership rate that can only be counteracted by substantial new organization.

In order to make this clear, the upper plot in Figure 9 contains the hypothetical evolution of union membership rates assuming, counterfactually, alternative values for the union and nonunion employment growth rates (θ and ϕ, respectively) but holding the new-organization rate at observed levels. These counterfactuals are computed applying the assumed values for θ and ϕ to equation 12 by recomputing δ according to equation 13.

The lowest series is computed using the actual employment growth rates, and it shows the decline in the union membership rate from 24.5 percent to 7.4 percent between 1973 and 1998. The intermediate series is computed under the assumption that the nonunion employment growth rate (ϕ) is as observed (averaging 0.03 over the sample period) but that the union employment growth rate (θ) was zero in every year rather than its average of –0.039 over the sample period. This shows a much smaller decline in the union membership rate, falling only to 16.5 percent by 1998. The highest series is provided by nonunion employment growing by one percent each year and union employment falling by one percent each year. In this case the union membership rate would have fallen only to 19.5 percent by 1998.

Another way to think about the effect of relative employment growth rates is to hold aggregate employment growth fixed but to adjust the mix between the union and nonunion sectors. Aggregate employment growth averaged 2 percent over the 1973–1998 period, but we have established that there was a substantial divergence between the employment growth rates in the nonunion and union sectors (ϕ and θ, respectively). In fact, the difference in growth rates ($\phi - \theta$) averaged 6.8 percentage points over the sample period. It is this divergence in growth rates that is an important contributor to the decline in the union membership rate. In order to illustrate its importance, we recalculated the evolution of the union membership rate assuming that the new-organization rate and the aggregate employment growth rate were as observed in each year but that the difference in growth rates was, in turn, 3.4 percentage points each year (half the average observed value) and 5.0 percentage points each year (about 3/4 of the averaged observed value).

The bottom plot in Figure 9 contains the evolution of union membership rates assuming, counterfactually, smaller differences between the union and nonunion

Figure 9

*Hypothetical Union Membership Rates
at Assumed Levels of Employment Growth, 1973–1998*
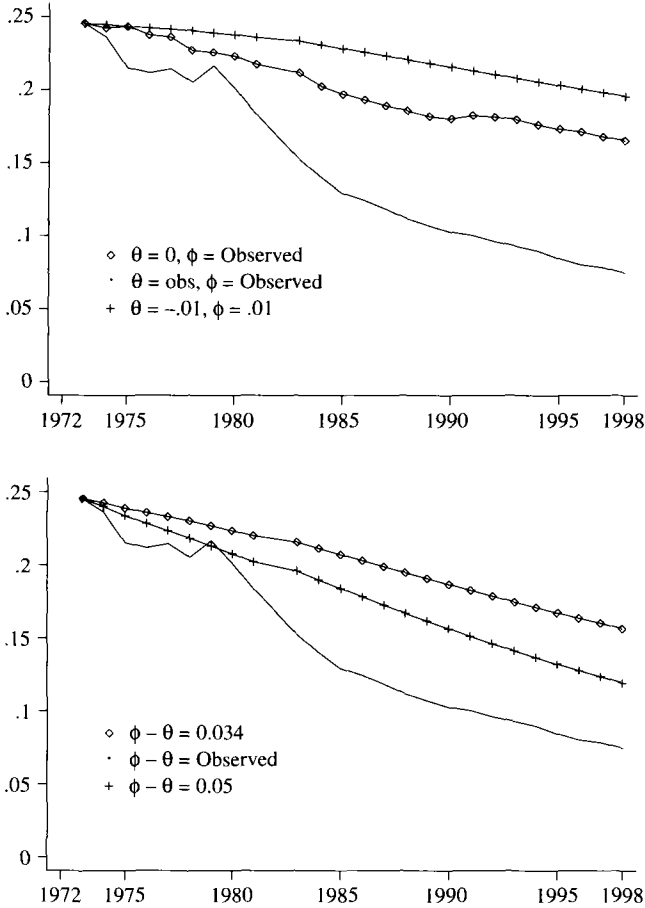
employment growth rates but holding aggregate employment growth rates and the new-organization rate at observed levels. These counterfactuals are computed by noting that the aggregate employment growth rate, γ_t, is a weighted average of the sector-specific employment growth rates defined by

$$\gamma_t = r_t \theta_t + (1 - r_t) \phi_t \tag{23}$$

and using the observed values for γ_t and the assumed values for $(\phi - \theta)$ to solve for the implied values of ϕ and θ These are then used in equation 12 to solve for the union membership rate in each period.

The lowest series in the upper plot in Figure 9 is computed using the actual employment growth rates and is identical to that in the left-hand plot. Once again, it shows the decline in the union membership rate from 24.5 percent to 7.4 percent between 1973 and 1998. The highest series is computed under the assumption that the difference between the nonunion and union employment growth rates is 3.4 percentage points (half the observed average). This has a dramatic effect on the union membership series with the union membership rate falling only to 15.6 percent by 1998. The intermediate series is computed under the assumption that the difference between the nonunion and union employment growth rates is 5.0 percentage points (about 3/4 of the observed average). Even this change has a substantial effect with the implied union membership rate falling to 11.9 percent by 1998.

V. *Prospects for Increased Union Organizing: Where Are the Resources?*

Clearly, without a very substantial increase in union organizing activity (perhaps an order of magnitude increase from the current level of 0.09 percent per year), employment growth in the union sector needs to be almost as large as in the nonunion sector (δ close to zero) in order to achieve any meaningful increase in the union membership rate. But the barriers to increasing organization by labor unions in the private sector are enormous. Many workers are skeptical that unions can provide real value in the workplace without sacrificing job security; employers actively resist union organizing efforts; and the NLRA, as currently administered, makes the organization process drawn out, expensive, and uncertain. In this section, we use the sketchy data available on organizing costs to make some crude projections of the costs of increasing new organization.

The union-based new-organization rate we defined in equation 17 is computed relative to the size of the union sector. This is the appropriate measure to use when considering the resources required for new organization. We presented the union-based new-organization rate in Figure 5. Given that union employment is substantially lower than nonunion employment, the rates computed on a union basis are much larger than those computed on a nonunion basis. And, since the union membership rate declined sharply from about 25 percent in 1973 to about 8 percent in 1998 (Figure 3), the gap between the rates computed on a union and nonunion basis has grown over time. Because of the decline in the union membership rate, the time-series behavior of the union-based election and new-organization rates differs substantially from those computed on a nonunion basis. The union-based series actually shows a small increase since the mid-1980s, while the nonunion-based series show a decrease over the same period.

This suggests a reinterpretation of the view that union organizing efforts have declined over time. While this is certainly true in absolute terms, it appears that new organization *per union member* has been roughly constant since the early 1970s. Unions have not cut back on organizing relative to their resources (proportional to their membership). However, since union employment is shrinking, unions would need to increase new organization per union member simply in order to maintain the new-organization rate (per nonunion worker) at recent historic levels. In order to return the nonunion-based new-organization rate to the levels enjoyed in the 1970s (0.34 percent), unions

would have to sustain a union-based new-organization rate of 3.9 percent at the current union membership rate (7.4 percent). The investment per union member to achieve such a level of organization activity has not been seen since the growth spurts of the 1940s and early 1950s. The maximum union-based new-organization rate between 1955 and 1997 was 2.2 percent in 1955 (Farber and Western, 2000).

In order to increase the quantity of organization from its current low level, one of two things must happen: either the cost of organization per unit (per newly organized worker) must decrease or the resources that labor unions devote to organization must increase. The cost of organization depends to a large extent on the legal structure governing organization. This is why the labor movement has lobbied extensively for labor law reform designed to streamline the organization process. However, it appears that the prospects for meaningful labor law reform are dim.

This leaves unions the option of devoting more resources to organization. However, the sums required for a meaningful increase in organizing activity are quite large relative to the "taxable" population (unionized workers). Voos (1984a), in an analysis of the costs of union organizing, found that it cost about $2,100 per new member (in 1998 dollars) on the margin to organize workers between 1964 and 1977.[21] It is unfortunate that more recent data are not available, but this estimate is likely to be a lower bound, given that the organizing environment appears to have become more hostile to union organizing since 1977 and it has become harder to find promising targets for organization.

How much will increased organization cost? With private sector employment running at about 110 million workers, there are about 101 million nonunion workers and about 9 million union members. In order to return the nonunion-based new-organization rate to the levels enjoyed in the 1970s (0.34 percent), unions would have to organize 374,000 workers per year — much more than their current organizing effort of 0.09 percent of the nonunion work force each year (99,000 workers). Our lower-bound estimate of the increase in organizing expenditures is $575.5 million per year (275,000 workers times $2,100 per worker). This is about $64 per union member ($575.5 million divided by 9 million union members). While this does not appear to be a large amount, increasing the new organization rate to its 1970s level would result in a steady-state union membership rate (equation 15) of only 6.4 percent (assuming the 1990s average relative employment growth of $\delta = 0.056$ prevails).

In order to achieve a steady state with 12.25 percent union membership (half the 1973 rate), a union organizing rate of 0.65 percent per year would be required at current employment growth rates. This implies that 715,000 workers be organized each year for an increase of 616,000 per year over the current level. The marginal cost of this increase would be about $1.3 billion per year or about $144 per current union member per year. The present discounted value of this flow, discounted at a 3 percent real rate, is about $4,800 per current union worker.

Currently unions are spending considerably less than this per worker on organizing. Voos (1984b) examined the organizing expenditures of a sample of unions repre-

senting approximately half of the private sector union work force. Her analysis shows that unions were spending about $20 per union member per year (expressed in 1998 dollars), representing about 20 percent of total union expenditures, on union organizing in the early 1970s. Using information provided by Masters (1997) on total expenditures of unions representing 79 percent of private sector union members and Voos's (1984b) finding that about 20 percent of union expenditures were on organizing, our crude estimate of the aggregate amount that unions spent on organizing workers in the private sector is $265 million (1998 dollars), or about $29 per union member. Thus, in order to achieve a new-organization rate that is sufficient to achieve a steady-state union membership rate of 12.25 percent, our lower-bound estimate is that unions would have to increase expenditures on organizing by 500 percent ($144/$29). Given the assumption that current expenditures on organization are 20 percent of total union expenditures, this increase implies that union organizing expenditures would have to be larger than total current union expenditures.

VI. *Summary and Implications*

We decompose the decline in private sector union membership into two components. The first component — traditionally a dominant concern among students of U.S. union decline — describes the success of unions in organizing new members through certification elections. The second component — largely neglected in unionization research — documents the shifts in the level of employment in union and nonunion workplaces. The striking finding of this analysis is that the decline of the union organization rate in the U.S. over the last three decades is due almost entirely to declining employment in union workplaces and rapid employment growth in nonunion firms. Throughout the psotwar period, new union organizing has never been the dominant determinant of the private sector union organization rate. Union organization has been most resilient when union firms could successfully retain employment in comparison to their nonunion counterparts.

Overall, this is a very pessimistic analysis from the perspective of the union movement. It is clear that labor unions in the private sector are caught between the proverbial rock and hard place. On one side, employment growth rates are much lower (even negative) in the union sector relative to the nonunion sector. On the other side, unions have not been able to muster a meaningful amount of new-organizing activity. The bleak picture is summarized by our calculation of the steady state union membership rate (equation 15) of only 2.1 percent assuming current rates of relative employment growth ($\delta = 0.05$) and new organization ($\psi = 0.001$).

The causes of the divergence in employment growth rates between the union and nonunion sectors are fundamentally related to the structure of the U.S. economy. Employment has shifted away from the sectors in which unions were strongest such as manufacturing, transportation, and communications. In manufacturing, the opening of the U.S. economy to global competition undoubtedly has played a role. Capital is extremely mobile, and it is unlikely that owners of capital are willing or able to pay a

wage premium that union workers might command. In transportation and communi-
cation, there has been substantial deregulation that has made it harder for firms to pass
along the union wage premium (Rose, 1987). This is at least part of the reason why
nonunion workers have become less likely to demand union representation (Farber,
1990; Farber and Krueger, 1993), making it harder to organize. It is also part of the
reason why new manufacturing capacity is disproportionately located in regions of the
country which have historically not been friendly to labor unions.[22]

From a more general perspective, the relative rate of union employment growth
can be viewed as an institutional effect because the U.S. system of labor relations
focuses the costs of unionism on union workplaces. This is unusual from a compara-
tive point of view. In Europe, for example, collectively bargained wages are commonly
extended to nonunion firms by employer associations or government regulation
(Traxler, 1994). Consequently, the labor costs of European employers do not depend so
strongly on the union status of their employees. The European experience suggests pol-
icy instruments are available to equalize labor costs and control differential employment
growth across the union and nonunion sectors. Obviously, though, the possibility of
adopting European-style contract extensions seems unimaginable — if not bizarre —
in the current American context.

Consequently, new union organizing bears a massive burden. The rate of job cre-
ation in the U.S. is large (about 2 percent per year), and most new jobs are born
nonunion. The current rate of new organization (0.1 percent of the nonunion work force)
is sufficient to organize only 5 percent of the *new* jobs, let alone organize many exist-
ing jobs. The quantity of organizing activity required to make a substantial difference
in the steady-state unionization rate is simply staggering, particularly when measured
as a fraction of existing union employment. With the current union membership rate
of about 8 percent, union-based new organization rates are 11.5 times higher than the
nonunion-based organization rates (0.92/0.08), holding the absolute quantity of new
organization fixed. We determined earlier that at current levels of relative employment
growth, the new-organization rate would have to increase by over 6 times (from 0.09
percent to 0.65 percent) to yield a steady-state union membership rate of 12.25 per-
cent. But this would require that the unions organize each year new members equal to
7.5 percent of their current membership.

It is hard to conceive of a reform of the NLRA that would yield a such a substan-
tial increase in new-organization, even in the short run. Suppose that a very substantial
change to the NLRA were enacted, such as a move to recognition based on card checks,
however politically unlikely this seems. Suppose we assume that this could double new
union organization in the short run. Could this be kept up in the long run as unions try
to organize less favorable targets over time? This seems to us unlikely. And a doubling
of the new-organization rate from its current level, given current relative employment
growth rates, will have very little impact on the steady-state union membership rate.

The first-contract problem, which is ignored in our analysis, implies that actual
new-organization rates are about one-third lower than our already low measure, which

is based on election wins. If we assume a reform of the NLRA that provides for first-contract arbitration, then we simply get back to the pessimistic picture painted by our analysis.

Historically, American unions have grown during extraordinary periods of social or economic upheaval — most recently during depression and wartime — that resulted in massive new organizing efforts. Absent such upheaval, a resurgence of the labor movement in the private sector must rely on bringing the union and nonunion employment growth rates into rough equality. This can only happen if the union movement is transformed in a way that makes owners of capital indifferent between investing in the union and nonunion sectors. To the extent that unions transfer wealth from owners of capital to workers (a reasonable interpretation of union goals and actions), it is hard to see how this will happen, and it seems inevitable that the union membership rate in the private sector will continue to erode.

NOTES

*An earlier version of this paper was drafted while Western was a visiting fellow at the Russell Sage Foundation, New York. Useful comments on the earlier version were received from participants in workshops at the Federal Reserve Bank of New York, Harvard University, McGill University, Princeton University, and the University of Chicago.

[1] A wave of legislation at the state level was passed between the late 1950s and the 1970s that permitted and regulated unionization of public sector workers (Farber, 1988). With this legislation in place, public sector workers were able to organize, largely because the political process gives employers neither the tools nor the incentives to resist organization effectively. See Freeman (1986) for an analysis of the growth of labor unions in the public sector.

[2] It is no trivial exercise to derive a consistent series on union membership rates over such a long period of time. We use the series developed by Freeman (1998, Table 8A.2) for the period 1880–1995. These data are derived from a variety of sources, described in detail by Freeman. In order to extend the series for the 1995–1998 period, we used predicted values from a regression of Freeman's union membership series from 1973–1995 on our own series on annual union membership rates from the CPS over the 1973–1995 period. This regression fits very well over the 1973–1995 period ($R^2 = 0.953$). We then use our data on annual union membership rates from 1996–1998 in conjunction with the estimated parameters of this regression model to predict values for "Freeman's" series from 1996–1998.

[3] There is a extensive literature investigating the process of union growth. Some contributions include Barnett (1933), Davis (1941), Dunlop (1948), Bernstein (1954), and Ashenfelter and Pencavel (1969).

[4] These data are derived from the May CPS from 1973–1981 and from the merged outgoing rotation group files of the CPS from 1983–1998.

[5] The increase in the public sector union membership rate early in the period is due largely to new organization following enactment of laws in many states guaranteeing the rights of public sector employees to unionize. Farber (1988) presents an analysis of the evolution of public sector bargaining laws. In the same volume, Ichniowski (1988), Saltzman (1988), and Freeman and Valletta (1988) present analyses of the effect of public sector bargaining laws on the union status of public sector workers.

[6] There is no information on union coverage available from the CPS prior to 1978. The CPS questions since 1977 (but not on the public-use data file until 1978) first ask if an individual is a union member. If the response is "no," the individual is asked if he or she is covered by a collective bargaining agreement on his or her main job.

[7]Note that, due to data limitations, it is not possible to identify union members who are not covered by collective bargaining agreements. This is likely to be relatively important in the public sector where workers (e.g., some school teachers, some federal employees) may belong to union-like organizations that do not bargain with their employers.

[8]Freeman (1984) also analyzes the data from the 1977 CPS validation survey as well as data from the May 1979 CPS, and he finds response errors of similar magnitude.

[9]Our framework is similar to Freeman's (1988). Dickens and Leonard (1985) also present a related framework for understanding union decline.

[10]The rate of "deunionization" of existing union jobs through NLRB-supervised decertification elections is trivial as a fraction of union employment and is subsumed in the sector-specific employment growth rates.

[11]The assumption is that all new establishments are nonunion and must be organized in order to become union.

[12]Farber (2001) presents an analysis of the decline in union success that focuses on the fact that union success fell more sharply in large units than in small units.

[13]See also, Prosten (1978) and Cooke (1985). The NLRA provides that unions have one year from the date of certification as the bargaining agent of the workers to negotiate a contract. If no contract is negotiated in that time, the union is no longer recognized as the bargaining agent.

[14]We make no explicit adjustment in our analysis for the fact that certain groups of private sector workers, managers most importantly, are explicitly exempted from coverage/protection under the NLRA. Another important group not covered by the NLRA consists of workers in transportation industries (well under ten percent of private sector employment) covered by the Railway Labor Act. However, it is clear from exploratory analysis that our results would not be affected in any important way by excluding non-covered workers.

[15]Lack of data requires that we ignore the fact, noted above, that unions have not been able to negotiate a first contract in many cases where they have won a representation election.

[16]We exclude the unincorporated self-employed from the calculations of the fractions from the CPS. All shares are computed using the CPS final sampling weights.

[17]Farber (2001) develops a model of union organizing activity with these implications.

[18]Measured employment growth in the union sector overstates growth in existing union workplaces because it includes newly organized workers. Measured employment growth in the nonunion sector understates growth in that sector because some nonunion jobs were organized. The adjustments take account of this new organization.

[19]An extreme example of the difference in employment growth rates is that in 1983 union employment fell by 17.3 percent while nonunion employment grew by 4.3 percent, which implies a value of of 0.26.

[20]Obviously, the exception to this is that jobs created through growth of employment in existing union establishments are union at "birth."

[21]Voos reports that the marginal cost of organization ranged from $580 to $1,568 per worker in 1980 dollars, depending on the particular statistical controls used. We used the mid-point of this range and adjusted to 1998 dollars using the CPI-U.

[22]For example, a number of the foreign automobile manufacturers who have built production plants in the U.S. have chosen to locate in the South: BMW in South Carolina, Toyota in Tennessee, and Mercedes-Benz in Alabama.

REFERENCES

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

Bain, George Sayers and Robert Price. *Profiles of Union Growth: A Comparative Statistical Portrait of Eight Countries.* Oxford: Blackwell, 1995.

Barnett, George E. "American Trade Unionism and Social Insurance." *American Economic Review* 23 (March 1933): 1-15.

Bernstein, Irving. "The Growth of American Unions." *American Economic Review* 44 (June 1954): 301-18.

Bronfenbrenner, Kate, Sheldon Friedman, Richard W. Hurd, Rudolph A. Oswald, and Ronald L. Seeber, eds. *Organizing to Win: New Research on Union Strategies.* Ithaca, N.Y.: ILR Press, 1998.

Card, David. "The Effect of Unions on the Structure of Wages: A Longitudinal Analysis." *Econometrica* 64 (July 1996): 957-99.

Cooke, William N. "The Failure to Negotiate First Contracts: Determinants and Policy Implications." *Industrial and Labor Relations Review* 38 (January 1985) 163-78.

Davis, Horace B. "The Theory of Union Growth." *Quarterly Journal of Economics* 55 (August 1941): 611-37.

Dickens, William T. and Jonathan S. Leonard. "Accounting for the Decline in Union Membership, 1950–1980." *Industrial and Labor Relations Review* 38 (April 1985): 323-34.

Dunlop, John T. "The Development of Labor Organization: A Theoretical Framework." In Richard A. Lester and Joseph Shister, eds. *Insights into Labor Issues.* New York: Macmillan, 1948.

Farber, Henry S. "The Evolution of Public Sector Bargaining Laws." In Richard B. Freeman and Casey Ichniowski, eds. *When Public Sector Employees Unionize.* Chicago: University of Chicago Press, 1988, pp. 129-66.

_____. "The Decline of Unionization in the United States: What Can Be Learned from Recent Experience?" *Journal of Labor Economics* 8 (January 1990): S75-S105.

_____. "Union Success in Representation Elections: Why Does Unit Size Matter?" *Industrial and Labor Relations Review* 54 (January 2001): 329-48.

_____ and Alan B. Krueger. "Union Membership in the United States: The Decline Continues." In Bruce Kaufman and Morris Kleiner, eds. *Employee Representation: Alternatives and Future Directions.* Madison, Wisc.: Industrial Relations Research Association, 1993, pp. 105-34.

Farber, Henry S. and Bruce Western. "Round Up the Usual Suspects: The Decline of Unions in the Private Sector, 1973–1998." Working Paper No. 437, Industrial Relations Section, Princeton University, April 2000.

Freeman, Richard B. "Longitudinal Analyses of the Effects of Trade Unions." *Journal of Labor Economics* 2 (January 1984): 1-26.

_____. "Unionism Comes to the Public Sector." *Journal of Economic Literature* 24 (March 1986): 41-86.

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

_____. "Spurts in Union Growth: Defining Moments and Social Processes." In Michael D. Bordo, Claudia Goldin, and Eugene N. White, eds. *The Defining Moment: The Great Depression and the American Economy in the Twentieth Century.* Chicago: University of Chicago Press, 1998, pp. 265-95.

_____ and Robert G. Valletta. "The Effects of Public Sector Labor Laws on Labor Market Institutions and Outcomes." In Richard B. Freeman and Casey Ichniowski, eds. *When Public Sector Employees Unionize.* Chicago: University of Chicago Press, 1988, pp. 81-106.

Ichniowski, Casey. "Public Sector Union Growth and Bargaining Laws: A Proportional Hazards Approach with Time-Varying Treatments." In Richard B. Freeman and Casey Ichniowski, eds. *When Public Sector Employees Unionize*. Chicago: University of Chicago Press, 1988, pp. 19-40.

Levy, Paul Alan. "The Unidimensional Perspective of the Reagan Labor Board." *Rutgers Law Journal* 16 (1985): 269-390.

Macpherson, David A. and James B. Stewart. "The Effect of International Competition on Union and Nonunion Wages." *Industrial and Labor Relations Review* 43 (April 1990): 434-46.

Masters, Marick F. *Unions at the Crossroads*. Westport, Conn.: Quorum Books, 1997.

Mellow, Wesley and Hal Sider. "Accuracy of Response in Labor Market Surveys: Evidence and Implications." *Journal of Labor Economics* 1 (July 1983): 331-44.

Prosten, Richard. "The Longest Season: Union Organizing in the Last Decade, a/k/a How Come One Team Has to Play with Its Shoelaces Tied Together?" *Proceedings of the Thirty-First Annual Meeting of the Industrial Relations Research Association*. Madison, Wisc.: IRRA, 1978, pp. 240-49.

Rose, Nancy L. "Labor Rent Sharing and Regulation: Evidence from the Trucking Industry." *Journal of Political Economy* 95 (December 1987): 1146-78.

Saltzman, Gregory M. "Public Sector Bargaining Laws Really Matter: Evidence from Ohio and Illinois." In Richard B. Freeman and Casey Ichniowski, eds. *When Public Sector Employees Unionize*. Chicago: University of Chicago Press, 1988, pp. 41-80.

Traxler, Franz. "Collective Bargaining Levels and Coverage." *OECD Employment Outlook*. Paris: OECD, 1994, pp. 167-94.

Troy, Leo. "The Rise and Fall of American Trade Unions." In Seymour Martin Lipset, ed. *Unions in Transition: Entering the Second Century*. San Francisco: ICS Press, 1986.

Voos, Paula B. "Does It Pay to Organize? Estimating the Costs to Unions." *Monthly Labor Review* 107 (June 1984a): 43-44.

_____. "Trends in Union Organizing Expenditures, 1953–1977." *Industrial and Labor Relations Review* 38 (October 1984b): 52-63.

Weiler, Paul C. "Promises to Keep: Securing Workers' Rights under the NLRA." *Harvard Law Review* 96 (1983): 1769-827.

_____. "Striking a New Balance: Freedom of Contract and the Prospects for Union Representation." *Harvard Law Review* 98 (1984): 351-20.