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Structural, Microeconomic and Institutional Explanations for Union Decline in the United States

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1. Introduction

The private sector work force in the United States is becoming a non-union work force. In the 50's and 60's, one third of private sector (nonagricultural) workers were unionized. As of 1986, 17 percent of private sector workers were unionized and the downward trend continues into the 1990's (Blanchflower and Freeman, 1992, Table 1, p. 59).

Outside of the United States, aggregate union density was stable or increasing in many OECD countries during the 1970's. This pattern changed during the 1980's with many countries experiencing absolute declines in union density nearly as great as those observed in the United States over the same period (Blanchflower and Freeman, 1992). The cross-national, downward trend in union density raises a fundamental question : is the phenomenon of de-unionization limited to the United States or is it a global phenomenon in which the U.S. experience presages that of the rest of the world? Answering this question requires the development of adequate explanations for changes in union density in the United States.

The economics and industrial relations literature offers three broad classes of explanations for union decline[1]. The first, which we call "structural" explanations, emphasize shifts in employment towards individuals, sectors or regions that are inherently hostile to unionization. The second class of explanations are microeconomic. Microeconomic explanations of union decline emphasize the incentives shaping the decisions of individuals and organizations to support or resist unions. The third class of explanations are institutional. Institutional explanations for union decline focus on the manner in which the employment relationship in unionized firms is shaped by the institutions regulating the industrial relations system. A common theme in these institutional explanations is that the kind of employment relationships protected and supported by the National Labor Relations Act are becoming increasingly costly to employers. Failure to "transform" the nature of the employment relationship in unionized firms will, over time, increase the incentives employers have to resist unions.

What follows is a brief outline of the structural, microeconomic and institutional approaches towards understanding the process of union decline in the United States.

2. Structural Explanations of Union Decline

The structural explanation for union decline in the U.S. assumes the existence of individuals or jobs that are inherently hostile to unions. If shifts in labor supply or demand increase the importance of these "union hostile" industries, occupations, and workers then aggregate union density will decline.

Many structural analyses of union decline employ the two-step procedure used in Freeman and Medoff (1984)[2]. First, cross-sectional union membership equations are estimated in order to identify the effect that such factors as gender, industry and occupation have on the probability that an individual is a union member. Second, the coefficients of the union membership equations are used to predict the change in aggregate union density that would result from changes in these structural factors over time. Freeman and Medoff (1984) estimate that 72% of the decline in unionization in the United States between 1956 and 1980 can be accounted for by changes in the age, gender, education, occupation, industry and regional composition of the work force.

Freeman and Medoff's study presumes the effects of structural variables are fixed over time. In an analysis of more recent experience in the United States, Farber (1990) relaxes this assumption by estimating separate, cross-sectional union membership equations for 1977 and 1984. Farber finds that 20% of the predicted decline in union membership between 1977 and 1984 can be accounted for by changes in labor force structure. The rest can be accounted for by falling probabilities of union membership within sectors.

Yet another approach to identifying structural causes for the decline in union density in the United States is to analyze the flows of employees into and out of union jobs. The logic behind this approach is conveniently summarized by the following steady state relationship (see Freeman, 1988 ; for a discussion).

$$(1)\quad UDENS \cong \frac{PCTNEW}{r+g}$$

Equation (1) implies that changes in the steady state level of union density are a function of three factors: the rate of decline of employment in unionized establishments (r) ; the rate of growth of the labor force (g) ; and the fraction of the labor force that joins unions through certification elections (*PCTNEW*). One way of assessing the importance of structural factors to union decline is to estimate the contribution that r and g make to declining union density.

Dickens and Leonard (1983) present an analysis of changes in union density using concepts quite close to those in equation (1). From National Labor Relations Board data on certification and decertification elections, they calculate the total change in union membership attributable to these elections. The remainder of the change in union membership is due to the reduction of employment in unionized establishments resulting from layoffs or plant closings.

In terms of equation (1), Dickens and Leonard's results suggest that r was generally positive over the period 1950-1979[3]. This means that even if unions had succeeded in organizing the same fraction of the work force throughout the period (i. e. if *PCTNEW* were fixed), union density would have fallen. However, Dickens and Leonard's analysis also reveals that unions in the United States have become much less successful in organizing new members. Between 1950-54, union organizing efforts led to certification elections covering 2.5% of unorganized, private, non-agricultural employees per year. By 1975-79 this organizing rate had fallen to 0.97%. Unions in the early fifties also had a high success rate in these elections. Between 1950-54, 76% of eligible voters in union elections chose unions. By 1975-79 this figure had fallen to 37%.

The decline in organizing success appears to be much more important in explaining union decline than structural factors. Indeed Dickens and Leonard estimate that if unions had maintained organizing and success rates at their peak 1950's levels, they could have prevented nearly 63% of the decline in aggregate union density.

3. Microeconomic Explanations of Union Decline

Microeconomic explanations of union decline presume an institutional environment in which employers and unions contest for employees——usually through campaigns leading up to certification elections. The unifying theme of this approach is that unions and employers can directly affect the process of unionization by deciding how strongly they wish to support or resist union organizing activity. Unions and employers decide how many resources to devote to supporting or resisting unions by evaluating the marginal costs and benefits of these actions. In a stable economic and institutional environment, an equilibrium level of unionization will emerge from this process. Changes in the level of unionization will result from exogenous changes in the environment that alter the cost-benefit calculations of unions and employers.

The most influential of the microeconomic studies of union decline are contained in a series of papers by Richard Freeman and various co-authors[4]. These studies build an argument that the process of de-unionization is most rapid in the United States because of the high (and rising) level of resistance of U.S. employers to union organizing activities. The decision of U.S. employers to resist unions is, in turn, the consequence of an economic environment in which the marginal benefits of opposing unions is high (and increasing) relative to marginal costs.

At least for the United States, the motive for employers to resist unions seems clear-unions substantially depress profits (Bronars and Deere, 1990 ; Voos and Mishel, 1986). A number of studies also indicate that various forms of employer resistance are effective in keeping employees from supporting unions (see Dickens, 1983 ; Freeman and Kleiner, 1990 ; Kochan, McKersie and Chalykoff, 1986 ; Seeber and Cooke, 1983).

Employer resistance to union organizing was increasing throughout the 1970's and 1980's. This can be illustrated by looking at one measure of employer resistance-unfair labor practices. Using data from Abowd and Farber(1990), I calculated the log of the number of unfair labor practice cases in a year relative to the number of voters eligible to vote in union certification elections. Data was available to construct this measure for 18, two digit manufacturing industries between 1954 and 1986[5]. For each industry I regressed this measure of employer resistance against two time trends, the first beginning in 1954 and the second beginning in 1974. For each of the 18 industries, I found a positive coefficient on the post 1973 time trend and in 11 cases the post 1973 trend was statistically significant. These results suggest widespread increases in employer resistance to unions during the 1970's and 1980's.

The timing of the increase in employer resistance corresponds with the secular reduction in union organizing activities. To illustrate this I constructed a measure of union organizing activity (*ORGANIZE*) for two digit industries over the years 1973-1986[6]. I then estimated the following pooled cross-section/time-series model

$$ORGANIZE_{it} = a_0 + a_1\, TREND\ 74_t + a_2\, DGNP_t + a_3\, DENSITY_{it} + a_4\, INDUSTRY_i + e_{it} \tag{2}$$

where *ORGANIZE* measures union organizing intensity in industry i at time t; *TREND74* is a time trend equal to 1 in 1974; *DGNP* is the change in real GNP over the previous year; *DENSITY* is the union density in industry i at time t; *INDUSTRY* is a vector of industry dummy variables capturing industry fixed effects and ε is an error term.

Ordinary least squares estimates of equation (2) are presented in column 1 of Table 1. Most importantly for our purposes, the time trend variable (*TREND74*) is negative and statistically significant. This means that since 1974 there has been a secular decline in union organizing activity. The second column of Table 1 re-estimates equation (1), but adds a variable measuring the frequency with which employers engage in unfair labor practices (*RESIST*)[7]. The coefficient on *RESIST* is negative and statistically significant. This means that union organizing activity falls as illegal employer resistance increases. Moreover, the coefficient on the time trend becomes small and statistically insignificant. This suggests that the downward secular trend in union organizing activity coincides with an increase in employer resistance to unions.

One potentially important feature of the results in Table 1 is the positive and statistically significant effect of union density in the industry (*DENSITY*) on new organizing activity. This coefficient suggests a multiplier effect. Reductions in union organizing activity have the effect of reducing union density and this, in turn, further reduces organizing activity in the industry.

Table 1. Trends in Union Organizing Intensity 1974-1986 $

[Data described in Abowd and Farber, 1990]

Dependent Variable	ORGANIZE	ORGANIZE
[mean]	[-5.324]	[-5.325]
Independent Variables:		
TREND74	−0.093	0.001
(t-statistic)	(−15.983)	(0.257)
[mean]	[6.449]	[6.449]
RESIST@		−0.892
		(−24.019)
		[−2.738]
DGNP	−1.252	−1.098
	(−1.994)	(−2.706)
	[0.026]	[0.026]
DENSITY	3.591	2.879
	(5.330)	(6.602)
	[0.161]	[0.162]
INDUSTRY FIXED EFFECTS	yes	yes
CONSTANT	yes	yes
Adj. R^2	0.900	0.958
N	450	450

$ The measure of union organizing activity is the log (X/1-X) where X is the ratio of the number eligible to vote in union certification elections as a fraction of the non-union workforce in an industry in a given year.

@ RESIST is a measure of employer resistance to unions. It is the log of the ratio of unfair labor practices to eligible voters in certification in elections in an industry in a given year.

Comparing columns 1 and 2 of Table 1 it is tempting to conclude that the decline in union organizing activity is the result of increases in employer resistance to unions. However, it is also possible that increases in employer resistance to unions are the result of reduced union organizing activity and not the other way around. To establish a causal connection between employer resistance and union organizing activity, it is necessary to first *identify* the reasons for increasing employer resistance to unions and secondly to find instances where this motive for increased resistance is especially weak or strong. If the pattern of union decline corresponds to the strength of employer incentives to resist unions, then the conclusion that employer resistance is driving de-unionization may be justified.

Freeman and his various co-authors argue that heightened employer resistance to unions in the United States results from two factors. First, the costs of unionization have increased due to the growing wage differential between union and non-union jobs. Second, features of private sector labor law in the United States make it relatively easy for employers to resist union organizing efforts by legal or illegal means[8].

An alternative explanation for rising employer resistance to unions focuses on changes in product market conditions. There is good reason to believe that unionized firms in the United States face increasing competition from foreign competitors. In 1958 only 2.5% of manufacturing sales in the U.S. were imports. By 1984, the figure was 11.0% (Farber, 1990, s96). Estimates using bargaining unit level data indicate that rising import penetration has a large negative effect on employment and wages in unionized establishments (Abowd and Lemieux, 1990). The de-regulation of product markets in such important union strongholds as trucking and de-regulation has effects similar to rising foreign competition.

Abowd and Farber (1990) analyze the effect of changing product market conditions on the process of union organizing. They construct measures of quasi rents for 35 different industries in the United States from 1954-1986. They then use these measures to explain changes in union organizing activities and employer resistance to unions[9]. They find that as quasi-rents in an industry fall, union organizing activity and employer resistance to unions fall. However movements in industry quasi-rents cannot explain the post 1973 downturn in union organizing activity or the post 1973 upturn in employer resistance to unions.

A final factor emphasized in microeconomic explanations of declining union organizing activity over time is changes in the preferences and attitudes of non-union workers. Reduced employee propensities to support unions might also explain the rise in employer resistance to unions if the change in employee preferences increases the marginal effectiveness of resources devoted to union resistance. Farber (1990) analyzes survey data from 1977 and 1984 and found that the fraction of nonunion workers desiring union representation fell from 38.6% to 33.0%. During this same period the proportion of non-union workers reporting overall satisfaction with their job (or with their pay or job security) increased while the fraction indicating that unions improve wages and working conditions fell. Analyses suggests that all of the decline in non-union workers' demand for union representation can be accounted for by these changes in reported job satisfaction and perceived union effectiveness.

The finding that satisfaction with pay and job security increased between 1977 and 1984 is surprising in light of the stagnation in real wages and the severe recessions that occurred over this period. Similarly, the reduction in the proportion believing that unions improve wages and working conditions is hard to reconcile with the rising union wage premium observed during the 1970's and 1980's. Perhaps these responses are based upon mis-perceptions resulting from poor public relations or inadequate organizing efforts on the part of unions[10]. Alternatively it may be that workers correctly perceive the effects of unions and estimates of the union wage premium overstate the ability of unions to improve the wages and working conditions of workers currently in the non-union sector of the economy.

4. Institutional Explanations of Union Decline

The studies reviewed in the preceding section paint a picture of accelerating union decline caused by rising employer resistance to unions in an institutional setting that allows employers the freedom to conduct effective anti-union campaigns. A common feature of these studies is the highly abstract view they take of the employment relationship. Workers sell their labor services to employers for a wage. Firms are moved to resist unions (and employees moved to support them) because unions raise the price at which these services are sold.

Institutional explanations also trace the decline of unions in the United States to the rising economic incentives of employers to resist unions. Institutional explanations differ from microeconomic explanations in that they see these incentives as arising from organizational factors. This difference in perspective is important for both theoretical and empirical reasons. Theoretically, the institutional account's emphasis on organizations force the level of analysis to a lower level of abstraction than that typically found in microeconomic accounts. Empirically, institutional explanations suggest that much of the employer resistance to unions (and by implication many of the strategies for reversing the process of union decline) results from features of the employment relationship in unionized firms that are completely missing from microeconomic accounts.

4. 1. The Employment Relationship in Union and Nonunion Firms

Beginning in the 1930's and increasingly until the 1980's, employment relationships in unionized firms in the United States were characterized by job control unionism (Kochan, Katz and McKersie, 1986). Under this system, unions and employers set up contractually specified internal labor markets in which jobs were narrowly defined, wages were linked to jobs, and progress along a job ladder was determined largely by seniority. Labor contracts carefully demarcated the roles of management and unions. Management reserved for itself the right to make decisions concerning the nature of production and investment. With rare exceptions, the union's role was limited to policing the terms of the contract and bargaining over wages and benefits (Brody, 1984).

Management's desire to preserve its decision making prerogatives and labor's strategy of limiting the shop floor authority of supervisors through narrowly specified job descriptions fundamentally shaped the organization of the production process in unionized firms. Wherever possible, decision making authority was moved away from production workers towards management. As a part of this process, management also came to rely upon the information that supervisors sent up the corporate hierarchy rather than making use of the information available to non-supervisory workers on the shop floor.

According to institutional accounts, job control unionism developed in an era when firms relied upon a specific technological strategy-mass production. Mass production was characterized by the use of special purpose machines and semi-skilled workers performing specialized tasks to produce standardized goods. To be successful, this kind of technological strategy requires large and stable markets and long production runs to reduce the unit cost of the fixed investments in special purpose tools and equipment (Piore and Sabel, 1984).

The development of new information technologies and changes in product markets led many firms in the 1980's to move away from mass production towards flexible production methods. These new production methods demand a new adaptability from both workers and machines. For workers, this adaptability requires that they master a large range of different job skills and tasks so that they can respond quickly and easily to changes in product mix. The low levels of inventories and high levels of quality made possible by the new production methods benefited firms able to make use of the tacit information and decision making abilities of production workers.

The hypothesized increase in demand for worker participation and decision making resulting from a shift in production methods suggests an alternative source of rising employer resistance to unions: employer resistance to unions increased in the 1980's because the system of job control unionism is inconsistent with flexible, production methods that rely upon high levels of employee adaptability and participation in production. The distinctive contribution of the institutional literature is the claim that the causes of union decline lies, in part, in the effect that unions have on the problem transforming shop floor organization to accommodate high levels of worker participation[11).

At the most basic level, the system of job control unionism requires that any transformation of the jobs of production workers be negotiated with the union. This process of negotiation is difficult because of the high level of mistrust that characterizes union-management relations in the United States.

The difficulties of negotiating higher levels of employee participation in a unionized firm are compounded by the conception of the roles of employees and their unions that is embodied in United States' labor law. The National Labor Relations Board(NLRB) defines management, supervisors and employees in terms of their respective functions. The role of management is to decide overall policy, supervisors to direct the work force and labor to perform directed tasks. The union's role is to protect employees in ways that do not interfere with management or supervisory functions (Stone, 1988, pp. 139-140). This functional conception is designed to protect employees who do not exercise power through stock ownership, board of director membership or collective participation in management. Indeed unions that sit on boards of directors or represent employees who exercise significant power in decision making (e.g. university professors) may be disqualified by the NLRB.

The nature of American unions and labor law make more difficult the transformation from a low trust, low employee involvement, mass production strategy to a high trust, high employee involvement, flexible production strategy. However, the presence of these obstacles cannot, by itself, account for rising resistance to unions among American managers. To complete the argument it is also necessary to show that transforming workplace organization is significantly easier or less costly in a non-union setting. Comparing the possibilities for transformation in union and non-union settings is complicated because unions may offer some important advantages to firms seeking to introduce high participation work systems.

Unions can facilitate the introduction of new, high participation work systems by increasing the credibility of employer commitments to the new system. For example, gain sharing schemes call for the establishment of well understood performance goals. Should the company achieve its predetermined goals (such as reducing unit costs or increasing productivity), the gains that result will be shared with the workers. The union, through its powers to negotiate contracts and go on strike, can help establish mutually agreeable performance measures and goals. Even more importantly, unions can ensure that employers will not renege on their promises once the performance goals are reached.

Although unions may offer employers some advantages in introducing high participation work systems, it is not clear that these advantages matter in practice. In some instances unions have facilitated a transformation of industrial relations (see for example the case of Xerox described in Cutcher-Gershenfeld, 1988). However, in other instances unions and management have not been able to fully implement high participation work systems (Brown, Reich and Stern, 1992). In addition, recent developments in U.S. labor law appear to limit the ability of unions to bargain over aspects of the employment relationship that are important for assuring job security for their members. Since the promise of continued employment is key to motivating workers to use their tacit information in the interests of the enterprise, these changes in labor law inhibit the ability of unions to make employer commitments credible (Stone, 1988)[12)].

If employer resistance to unions results from the obstacles unions place in the process of transforming work organization, innovative participation programs should be more rare (or less effective) in union than non-union enterprises. Two recent studies have undertaken a comparison of the diffusion and effectiveness of high participation work systems in union and non-union firms. The first study, by Eaton and Voos (1992), makes use of a General Accounting Office (GAO) survey of three hundred and thirteen, Fortune 1000 companies to compare the extent of personnel innovations in union and non-union firms. In their analysis, Eaton and Voos divided the companies surveyed into non-union and partly unionized firms. A substantial proportion of both types of companies report implementing employee participation programs. Some of these participation programs were more wide spread at union firms than nonunion firms (e. g. quality circles and teams) while others were more prevalent at non-union than union firms (e. g. profit sharing). In general, however, there was no statistically significant difference between firms in the union and non-union groups. Moreover, it does not appear that employee participation programs are very widely disseminated within either the union or non-union companies surveyed. The mean extent of employee exposure to these programs exceeded 20% only for profit-sharing, employee stock option plans, and the use of employee surveys (Eaton and Voos, 1992, p. 185, Table 3).

The second study comparing employee participation plans in union and nonunion firms is by Kelley and Harrison (1992). In contrast to Eaton and Voos, Kelley and Harrison focus their attention on a particular manifestation of employee participation-joint labor management problem solving committees. Kelley and Harrison also restrict their attention to a particular sector of American manufacturing-metal machining. Their measure of the firm's reliance on employee information and decision making is whether or not blue collar workers regularly write computer programs to run the numerically controlled machines. Kelley and Harrison find that joint labor management problem solving committees were associated with increased reliance on employee information and decision making—but only in unionized plants with problem solving committees that introduced programmable automation in the five years prior to the survey year, 1987. This result suggests that, at least in metal working, unions may be important for eliciting higher levels of employee involvement than would otherwise be possible.

4. 2. The Role of Rationality in Institutional Explanations of Union Decline

The discussion of the institutional literature on union decline has so far emphasized the problem of transforming established patterns of work organization. However, there is another theme in the institutional approach that also distinguishes it from the microeconomic literature on union decline.

The microeconomic literature generally adopts the assumption that unions, employees and employers maximize some well understood objective function subject to some well understood constraints. In the institutional literature the key players act more like 'satisficers' rather than maximizers. When deciding upon personnel policies, firms generally do not have detailed knowledge of personnel practices other than those they are currently using.

The absence of a clear understanding of the alternatives that may be available introduces a role for institutional inertia and norms in the institutional approach that is missing from the microeconomic approach. Jacoby (1990), for example, argues that

> "[o]pposition to unions, as expressed in unitarian managerial philosophies, derives from a set of *beliefs*—in the virtues of individualism, in the employer's freedom to control his property without interference from government or unions...., and in the economic harm caused by unions—rather than from a careful weighing of the actual costs and benefits of unionism.... In other words, economic factors influence the feasibility and timing of hostile management actions, but are not the sole or even the most important determinant of management's hostile attitudes and beliefs." (Jacoby, 1990, pp. 26-27).

Unfortunately, social scientists do not yet have a theory of the development and dissemination of group norms. In the absence of such a theory it is difficult to assess the importance that norms (or changing norms) play in the process of union decline. If, as Jacoby suggests, norms relating to unions have their roots in deep and largely invariant features of American culture, then there is little that can be done to alter the fundamentally hostile attitude of American employers to unions. One could then conclude, with Jacoby, that the growth of unions during the 1930-1960 period was an historical aberration and that the decline of unions is a return to the "normal" situation that prevailed over the hundred years prior to 1930 (Jacoby, 1990, p. 22). Alternatively, if norms refer to the cognitive models that managers adopt in order to make decisions when the various alternatives are only dimly perceived, a different conclusion can be supported. Government, labor unions and employers may be able to shape employer norms towards unions by creating and publicizing successful models of union-management cooperation in implementing high participation work systems (Kochan and McKersie, 1992).

5. Conclusion

This paper has reviewed structural, microeconomic and institutional explanations for declining union density in the United States. The fundamental result emerging from the structural and microeconomic literature is that declines in union density cannot be accounted for by shifts in the occupational, demographic or industrial composition of the work force. Rather the source of union decline lies with the increased difficulties unions have in organizing new workers and new firms. Rising employer resistance and declining employee interest in unions both appear to play some role in this process. However the extent to which these factors are the result rather than the cause of the process of union decline is not clear.

The institutional explanations of union decline raise the question whether unions facilitate or inhibit the implementation of effective, high participation work systems. Theoretical and institutional considerations suggest that either outcome is possible and the empirical research reviewed here does not settle the issue one way or the other. Clearly, more research on the diffusion of high performance work systems in union and non-union environments is required to substantiate the role that changes in demand for workplace innovation have on employer resistance to unions. Even if rising employer resistance to unions is not directly the result of the barriers unions place on transforming workplaces, unions may be able to achieve a stable accord with employers if they can facilitate the successful implementation of high participation work systems.

The clear message of the institutional literature is that reversing the decline of organized labor requires that unions establish themselves as catalysts for making employee participation a success. Adopting such a role has important implications for the industrial relations system in the United States. Unions, in particular, will be pressed to abandon practices they relied upon in the past to protect themselves against hostile employers. At the shop floor level, these changes will require giving up the system of job control unionism that characterized the post New Deal system of industrial relations. At the national level, unions will have to adopt more decentralized bargaining methods and may also have to consider enterprise unions as a means of establishing flexible contracts suited to the needs of a given firm or enterprise (Jacoby and Verma, 1992; and Jacoby, 1989). Implementing these changes may also require removing barriers that the National Labor Relations Act places in the development of new cooperative labor-management relationships (Stone, 1988).

Labor unions are already in the process of making many of the changes suggested by the institutional analysis. Difficult as these changes are, they may not be enough to reduce the level of employer resistance to unions. To the extent that employer attitudes towards unions are shaped by historically fixed, cultural norms, there may be little that unions or labor policy can do to lessen employer hostility to unions. If, however, norms are the expression of cognitive models managers use to navigate uncertain waters, then employer hostility may be reduced by establishing and publicizing model programs of labor/management cooperation.

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Notes

I would like to thank Hank Farber for his generosity in making his and John Abowd's data on union organizing activity and employer resistance available to me. I also thank Jody Hoffer-Gittell for her excellent research assistance.

1) This essay offers a brief sketch of the issues raised in the literature on union decline in the United States. Readers interested in a more detailed discussion of literature should contact the author for a working paper under the same title.

2) For an application of this procedure to Britain and Japan see Freeman and Pelletier (1990) and Freeman and Rebick (1989) respectively.

3) In a more recent study, Leonard (1992) found that employment grew 4 percentage points per year more slowly in union than nonunion plants in California. He estimates that as much as 61% of the decline in union density in California may be the result of slow employment growth in unionized plants.

4) See Blanchflower and Freeman (1992), Freeman (1986), Freeman (1988), Freeman and Rebick (1989), Freeman and Pelletier (1990).

5) The data are fully described in Abowd and Farber (1990).

6) The measure of union organizing intensity discussed here is the same as that used in Abowd and Farber (1990). Organizing intensity, X, is measured by dividing the number eligible to vote in certification elections in a given year by the number of non-union employees in the industry. The dependent variable in Table 1 is log(X/1-X).

7) *RESIST* is calculated as the log of the ratio of unfair labor practices to the number of employees eligible to vote in union elections.

8) For evidence supporting these two propositions see Blanchflower and Freeman (1992) ; Freeman (1986) ; Freeman (1988) ; Freeman and Kleiner (1990) ; Freeman and Pelletier (1990); Freeman and Rebick (1989) and Zax and Ichniowski (1990).

9) Quasi-rents are the value added that is available for bargaining between capital and labor. Under plausible conditions, it can be shown that equilibrium union density is an increasing function of quasi-rents. This means that as product market competition increases the union's target level of union density in the industry falls. As a result union organizing activity will fall. The effect of changes in quasi-rents on employer resistance is ambiguous. Increasing product market competition may lead employers to increase or decrease their level of resistance to unions.

10) For an analysis of organizing activity see Voos (1983).

11) The institutional literature also acknowledges that rising union-nonunion wage differentials, deregulation, and rising international competition may also be important in accounting for rising employer resistance to unions (Kochan, Katz and McKersie, 1986). However in this area, the evidence and arguments used in the institutional literature are no different than those developed in the microeconomic literature.

12) Under the National Labor Relations Act (NLRA), unions have a duty to bargain over wages, hours and other terms of employment. This duty to bargain means that management must seek union consultation and consent before taking action. Recent court decisions have diminished the union's right to bargain over employer investment or production decisions. The NLRA's prohibition on 'hot cargo' agreements (i. e. agreements by which an employer agrees to refrain from using or hand ing the products of another employer) have similarly been used to void contractual provisions limiting an employer's ability to subcontract union work to nonunion firms. Contractual agreements to protect union jobs in the face of automation may also be unlawful if the jobs reserved for the union are different from work traditionally performed in the bargaining unit (Stone, 1988).

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