THE INSTITUTIONALIZATION OF AMERICAN INDUSTRIAL CONFLICT:
COLLECTIVE BARGAINING, ARBITRATION, AND WORKING-CLASS MILITANCY
IN THE POSTWAR UNITED STATES, 1948-1980

A Thesis

Presented in Partial Fulfillment of the Requirements for
the degree Master of the Arts in the
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by

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* * * *

The Ohio State University
1990

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For my friends, the members of UAW Local 30, who taught me a great deal about friendship, solidarity and the American working class
ACKNOWLEDGEMENTS

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I would also like to thank my many friends and colleagues for their frequent words of encouragement and sincere friendship.

Finally, I must thank my parents, Eva and Dimitris, and the rest of my family, for their love, help, and assistance over many years, and most importantly, for always having faith in my abilities.
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INTRODUCTION

Sociologists and other researchers of industrial conflict are in general agreement that twentieth-century industrial relations in the United States can be periodized into two distinctive eras: the pre-World War II period, and the postwar period (Snyder, 1977; Kaufman, 1982; Skeels, 1982; Hill, 1984; Rubin, 1986; Wallace, Rubin and Smith, 1988; Wallace, 1989). Prior to the Second World War, labor-management relations were marked by protracted and often bitter struggles between workers and employers. The predominant focus of these struggles was labor's rights to organize and bargain collectively with capital.

These struggles, overwhelmingly militant and often violent, eventually led to the direct intervention of the state, which imposed a legal framework resolving the basic question of workers' rights to self-organize. Labor's legal victories were followed by World War II. Organized labor generally supported the government's war effort and displayed appropriate restraint over worker militancy during the war years. The passage of the Taft-Hartley Act two years after the war's end further shaped the system of industrial relations instituted by the Wagner Act. Although there would be further modification of the legislative framework underlying labor-management relations in the years to come, the basic industrial relations system which would hold throughout the postwar period was firmly in place with the enactment of the Taft-Hartley Act (Skeels, 1982:492). Thus, by 1948, the U.S.
labor movement found itself in a qualitatively different situation than it had occupied prior to the war: it was now unquestionably a legitimate member of the polity (few now questioned organized labor's right to exist). Furthermore, it had proved itself a "responsible" actor in the polity by the restraint displayed during the war. Entry into the polity was accompanied by an institutionalization of class struggle, a routinization of the manifestations of working-class militancy, which would have serious ramifications for the labor movement's ability to wage a class interest-based struggle against capital.

This paper seeks to examine empirically the impact of this highly institutionalized system of industrial relations on working-class militancy in the postwar period (1948-1980). Previous literature suggests that this postwar institutionalization has had a two-pronged effect on labor militancy. First, it has severely restrained labor's use of the disruptive strike weapon; and second, it has shaped the agenda of issues over which the organized labor movement has engaged in militant conflict. This paper assesses the first of these two claims. More specifically, I will endeavor to show how the institutionalization of industrial conflict in the postwar period has dampened the frequency with which workers engage in militant actions, and in turn, how militancy has affected the process of institutionalization.

**THEORY**

For the purposes of this paper, I will follow the definition of "working-class militancy" adopted by Wallace, Rubin and Smith (1988):
"the deliberate withholding of labor power by workers in an attempt to disrupt production and thereby gain leverage in relations with employers or with the state" (1988:1-2), i.e., the strike weapon. Obviously, such a definition has its limitations. "Militancy" of course, can be conceived to include actions other than just the strike: insubordination, boycotts, slowdowns, sabotage, absenteeism, etc. In citing the work of Hibbs (1976), however, Wallace et.al. note that measures of strike frequency "display reasonable validity as indices of the ebb and flow of conflict in the industrial sphere and are presumed to approximate movements in other, less quantifiable expressions of militancy" (1988:2). It can be said that strike frequency (the number of strikes standardized by the labor force), as opposed to other indicators, best taps the militancy of the working class, i.e., its willingness to invoke the disruptive power of the strike, since it indexes the decision to strike.

The Economic Model.

Previous research on strike frequency has centered around two differing theoretical approaches. The first of these is the "economic model," the classic expression of which is the work of Ashenfelter and Johnson (1969). The theoretical underpinnings on which Ashenfelter and Johnson based their research hark back to the "neoclassical" strike theories of Hicks (cf., Cohn and Eaton, 1989; Franzosi, 1989) who argued that strikes are the result of imperfect information on the part of either management, union bargainers, or both. He held that if both sides had perfect information about the other's intentions and
limitations, the potential loser would be able to foresee his imminent loss in a strike, "and would offer a pre-emptive concession" to avert the strike and its attendant costs on both sides (Cohn and Eaton, 1989: 649).^2

As Franzosi (1989:349) notes, Ashenfelter and Johnson extended Hicks' two-party model to include a third party: the union rank-and-file. They argued that although management and union leaders may be perfectly informed, the union membership is not. In fact, Ashenfelter and Johnson held that strikes are the result of union leaders' attempts to bring the membership's unrealistically high wage demands in line with what management can realistically afford to pay. In other words, strikes are attempts by the union leadership to "perfect" the rank-and-file's "information" about management's true abilities to raise wages, and thus bring into proper alignment the membership's wage demands with management's ability to pay. Calling a strike in such a case is beneficial to the union leadership because a strike not only has the effect of lowering workers' expectations, but also allows the leadership to be seen in a good light by the membership: a strike permits leaders to play out their traditional adversarial role against an obstinate management, which may actually "raise their political 'stock' and...unify workers" (Ashenfelter and Johnson, 1969:37).

Ashenfelter and Johnson (1969) hypothesized that workers altered their demands as a result of fluctuating economic factors. Perhaps the most important of these factors is the level of unemployment. High levels of unemployment, they predicted, would serve to lower workers' expectations, and severely limit the appeal of the strike as a means of
achieving their demands; conversely, low levels of unemployment would decrease the rank and file’s opposition to the strike, since there would exist greater opportunities for part-time employment to supplement strike fund payouts to potential strikers (Ashenfelter and Johnson, 1969:40). A second factor taken into account by the rank and file is the previous rate of wage increases. Ashenfelter and Johnson surmised that when real wages have been increasing at a rapid pace, workers’ wage demands would tend to be low (1969:41). Finally, they proposed that the firm’s profit levels would be an influential determinant of the rank and file’s wage demands. High profit levels in recent periods, Ashenfelter and Johnson argued, will tend to raise workers’ wage demands, while simultaneously undercutting the ability and motivation of the union’s leadership to lower the rank and file’s expectations (1969:41).

Using quarterly data, Ashenfelter and Johnson empirically tested their model for the years 1952-1967. The results of the test generally conformed to their expectations. They found that strikes were closely related to the business cycle. In particular, they concluded that aggregate strike activity is related to the degree of tightness of the labor market (the level of unemployment) and the lagged rates of change in real wages (Ashenfelter and Johnson, 1969:47).

Although Ashenfelter and Johnson’s results confirmed their hypotheses, serious questions of theory and methodology persist. First and foremost, bargaining models are founded on a grave theoretical error: by emphasizing the "expectations-lowering" effect of strikes, Ashenfelter and Johnson have ignored the underlying cause of industrial
conflict -- conflicts in interests between competing classes
(Dahrendorf, 1969 [1958]:222) -- and have substituted the relations
between union leaders and the membership as the main social
contradiction. Although conflicts in the labor camp certainly exist to
varying degrees at different times and in different settings, they
cannot replace class conflict as the underlying cause of worker
militancy. In the long run, collective interests spur joint collective
action. The source of collective action -- of which the strike is the
quintessential form -- is located in a class' relations to other
classes and the larger structures which form the arena in which these
classes contend (Shorter and Tilly, 1974:7).

Second, while the conceptual model of a three-party industrial
relations system may be more sophisticated than the two-party model
proposed by neoclassical Hicksian theories, it too is incomplete. For,
although Ashenfelter and Johnson recognize the existence of a critical
third party (the union rank-and-file), they ignore the ever-present
fourth party in the system of industrial relations: the state. This
is an issue to which I will return later; it will suffice here to note
that by excluding variables relating to the state and the political
setting in which it moves and acts (the polity), Ashenfelter and
Johnson have ignored theoretically important factors relating to worker
militancy.

Finally, the period analyzed is but a small subset of the greater
postwar period. Although the use of quarterly data boosts the sample
size to a statistically acceptable level and increases the available
degrees of freedom, the historical period analyzed remains short.
Thus, Ashenfelter and Johnson's results should be treated cautiously insofar as their generalizability to other time periods is concerned.

In fact, the model developed by Ashenfelter and Johnson has been tested repeatedly by subsequent researchers, quite often with mixed results. Unfortunately, most such tests (Snyder, 1977; Skeels, 1982; Kaufman, 1982) have departed significantly from the simple economic model Ashenfelter and Johnson proposed, by incorporating into the equations other, non-economic, variables (i.e., organizational or political measures). The results of the simple model excluding these newly-introduced variables have not generally been reported. Thus Edwards (1981) attempted to assess Ashenfelter and Johnson's model, without the inclusion of other variables, applying it to various time periods and testing alternately against both annual and quarterly data. His findings often contradicted Ashenfelter and Johnson's results: variables either displayed effects in the opposite direction of that predicted, or failed to achieve significance (Edwards, 1981:68-75).

The Organizational/Political Model.

Following Shorter and Tilly, Snyder (1977) challenged solely economic explanations of labor militancy, noting that economic models neglect both the organizational capacity of workers to press their demands, and the influence of the political environment in which the industrial relations system functions. Snyder, and Shorter and Tilly before him, underscored the importance of worker organization: the collective control of labor's resources provides the organizational muscle for workers to pursue successfully their demands against capital.
Snyder thus proposed a model which emphasized union density (i.e., percent of the labor force unionized) as a measure of labor's capacity to organize and gain collective control over the various resources of the individual members. Noting the labor movement's political support for the Democratic Party, his model included variables indexing possible influences of this political relationship on labor militancy. These included the percentage of Democrats in the Congress, and the political party of the President. These two variables were argued to capture the prevailing political climate.

Snyder tested his model on both the prewar and postwar eras. He found the organizational and political variables to have significant effects on the number of strikes in the prewar period. By contrast, during the same period, Snyder observed no significant economic influences on strikes. The opposite of these results held true for the postwar period: organizational and political variables had statistically nonsignificant effects on strike activity, while economic variables exerted significant influences on strikes.

Snyder argued that the disparity in the results of the model for the two different periods (1900-48 and 1949-71) can be explained by the different institutional arrangements predominant in each of the periods. It was only after World War II that union recognition, collective bargaining and labor-management contracts became widespread (Snyder, 1977:328). Entrance into the polity --- as represented by the legal codification of labor's rights --- and collective bargaining opened other channels for resolution of industrial disputes. The
working class (which previously represented a potential threat to the prevailing rules of the polity), having been admitted to the political arena as an equal, legitimate member, would now channel its militancy through non-disruptive and non-political expressions of protest. The institutional setting established during the war years led to a regulation of strike activity, which rendered the use of the strike weapon more predictable (Wallace, Rubin and Smith, 1988:16). As compared to the prewar years when labor had no "routine mechanisms" through which demands could be made, and was forced to rely on its organizational capacity to strike in order to press its demands, the routinization of industrial relations in the postwar era has provided labor with a "regular means" to articulate demands. Thus industrial conflict in the postwar period will "respond less to changes in union membership (because capacity to strike is not so problematic) and more to fluctuations in economic activity" (Snyder, 1977:332).

Edwards (1981) attempted to replicate Snyder's analysis for the periods 1900-39 and 1946-72, but found the variables proposed by Snyder to be statistically nonsignificant. The differences in the results of the respective analyses may owe to differences in methodology. Beyond that, however, Edwards posed serious theoretical questions regarding Snyder's political variables. Specifically, he noted the theoretical murkiness of these political party variables, arguing that "the meaning of the contrast between Democrat and Republican has surely altered" during the course of the century (1981:81). Kaufman (1982) also took issue with Snyder's political variables, noting that there is no recurring association between strikes and the political party in power.
He proposed instead, that politics effected strike activity through historically unique and specific events, such as wars, enactment of legislation, etc. (1982:481). Kaufman also noted that the distinction between economic and non-economic predictors of strike activity was artificial, as was Snyder's findings that economics were nonsignificant factors in the prewar period. Even strikes over non-economic issues will be effected by the business cycle, he argued, since high unemployment seriously undermines labor's bargaining power (p. 479).

Edwards also found union density to be nonsignificant, suggesting that unions may mediate the effects of economic factors (1981:77-78). Skeels (1982), using a two-stage least squares method of estimation, found that union density is largely a product of economic factors, verifying Edwards' suggestion that unions mediate the effects of economic forces. Skeels concluded that union density was significant only in the prewar period, while economic factors yielded significant effects in both periods.

Despite these problems with Snyder's analysis, one cannot fail to note the important contribution he made to the study of strike activity: the introduction of historical context (Kaufman, 1982:474). Previous researchers tended to ignore the issue of historical specificity. Ashenfelter and Johnson, for example, proposed an economic explanatory model of strikes based on the analysis of a single fifteen-year period. By not discussing how the 1952-1967 period they analyzed differs from previous periods, they have misleadingly imparted to their model an implied timelessness. This ahistorical approach to time led Ashenfelter and Johnson to generalize about some supposed
"time-invariant relationships which reflect some 'historically-general' process" (Isaac and Griffin, 1989:876), relationships which were observed, however, over just a single fifteen-year period. By introducing political variables, and more importantly, by breaking down the period analyzed into two distinct eras (pre- and postwar), Snyder injected the question of historical specificity into the discussion of strike determinants.

The Institutionalization of Conflict Model

Our preceding discussion of the "classic" literature on strike activity thus can be summarized in the following: economic factors play a predominant role in explaining the pattern of postwar strikes, either directly (by influencing labor's bargaining power) or indirectly (through its effects on union membership, and in turn, on the collective resources available to unions). Basically, Snyder was correct in asserting that purely economic explanations are incomplete. Other, non-economic, factors have been found to exert an influence, albeit somewhat inconsistent and often contradictory, on strike frequency. It is thus apparent that Snyder's political variables are inadequate measures of these non-economic factors. The problem lies in the fact that the political variables proposed by Snyder indirectly measure the activity of the state. Although Snyder did not acknowledge this explicitly, it can be argued that state activity is mediated through political factors (or, alternately, that the effects of state activity can be measured indirectly by noting the political party in power).
Unfortunately, Snyder did not attempt to measure directly the influence of the state. Nevertheless, Snyder’s model is more complete than the economic model proposed by Ashenfelter and Johnson, who completely ignore the role of the state. In his critique of the economic models of strike activity, Jackson (1987:147) notes that a chief weakness of such models is the flawed assumption that strikes are a product only of workers. Such a focus is unbalanced if it does not consider the actions and reactions of employers and the state. As Dahrendorf (1969 [1958]: 222) notes, the intensity of conflict varies in direct relation to the conditions of conflict. These conditions must be located, at least in part, in the institutional setting in which workers’ struggles take place. And there can be no doubt that in the postwar United States this institutional setting has been shaped largely by the state. Thus it becomes apparent that the relation between “politics” and worker militancy, to paraphrase Edwards (1981:81), must be approached from another angle: state intervention.

The issue of the state’s intervention in industrial conflict is one of many issues which can be subsumed by the more general concept of institutionalization. Institutionalization is the process by which social relationships become regulated and routinized. Applied to the industrial sphere, this process leads conflict to be less violent and less intense (Jackson, 1987:103). This is a key concern for capital. As Hill notes, the major problem for management is not change itself, but rather the unpredictability and uncertainty of change (Hill, 1984:173). In discussing Kerr’s views on institutionalization, Jackson
(1987:102) notes that the state establishes mechanisms "to bring order into industrial relations." In a similar vein, Brockman (1989:9) has also pointed out that "the object of conflict resolution is order maintenance." Hill suggests that institutionalization results from the separation and autonomy of political and industrial conflict so that one is not superimposed on the other. The process of institutionalization rests on the development of specialized institutions for regulating conflict in the industrial sphere (Hill, 1984:124). These mechanisms in turn create agreed-upon frameworks of rules for dealing with conflict (p. 125). The most important of these structural mechanisms of social control is the trade union and the system of collective bargaining (Aronowitz, 1974; Piven and Cloward, 1979; Pfeffer, 1979; Edwards, 1981; Klare, 1982; Hill, 1984; Rubin, 1986; Jackson, 1987). The state has had a heavy hand in the evolution of both.

Previous empirical analyses of strike activity have tended to ignore the role of the state, or have dealt with it only indirectly (for an exception, see Wallace, Rubin and Smith [1983] and Wallace [1989]). Historically, the chief means by which the state has intervened in industrial conflict has been the creation of institutions whose main purpose is to regulate and contain conflict. This has been accomplished primarily through labor law (Wallace, Rubin and Smith, 1988). Wallace, et.al. found that the state, through the use of labor law, has regulated the militancy of the American working class by creating an institutional setting unfavorable to strike actions (1988:10). That this has been the state's intention is evident in the
normative statements which often accompany labor legislation. Thus Edwards notes that "it was explicitly argued in the preamble of the National Labor Relations Act of 1935 that collective bargaining was the best means to reduce the level of industrial conflict in general and of strikes in particular" (Edwards, 1981:134). The state took an active role in the establishment of the legal framework in which trade unions, and collective bargaining would operate and function (Edwards, 1981:134; Wallace, et. al., 1988:3). Wallace (1989) has demonstrated how the state, acting as capital's ally, played a key role in cementing and enforcing the postwar "capital-labor accord". Under the terms of the accord, labor refrained from challenging capital's prerogatives in organizing and managing the workplace, in exchange for guarantees of union rights. Yet, for all its usefulness, the literature on labor law addresses only one aspect of the process of institutionalization.

Certainly, the law has played a key role in this process. However, the central aspect of the role played by labor law in shaping regulatory mechanisms and means of redress other than the strike is not adequately treated by this literature. Labor law is important, but more important to an understanding of its impact on worker militancy is the process by which it affects militancy.

It is obvious that the regulatory mechanisms established by law have had tremendous impacts on the activities of social movements: "not only do social movements express social policy demands" but "social policies also create the political arenas for subsequent social movement mobilization" and may often alter the movement's agendas and the subsequent patterns of conflict (Brockman, 1989:3). Rubin (1986)
notes that the "business unionism" which characterizes the United States labor movement is the outcome of the institutionalization of workers' struggles (p. 618). Wallace, et.al. (1988) conclude that labor law, by providing legal channels for the resolution of industrial conflict, served to "de-legitimate" the use of "more strident forms of labor protest, including the strike" (p. 14) and "to limit the very capacity [of labor] to engage in militant confrontation" (p. 23). Thus, the structural regulatory mechanisms established by law have provided opportunities, but also placed limitations on social movement mobilization and activities (Brockman, 1989:14).

As noted above, institutionalization requires the development of specialized institutions for regulating conflict. Law, as discussed above, has been instrumental in creating these structural mechanisms of social control. However, even in cases where the law has not created these mechanisms, the legal environment has played a pivotal role in shaping the way they operate and function. A case in point is the labor union.

The role of unions is quite complex (Edwards, 1981:30). On the one hand, they provide experienced leadership, organization, resources, discipline, a focus for loyalty, and financial support (Shorter and Tilly, 1974; Tilly, 1978; Edwards, 1981; Rubin, 1986) which provide greater opportunities for workers to engage in strike activity. This is the conventional approach to the labor union, one which has been adopted by previous researchers of strike activity who theorized that union density was a key variable with a positive impact on strike activity.
On the other hand, however, unions serve as an agent of the institutionalization of worker militancy, the means by which labor peace is imposed upon a potentially militant rank-and-file (Aronowitz, 1974:214). Klare (1982:57) has noted that labor law enhances the institutional interests of unions (as opposed to those of individual employees) in order to establish and cement collective bargaining relationships which are conducive to the efficient operation of the business. Thus, in this vein, Pfeffer (1979) contends that unions serve as "Policemen for the Bosses". Similarly, C. Wright Mills argued that labor leaders, in order to maintain their credibility with the employers with whom they bargain, must deliver their part of the bargain: labor. They "must supply that labor when required, and see that it does not rebel. As a result...[the labor leader] has to act as a discipliner of the labor force and a manager of discontent" (Mills, cited in Jackson, 1987:104). Hill notes that unions perform specific personnel functions for employers by providing managers "with stable, predictable and disciplined employee relations" (1984:173). It should be noted, however, that unions cannot perform these valuable functions if management does not recognize their right to exist. Thus, in order to contain "the enormous disruptive power of the strike," capital and the state opted to recognize labor's right to exist and bargain collectively (Piven and Cloward, 1979:174). Thus, according to this second view of the union's role elaborated here, union density should have a negative impact on worker density.

One means of gauging the extent of institutionalization is to examine the effort made by unions to organize new members. Galenson
(1986), Raskin (1986) and Troy (1986) have each illustrated the labor movement's reliance upon the state in their organizing efforts. They argue that the great spurts in union membership growth have occurred following changes in government policies and labor law. Part of this reliance can be attributed to the regulation of the organizing process by the state, through the National Labor Relations Board. The NLRB has codified a highly-detailed procedure of certification elections to be followed by unions in expanding their organizational base among the unorganized.

However, another dimension of this process can be explained by the effort unions themselves have exerted in attempting to attract the unorganized to their ranks. This organizational effort has not been particularly strong; Rankin suggests that most labor leaders have "suffered from tired blood. They were less interested in organizing the unorganized than in making sure that no other union would steal the members they already had or muscle in on [their] jurisdiction" (1986:12). Freeman and Medoff (1984:229) note the direct relationship between the amount of resources and energy spent on organizing efforts and the degree of success in NLRB elections. And yet, union expenditures on organizing campaigns have dropped steadily since the 1950s, and declined sharply during the 1970s, despite record-high levels of financial resources (Troy, 1986:103). Thus, as much as a third of the decline in union success in NLRB elections can be directly attributed to the reduction of labor's organizing efforts (Freeman and Medoff, 1984:229). Goldfield (1987) concurs with this assessment; he asserts that unions "have neither devoted the resources nor put
sufficient effort into new organizing to counter the employer offensive" of recent years (1987:217). Wallace (1989) notes that this decline in organizational effort appears to be a by-product of the capital-labor accord.

Although worker militancy may be a contributing factor in the organization of new members, organizing drives in turn should affect worker militancy. Union organizers articulate worker grievances against employers in such a manner as to underscore the need for a union. Thus labor's organizational effort, as measured by the portion of the workforce which unions are actively seeking to organize, may be a key variable in explaining variations in the level of worker militancy.

The collective bargaining system of industrial relations adopted in the United States after the Second World War has played a key role in institutionalizing workers' struggles. As has been already suggested "collective bargaining absorbs energy which might otherwise be more destructively directed" and thus "provides a 'drainage channel' for worker dissatisfaction" (Jackson, 1987:106).

Collective bargaining has accomplished its objectives by setting up "systems of informal justice" (Abel, 1982) such as grievance procedures, mediation, and binding arbitration, and by limiting the accepted agenda of conflict primarily to economic issues. Abel (1982) offers several reasons for the greater efficacy of systems of informal justice as compared to systems of formal justice. First, the state's coercive role is minimized and disguised, allowing it to seek an informal control over behavior which it presently is unable to control.
formally (Abel, 1982:271-272). Second, informal justice serves to neutralize conflict "by responding to grievances in ways that inhibit their transformation into serious challenges to the domination of state and capital" (p. 280). Since the disputants are induced to submit voluntarily to the jurisdiction of the institution, they are more likely to accept the outcome willingly (p. 283), thus further neutralizing conflict. Informal justice neutralizes conflict by limiting the accepted bounds of the dispute: "[I]nformal institutions cannot persuasively deny the existence of conflict or totally repress it; therefore they selectively emphasize nonstructural disputes that do not threaten social stability....[or] define their jurisdictional limits so as to exclude fundamental structural conflict" (Abel, 1982:286). Finally, informal justice serves to individualize disputes and isolate grievants from one another (p. 290).

Klare (1982) has identified several key components of collective bargaining ideology. Perhaps the most important of these is that collective bargaining "legitimates" economic conflict, restricting conflict over non-economic issues, and confines the ways in which this conflict is fought out. "The basic ground rule is...that the strike weapon is not to be used to protest mid-contract grievances; much less is it to be used as a mode of political expression. Grievance prosecution is confined to formalized legalistic channels" (1982:57-58). These "legalistic channels" are "a highly formalized, atomizing, struggle-dissipating framework" (p. 56) which serve to remove the issue of contention from the shop floor, isolate the grievant, and bureaucratize the dispute.
When a worker files a grievance, his representative -- the steward -- meets with the foreman in charge to make a first attempt at settling the grievance. Unless it is a clear-cut case, a black-and-white (usually monetary) violation of the contract, the grievance will not be settled in this first step. The most important grievances -- those dealing with plant administration and control -- are not usually so clearly defined. Often they are attempts to resolve issues which are nebulously worded in the contract language. Such "gray area" grievances cannot be settled in the first step, because neither the foreman nor the shop steward has the authority to set precedents which may be binding upon both the company and the union.

Therefore, the most important grievances will be "kicked up" to higher steps of the grievance procedure, where they will be settled in an office by parties removed from the floor and the issues at hand. These higher steps may include the ultimate step: binding arbitration. Each year the Federal Mediation and Conciliation Service appoints thousands of arbitrators to render binding decisions regarding disputes between unions and employers.

Stone (1981) has pointed to the pivotal role that the institution of arbitration has played in industrial relations since the Second World War. She notes the underlying ideology of industrial pluralism which has served as the foundation of the postwar system of industrial relations. According to Stone, this ideology promoted voluntarism in labor relations -- the private determination of wages and working conditions.

Within this ideology, voluntary arbitration occupied a crucial position. The industrial pluralists needed to demonstrate that
industrial disputes could be resolved peacefully, thereby avoiding labor-management strife. Any such mechanism, if it was to fit within the ideology, had to produce a solution to which both parties could be said to have consented. Judicial resolution of labor disputes, for example, was unacceptable because it imposed a noncontractual solution upon the parties. Voluntary arbitration, by contrast, presented the attractive possibility of producing a solution that both labor and management had previously agreed would bind them. (Stone, 1981:1524)

In fact, Stone has argued that arbitration is part of a triangular institutional arrangement which was dictated by the ideology of industrial pluralism. This arrangement is comprised of the courts, the NLRB and arbitration. Under the terms of this relationship, the former two have deferred to the latter, strengthening the legitimacy of arbitration as the means by which to resolve disputes (Stone, 1981:1538).

The postwar period has seen a dramatic increase in the number of arbitrators appointed by the federal government to resolve disputes between workers and their employers (see Table 1). The aim has been to

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<th>Union Members (thousands)</th>
<th>Appointments/1000 Union Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950</td>
<td>601</td>
<td>14319</td>
<td>.42</td>
</tr>
<tr>
<td>1955</td>
<td>987</td>
<td>16802</td>
<td>.59</td>
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<tr>
<td>1960</td>
<td>2039</td>
<td>17049</td>
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</tr>
<tr>
<td>1965</td>
<td>3333</td>
<td>17299</td>
<td>1.93</td>
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<tr>
<td>1970</td>
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<tr>
<td>1980</td>
<td>13911</td>
<td>22811</td>
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Source: See Appendix
ensure industrial peace through the containment of the strike's disruptive power. A pamphlet detailing the workings of the federally-sponsored arbitration system printed by the Federal Mediation and Conciliation Service (FMCS) in 1980 is quite blunt: Arbitration "is the generally accepted means of resolving disputes between an employer and an employee organization arising during the term of the contract" (emphasis added). The role of arbitration has been strengthened by the lengthening of average contract duration. Contracts typically include no-strike clauses for the duration of the agreement. Workers employed under the terms of a labor contract may not legitimately use the strike weapon to press their demands, but instead must rely on the formalized grievance procedure. Thus, the marked increase in contract duration may explain unions' greater use of arbitration, as other avenues of redress (the strike) are closed to them.

Konstantopoulou has questioned the efficacy of state-imposed mediation attempts, noting that binding arbitration may resolve legal problems, but cannot resolve the underlying conflicts of interest between the parties (Konstantopoulou, 1986:98). It must be noted, however, that although arbitration does not eliminate conflict, it is capable of diffusing the intensity of the conflict, by channeling it into bureaucratic, non-disruptive forms of protest. As Dahrendorf notes, the intensity of conflict is directly related "to the presence of effective mechanisms for regulating conflicts (channels for collective bargaining, arbitration institutions, etc.)" (1969 [1958]: 222). Thus, the presence of other channels for redress of grievances
(i.e., arbitration) should result in fewer strikes as unions make use of these channels to press their demands.

METHODS AND DATA

The method used in these analyses is multivariate time series regression analysis. This is a variation of the basic regression model which uses time-ordered data. In this time series analysis, the unit of analysis is the year, and each case consists of an array of variables for the aggregate United States, for a single year. Thus, in time series analysis it is not only the particular values of the observations which are important, but also the order in which they appear (Ostrom, 1978:9). Time series analysis is generally run using ordinary least squares (OLS) regression techniques. One of the prime assumptions of time series regression is that the error terms corresponding to different points in time are not correlated (Ostrom, 1978:12). Thus, the presence of serial correlation (or, autocorrelation) constitutes a violation of this assumption, and yields unreliable and inconsistent coefficients.

Many of the equations presented here include the lagged endogenous variable as a separate independent variable. The presence or absence of autocorrelation in models including the lagged endogenous variable can be determined by examining the Durbin’s $H$ statistic. If Durbin’s $H$ is larger than 1.674, the hypothesis of zero autocorrelation cannot be accepted, and must be rejected. In cases where serial correlation is thus indicated, OLS techniques are inappropriate. One method of correcting for this problem is to re-estimate the models using the
Cochrane-Orcutt method. This method, also known as "pseudo-generalized least squares", transforms the data using a first-order autoregressive technique which employs estimates of the residuals of the error terms. Re-estimations using this technique hopefully eliminate the problem of autocorrelation (Ostrom, 1978:39-40). Thus, in the ensuing analyses, when serial correlation is present, I have re-estimated the models using the appropriate pseudo-GLS procedure.

The previous discussion suggests that accurate models explaining the variance in strike activity during the postwar era must include measures of the institutionalization process. The present analysis attempts to correct previous imbalances in focus, by bringing into the analysis several variables to measure the effects of institutionalization on worker militancy. A discussion of the variables included in the various models tested here is now appropriate. For the exact sources and details about these data, the reader is referred to the Appendix.

One of the dependent variables in this analysis is strike frequency i.e., the number of strikes standardized by the size of the non-agricultural labor force. In the past, many researchers have used the unstandardized absolute number of strikes (i.e., Ashenfelter and Johnson, 1969; Snyder, 1977; Kaufman, 1982; Skeels, 1982). Others (i.e., Shorter and Tilly, 1974; Edwards, 1981; Wallace et.al., 1988) have preferred the standardized measure used here, in order to control for the growing labor force.

The other dependent variable used in this analysis is the frequency of arbitration appointments, i.e., the number of arbitrators appointed
standardized by the number of union members. Arbitration frequency taps the use of other, non-militant means by which unions press their demands. The Taft-Hartley Act of 1947, among other actions, created the Federal Mediation and Conciliation Service. One function of the FMCS is the appointment, upon request of the parties involved, of an arbitrator to render binding judgment in industrial disputes. In the analyses where strike frequency serves as the dependent variable, the arbitration frequency is included as a regressor using a one-year lag. I expect that arbitrations will have a strong negative impact on strike frequency.

The independent variables used in the analyses can be grouped into several sets. These include economic, organizational, political and institutional variables.

**Economic Variables.** This set is composed of three variables suggested by the economists' literature discussed earlier. The unemployment rate is included to gauge the objective economic barriers to the undertaking of strikes. The efficacy of the strike action should be diminished when large numbers of unemployed workers are available to step in as scab labor and undermine the striking workers' position. I thus expect that the unemployment rate will have a negative impact on strike frequency. The three-year moving average of change in real wages measures the rate at which workers' buying power increases or decreases. I hypothesize that rapid increases in workers' real wages will result in a relatively satisfied workforce that is less prone to engage in strikes. Thus I hypothesize that this variable will have a negative impact on strike frequency. Finally, among the
economic variables, I have included the ratio of corporate profits to employee compensation. As this ratio grows in size, I expect that workers will be more likely to undertake strikes. Following Ashenfelter and Johnson (1969), the variable is included with a one-year time lag, and I predict that it will have a positive influence on strike frequency.

Organizational Variables. In the past, researchers have generally included union density (as measured by the percentage of the non-agricultural workforce belonging to unions) as the standard indicator of worker organization. In the analyses conducted here, I have followed the path indicated by Edwards (1981) and used by Skeels (1982) -- namely, that unions serve to mediate the effects of economic variables. Thus, in order to separate the economic effects of unionization from the organizational impact of unions, I utilize Skeels' two-stage least squares procedure: instead of the straightforward union density rate, the model proposed here includes the residual of union density derived by regressing union density upon the three economic variables discussed above, and another instrumental variable, the unemployment trough, to gauge the extent of workers' grievances. The trough variable (which is the previous high point of the unemployment rate, unless the current rate is higher) is included only in this, two-stage least squares estimate as an instrumental variable, and is not entered into the model predicting strike frequency. In light of the discussion above concerning the role of unions, I expect that this variable will have a negative impact on strike frequency.
The other organizational variable used in the analyses here is the labor movement's organizational effort (see Wallace and McEntee, 1989). The process of institutionalization, in addition to imposing limitations on militancy, creates opportunities for mobilizing workers. This variable thus taps into unions' mobilization of workers for the purposes of broadening labor's organizational base. The measure is constructed by taking the number of eligible voters in NLRB certification elections as a percentage of the size of the non-unionized labor force. Thus, this variable denotes the proportion of non-unionized workers which labor has been successful in mobilizing. I expect that increases in labor's organizational efforts will result in increased strike activity.

**Political Variables.** As discussed earlier, Edwards (1981) and Kaufman (1982) expressed serious theoretical concerns with the political variables proposed by Snyder (1977). Their chief objection to using the political party affiliation of the President and the members of Congress as a measure of political influences is the lack of stability in the meaning of "Democrat" or "Republican" during the historical period under review (Edwards, 1981:81; Kaufman, 1982:480-481). Thus, I have proposed an alternative political variable, a dummy variable for presidential election year. This variable has a relatively stable meaning: presidential elections are held every four years and probably have similar impacts on strike activity. I expect that unions will be less likely to undertake strike actions during a presidential election year, both because they are probably more preoccupied with political activity, and also because
there is probably a "wait-and-see" attitude toward the results of the election and what they might mean for unions and their members. At the same time, excessive displays of militancy during a presidential election might tarnish labor's image and hurt "pro-labor" candidates.

Institutional Variables. This set consists of three variables (in addition to the arbitration frequency variable discussed above) designed to measure the effects of institutionalization. The first two measure direct intervention by the state to discourage strike activity, and can be seen as direct responses by the state to actual, or threatened, strike actions. The first is the one-year lag of the number of disputes in which the emergency clauses of the Taft-Hartley Act have been invoked. The Taft-Hartley Act was passed in 1947, and "was aimed largely at curbing perceived excesses in labor's power by limiting the utility of the strike for advancing workers' interests" (Wallace, et al., 1988:12-13). The emergency sections of the Act allow the President to order a board of inquiry which may investigate the dispute and may seek an injunction to prohibit work stoppages for an 80-day "cooling-off" period. Obviously, such an invocation of the Act will be aimed primarily at large strikes of national importance. Nevertheless, the use of the Act in such situations is likely to signal to the labor movement as a whole that the political climate is unfavorable for strike actions. Thus, although this variable measures direct actions, I expect that it will also capture the indirect, symbolic effects of those actions.

Beyond its emergency provisions, however, Taft-Hartley had a broader scope (Fantasia, 1988:56-58): it outlawed the closed union
shop, and subjected the union shop to NLRB regulation. As part of the NLRB-supervised election process, the law stated that union representation was to be "determined by a percentage of votes of the workforce as a whole rather than as a percentage of those voting (hence failure to vote would count against the unions)" (Fantasia, 1988:56). As if all this were not enough, Taft-Hartley also permitted management to bring in strikebreakers who were allowed to voted in union representation elections, and who could petition the NLRB for decertification of the union (Fantasia, 1988:56.). Furthermore, the Taft-Hartley Act held union leaders responsible for strikes occurring during the term of the contract, thus strengthening the union leadership's role as disciplinarians of the rank-and-file. United Mineworkers leader John L. Lewis summed up labor's assessment of Taft-Hartley: "There is no virtue in the Taft-Hartley bill....There are 2 or 3 lines in the exordium that say that labor has the right to organize. There are 70 pages of a pamphlet that will follow that dares you to try it" (cited in Fantasia, 1988:57-58). The emergency provisions of the law represent simply the most extreme and blatant actions which Taft-Hartley levied against workers. Accordingly, this variable should have a negative impact on the frequency of strikes in general.

The second variable in the set also measures acts of direct state intervention against particular work stoppages: the number of NLRB injunctions against unions for violation of article 10(1) of the Labor-Management Relations Act of 1947, standardized by the number of union members. That article of the Taft-Hartley Act prohibits a series of strikes and militant strike-related actions, such as secondary
boycotts, sitdown strikes, picketing and other militant acts of intimidation. As with the previous variable, although these injunctions are aimed at specific strike actions, their effect is likely to be felt at a broader level. Further, we must not neglect that militant actions such as those banned by article 10(1) may, by raising the excitement level of the strikers and the general intensity of the conflict, contribute to a spirited, and committed attitude on the part of workers. "Peaceful" court-regulated four-man picket lines may not heighten such an awareness as can be generated with unrestrained direct actions by workers. Yet, such an awareness may be critical in maintaining the membership's unity and resolve. Fantasia's case studies (1988) demonstrate the role of strike actions in building worker solidarity. As he notes, "Essentially, the Taft-Hartley Act rendered illegal those forms of solidarity that had previously proved effective" (p. 56). Therefore, I hypothesize that the frequency of the NLRB's anti-union injunctions will have a negative impact on strike frequency.

Finally, in order to test the contention that strikes in the postwar period have become routinized and predictable, the lagged endogenous variable (strike frequency at t-1) is also included. The inclusion of this variable also indicates a trend component not otherwise explained by the other variables. If this variable is significant, it will indicate that the strike action has become routinized, and thus, less disruptive and effective. Similarly, in the analyses where arbitration frequency serves as the dependent variable, I have included the one-year lag of this measure (arbitration frequency
at t-1) as an independent variable. I expect that in this case, too, the lagged endogenous variable will indicate the degree to which this type of grievance redress is routine and predictable.

THE ANALYSIS

Figure 1 depicts graphically the trends of the two dependent variables: the frequency of arbitration appointments is juxtaposed to that of strikes during the postwar period.

The reader will note the difference in the direction of the trends for the frequencies of arbitration appointments and strikes. This relationship is not coincidental. Arbitration, for both the state and capital, is the preferred means by which to resolve industrial conflicts. Unlike strikes, arbitration does not disrupt the production process, nor does it rally and mobilize workers against a class opponent. Rather, arbitration is one means by which mass struggles are

![Graph showing Arbitration Frequency and Strike Frequency, 1948-1980](image)
replaced by discrete negotiations (Pfeffer, 1979:323; Burawoy, 1979:115, cited in Rubin, 1986:619). Arbitration thus reflects the growing institutionalization and routinization of industrial conflict. The informal system of justice, by cloaking itself in neutrality and appealing to both sides on a "voluntaristic" basis, appears to effectively regulate many industrial conflicts. Thus it is unnecessary for the state to intervene overtly in particular instances of conflict in order to diminish their disruptiveness. This is accomplished through recourse to an effective mechanism which provides non-disruptive channels for protest and redress.

The bivariate correlations of all the variables included in the analyses are presented in Table 2. Among the independent variables used to estimate strike frequency, the reader will note that the strongest bivariate correlation is with union's organizational effort (.83), followed by that of the one-year lag of strike frequency (.76), the frequency of NLRB injunctions against unions (.65), time (.64), the one-year lag of arbitration frequency (.61) and the unemployment rate (.55). Each of these correlations provides initial support for the thesis of institutionalization. Significantly, the moderately high correlation of strike frequency with time indicates the strong secular downward trend of worker militancy during the postwar period. Turning to the other dependent variable in the present analyses -- the arbitration frequency -- one notes the particularly high correlations with the lagged endogenous variable (.99) and time (.93). Again, this suggests the extreme predictability of this channel for pressing worker
Table 2. Bivariate Correlation Matrix

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<th>(4)</th>
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<th>(11)</th>
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<td>-.55</td>
<td>.99</td>
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<td>-.62</td>
<td>-.60</td>
<td>-.46</td>
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<tr>
<td>7) Profits/Compensation Ratio (t-1)</td>
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<td>.33</td>
<td>-.37</td>
<td>-.34</td>
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<td>8) Unemployment Trough (t)</td>
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<td>.77</td>
<td>.76</td>
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<td>.28</td>
<td>-.41</td>
<td>-.42</td>
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<td>.00</td>
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<td>-.26</td>
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<td>.04</td>
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<td>.02</td>
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<td>13) Freq. of NLRB Injunctions Against Unions (t)</td>
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<td>-.62</td>
<td>.64</td>
<td>.39</td>
<td>.46</td>
<td>-.33</td>
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<td>-.61</td>
<td>-.09</td>
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<td>-.61</td>
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<td>.92</td>
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<td>-.58</td>
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<td>.78</td>
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demands. Although the correlations indicate that strike frequency during the postwar period is moving toward greater routinization and predictability, none of the bivariate correlations for strike frequency is as strong as those found for arbitration frequency. This indicates that the process of institutionalization is stronger for arbitrations than for strikes.

The first set of analyses estimates models where strike frequency is the dependent variable. The independent variables discussed above in the Methods and Data section were entered sequentially into an equation predicting strike frequency. The resulting equations are presented in Table 3.

The institutionalization literature has suggested that the process by which the strike action was routinized and thus rendered harmless for capital was a product of the great changes in the capital-labor relationship which occurred between 1933 and 1947. It was during this period that a legal framework for this relationship was codified. As a result of NRA and the Wagner Act, unions won the right to organize freely. Subsequently, Taft-Hartley placed limitations on the use of the strike and other militant actions. These new legal parameters of the class struggle coalesced into a system of industrial relations in the postwar period. According to the institutionalists, this new system of capital-labor relations is responsible for the repetitiveness, routinization and subsequent decline of the strike as a viable weapon in the class struggle. If this is indeed the case, one would expect that the lagged frequency of strike activity should have
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<td>Strike Frequency (t-1)</td>
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<td>.620**</td>
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<td>3-Year Moving Average of</td>
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<td>-168.16</td>
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<td>the Δ in Real Wages</td>
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<td>OLS</td>
<td>OLS</td>
<td>Pseudo-GLS</td>
</tr>
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</table>

Starred variables are all significant at p < .10 level
** one-tailed test
* two-tailed test

Unstandardized coefficients (Standardized coefficients)
different effects on the contemporaneous strike frequencies in the pre- and post-institutionalized periods. Column 1 of Table 3 shows the effect of the lagged endogenous variable on strike frequency for the prewar period, 1900-1947, while column 2 presents the effects of the same variable on the postwar period, 1947-1980. Comparing the two equations, one is impressed by the difference in effects of the lagged endogenous variable: in the prewar period, it is not significant, while in the postwar era, the one-year lag of strike frequency is positive and very significant. This strongly suggests that worker militancy was not an institutionalized process during the prewar period. The opposite appears to hold for the postwar period.

Throughout all subsequent models, the significance of the lagged endogenous variable continues to hold sway, though the magnitude of its effect diminishes as other variables are added to the model. The significance and sheer magnitude of effect achieved by the lagged endogenous variable provides evidence which highly corroborates the thesis of institutionalization. Working-class militancy in the postwar era is so predictable that knowledge of the previous year’s strike activity is almost enough to predict strike activity in the current year! As previously noted, management is not so much threatened by change, but rather by the unpredictability and uncertainty of change (Hill, 1984:173). Thus capital’s (and its implicit ally, the state’s) interests are well served in this respect by the institutionalization of worker militancy.

Turning to the third model (column 3) in which the economic variables have been entered, one notes the significant negative
impact of the unemployment rate on strike frequency. As expected, unemployment appears to be a significant strategic factor against which workers weigh the strike weapon efficacy. The existence of a large pool of alternative labor undermines labor's bargaining position, and probably encourages workers to press their demands via other, less costly routes. The other economic variables are not significant in this model, and one of them -- the moving average of change in real wages -- displays an effect in the opposite direction of that anticipated (in subsequent models, however, as other variables are controlled for, the change in real wages does become significant in the proper direction).

The fourth model includes the organizational variables. Both of these variables are significant. The union density residual exerts a significant negative influence on strike frequency. Stripped of the economy-induced effects, union organization does not seem to conform to the conventional thinking about the role of unions. Rather than providing workers with greater resources and opportunities for striking, unions appear to be an effective mechanism for keeping the industrial peace. On the other hand, unions' organizational effort is positive and significant. Taken together with the decrease in labor's organizing efforts (Goldfield, 1987), the decline in strike frequency to a great extent can thus be seen as the result of a lessening of labor's efforts to organize new members. Notably, in this model, the direction of effects of the two nonsignificant economic variables has shifted: both the moving average of change in real wages and the ratio
of corporate profits to employee compensation now display negative (though still nonsignificant) effects. The direction of these effects will remain stable throughout the rest of the models.

In the fifth equation, the political variable (presidential election year) has been entered. It is not significant, although the direction of the effect is negative as predicted. The effects of the other variables remain unchanged.

Turning to the final model (column 6), one is impressed by the fact that all three of the variables capturing the effects of institutionalization have yielded significant effects in the expected direction. As anticipated, the number of disputes in which the emergency clauses of the Taft-Hartley Act were invoked has had an impact beyond just the targeted work stoppages. The invocation of such overtly anti-union measures signals to the labor movement as a whole that disruptive actions will not be tolerated. Much the same can be asserted regarding the effects of NLRB injunctions against unions. More than simply dissuading the particular militant acts which provoked them, these injunctions inhibit all kinds of strike actions, and not just the disruptive type prohibited by article 10(1) of the Taft-Hartley Act.

The lagged arbitration frequency displays a strong significant negative impact on strike frequency. This is both expected and reasonable. The system of informal justice is an effective regulatory mechanism, which offers to workers a relatively painless means of redress, and to capital, a non-disruptive resolution of conflict. Arbitration is thus presented to unions as a preferred and attractive
method by which to resolve disputes in the workplace: there is no logical reason for workers to believe that the informal system of justice is formally biased against them, and thus less reliable than the strike as a means of redress (obviously, unions would not agree to arbitration if the outcome were a foregone conclusion). At the same time, we must not forget that the proliferation of no-strike clauses and the greater durations of labor contracts often prohibit labor from resolving conflict by means of the strike weapon.

The inclusion of the three institutionalization measures has a great impact on the performance of each of the economic variables which were entered in earlier steps. Thus, the unemployment rate not only loses significance, but actually reverses direction. The unanticipated significant behavior of the lagged profits-to-compensation ratio in the direction opposite of that predicted by the economists undermines the explanatory value of this variable. The three-year moving average of real wage changes is statistically nonsignificant in all but the final model, where it achieves significance. Thus, the bottom line appears to be that the economic variables proposed by the economists are less reliable indicators of strike frequency than we have been led to believe by the proponents of these models.

Conventional time series estimates of strike activity usually include the time trend variable in order to capture other, non-measurable events or processes which occurred during the historical period analyzed. Inclusion of the time variable also serves to "de-trend" other variables by controlling for the effects of time. In this analysis, however, it has not been possible to follow such a path,
because time is strongly correlated with the frequency of arbitration appointments at t-1: the bivariate correlation between the two is .92. The inclusion of both variables in the same equation would result in severe problems associated with multicollinearity, and would produce unreliable coefficients. Because of its high correlation with time, the arbitration variable apparently captures much of the effects of time. The lagged endogenous variable, which has been included in my models, also serves to detrend the data, much as would the inclusion of a time trend. Thus, the combined effects of the inclusion of the lagged endogenous variable and the lagged arbitration frequency serve the same functions as would the inclusion of a time trend.

As suggested above strikes and arbitration are alternative avenues by which workers present demands and strive to have them met by capital. Thus, one might expect that many of the same predictors of strike frequency may have a bearing on arbitration frequency. Therefore, the second set of analyses conducted is similar to the first, except that the dependent variable here is the frequency of arbitration appointments, and the lagged dependent variable is different, obviously.

Working with the same basic set of variables, I derived hypotheses about their relationship to arbitration. In many cases, the hypothesized effects of the independent variables are the same as for strike frequency. There are some notable exceptions, however, which I discuss here.

Of the economic variables, I expect that unemployment will have a positive effect on arbitration frequency. Levels of unemployment which
would dissuade workers from striking, might well leave arbitration as the only effective channel for pressing demands upon employers.

The union density residual should also have a positive effect on arbitration frequency; the arbitration process of the Federal Mediation and Conciliation Service is set up to handle disputes between unions and employers, so increases in unionization should open up this channel of redress to greater workers, and thus result in increased resort to arbitrations. Union organization also increases the resources available to workers beyond those which they themselves bring to the union (i.e., the support and expertise of the International's legal staff).

The variables capturing institutionalization should also display positive effects on arbitration appointments. The use of direct state intervention against militant union actions, either through invocation of the Taft-Hartley Act or through court injunctions sought by the NLRB, may effectively close off one route of class struggle -- the strike -- thus leaving the arbitration process as the only recourse for workers who wish to press their demands. The impact of these direct state interventions, as discussed earlier, will probably have a broader impact on the labor movement as a whole, above and beyond the specific impact on the particular unions enjoined.

The organizational effort of unions was not included in the model predicting arbitration frequency, as there is no theoretically apparent connection between organizing new members and submitting issues to binding arbitration.
Engaging in a strike does not preclude unions from making use of all possible channels for redress; one might well expect unions to wage many-pronged struggles to achieve their demands. Thus, workers may submit to arbitration this year those demands which they were unable to settle in the strike last year. Thus, the one-year lag of strike frequency was included in the equation to test whether strike frequency had any bearing on the incidence of arbitration appointments. The hypothesis is that the lagged strike frequency will have a positive effect on arbitrations.

Table 4 presents the estimates of the models for arbitration frequency as the variables are entered sequentially. Turning to the results of this analysis, it appears that many of my hypotheses have been confirmed.

In the first model, just the lagged endogenous variable has been entered. As expected, the lagged arbitration frequency exerts a significant positive effect of the frequency of arbitration appointments. The strength of this variable in predicting the dependent variable remains relatively undiminished throughout all of the models estimating arbitration frequency. In fact, the magnitude of the effect is almost overwhelming: judging by the standardized coefficients, this variable is the strongest of all the variables upon which arbitration frequency is regressed (.923 in the final model). Similarly, the adjusted $R^2$ of .98 in the first model, where it is the sole predictor, indicates the explanatory power of this variable. What this signifies is that, as suggested earlier by the discussion of the bivariate correlations, the process of institutionalization and

<table>
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<tr>
<th>INDEPENDENT VARIABLE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<td>.937 **</td>
<td>.938 **</td>
<td>.921 **</td>
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<td>(.012)</td>
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<td>(.040)</td>
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<td>.297 **</td>
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<td>(.022)</td>
<td></td>
<td></td>
<td>(.072)</td>
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<td></td>
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<td></td>
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<td>OLS</td>
<td>OLS</td>
<td>OLS</td>
<td>Pseudo-GLS</td>
<td>OLS</td>
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</table>

Starred variables are all significant at \( p < .10 \) level
** one-tailed test
* two-tailed test

Unstandardized coefficients (Standardized coefficients)
routinization is stronger for arbitrations than for strikes.

In the second model, the economic variables are entered. As expected, the unemployment rate had a significant positive effect on arbitrations. During high levels of unemployment, when the undertaking of a strike becomes prohibitive, unions turn to the only alternative means of redress: arbitration. The other economic variables do not display significant effects at this stage, although the effect of the moving average of change in real wages is in the expected direction (negative). The ratio of profits to compensation performs poorly: it is both nonsignificant and in the opposite direction than anticipated. This last variable continues to perform poorly in all the subsequent models.

The organizational variable is entered in the third model. Whereas I expected that this variable should have a positive effect on arbitration activity, it actually yields a negative, though nonsignificant, effect. Why does union density behave in the opposite direction of my prediction? The answer is not obvious, and would require greater theoretical questioning and further analysis to fully understand. The inclusion of this variable showed no marked effects on the performance of the other variables.

In the fourth model, the inclusion of the political variable produces only one notable effect: although it is nonsignificant, its inclusion boosts the moving average of real wage changes to statistical significance, an effect which remains unchanged in the rest of the models. None of the other variables is affected, however. The fifth model, in which the institutionalization variables have been
entered, produces few major changes. The only impact of these variables at this stage is to temporarily boost the profits to compensation variable to a significant level (the effect is lost in the next, and final, model). The same effect is seen in the lagged number of Taft-Hartley disputes, which in the fifth model is significant in the direction opposite that expected.

In the final model, I have controlled for the previous level of strike activity. The inclusion of this variable yields important results. With a standardized coefficient of .095, the lagged strike frequency is the second strongest predictor of arbitration frequency (other than the lagged endogenous variable), displaying a significant, positive impact. In this model, the frequency of NLRB injunctions against unions also achieves statistical significance: these injunctions seem to channel (coercively) worker discontent into the informal system of justice.

The first two sets of analyses appear to suggest that strikes and arbitrations have a mutual impact on each other. In the analysis of strike frequency, arbitration frequency was a strong predictor; the same holds true for the role of strike frequency in predicting arbitrations. In order to test the hypothesis that strike frequency and arbitration frequency have a reciprocal, simultaneous causal relationship, a three-stage least squares regression analysis was performed, with both strike frequency and arbitration appointment frequency as joint endogenous variables. This technique allows a more accurate inspection of relationship between strike frequency and arbitration frequency. Since most of the independent variables in the
individual models are theorized to affect both strike frequency and arbitration frequency, single-model OLS analyses may obscure the true relationships of the independent variables to the dependent variables (Wallace, et al., 1988:17-18). A systems model allows the two dependent variables to be tested simultaneously, and should yield a clearer picture of the true effects of arbitration on working-class militancy.

The results of this analysis are presented in Table 5. The variables have all been entered simultaneously on both sides. Labor's organizational effort, included on the strike side, but not on the arbitration side, serves here as the instrumental variable.

The results, as the reader will note, generally confirm my hypotheses. I will not discuss at great length the economic variables, but will simply note their general conformity to the earlier results presented in Tables 3 and 4; some of the variables perform according to expectations, some do not. The (theoretically) unreliable effects of the economic variables undermine the position of those who believe that economics are the central component in understanding the strike.

On the strike side of the system, the thesis of institutionalization appears to be upheld. Arbitration frequency is a significant predictor of strike frequency, and vice-versa. The strongest predictor of strike frequency, as in the single model analysis, is labor's organizational effort (standardized coefficient of .670). The second strongest predictor is the frequency of NLRB injunctions against unions (standardized coefficient of -.446). The ranking of predictors has remained unchanged, and all but one of the variables found to be
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<th>(b) Arbitration Frequency</th>
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<td>Organizational Effort</td>
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Starred variables are all significant at \(p < .10\) level
** one-tailed test
* two-tailed test

Unstandardized coefficients (Standardized coefficients)
significant in the single model estimation have retained their significance. Overall, the results on the strike side of the system lend further support for my contention that strike frequency is directly affected by indirect and direct state intervention, resulting in a pattern of militancy which is highly ritualized and institutionalized.

Turning to the arbitration side of the system, the strongest predictors of arbitration appointments are, in order: lagged arbitration frequency (.923), lagged strike frequency (.100), unemployment (.084) and NLRB injunctions (.072). These results are generally consistent with the single model results presented in Table 5. Certainly, a portion of these arbitrations is the result of union frustration at not being able to use the strike effectively as a means of achieving the satisfaction of worker demands, as evidenced by the analyses of arbitration appointment frequency above. Yet, there are probably other causes which influence arbitration frequency, such as a union's prior experiences with arbitration, the type of issue it has submitted to arbitration, the size of the union local, etc.

Nevertheless, the model of strike-arbitration reciprocity presented here is convincingly borne out. Arbitrations lead to fewer strikes, and strikes lead to greater use of arbitration. The creation of alternate means of redress (the informal system of justice), combined with state actions to curb and suppress the strike weapon (injunctions, anti-labor laws, etc.) has led to an increase in the use of these
alternate means of redress by unions, with all the consequences which this entails.

DISCUSSION

My findings presented here indicate that previous analysts working in the "classical school" of strike research have neglected a key component of the industrial relations system within which workers wage their struggles against capital. That component is the state. The final product of the state's intervention has been a dampening of worker militancy in general. In part, the state achieved this outcome through the use of labor law. In the 1930's, in order to pacify a defiant and militant working class, the state granted legal recognition to labor unions. However, this newly-won legal status brought with it a host of stumbling blocks designed to mollify workers, while at the same time guaranteeing a measure of labor peace. Thus in the postwar period, workers labored under longer-term contracts which included no-strike clauses. Labor was entitled to strike at the expiration of the contract, but even then, the strike action was to be well regulated so as to diminish its disruptive impact.

Concurrently, the federal government established regulatory agencies and encouraged the development of alternate means to redress labor grievances. So, it really is no great surprise to discover that labor has made increasing use of these alternate means of redress. What is important to note is that the process of industrial conflict has been successfully institutionalized, and that the state had a big
hand in creating and maintaining this highly regulated system of industrial relations.

The main mechanisms by which the process of institutionalization has been carried out are the labor union and the system of collective bargaining. Unions, despite the advantage of unity which they bring to workers' struggles, appear to ultimately act as a constraining force upon the militant expression of worker demands. As Piven and Cloward have noted, unions have "undertaken the responsibility for trying to control the rank and file, standing as buffers between workers and management" (1979:158).

At the same time, the system of collective bargaining as instituted by the state and codified after World War II has been effective in ameliorating labor militancy, at least in part by providing other channels of redress, such as the grievance process and arbitration.⁷ The state has effectively used the law in order to close the avenue of militancy which was available to workers, and direct that militancy into ritualized, bureaucratic and non-disruptive channels.

The strike weapon since World War II has been de-legitimized and robbed of much of its efficacy, as "the cessation of work has become a ritualized part of a bargaining game whose rules are well known to both sides" (Edwards, 1981:212). Thus, collective bargaining became a stable, predictable process, and worker militancy was muted. Other analysts have also noted this stability in class relations; thus Kaufman concluded that the "greater stability of industrial conflict in the postwar period in the United States is due in part to the greater stability of the economic environment in which collective bargaining
has taken place" (1982:488-489). Kaufman, however, like other researchers before him, does not see that this stability is due in part to the removal of a potential source of instability -- the unbridled use of the strike -- and the "restructuring of class relations along lines which have minimized... overt conflict" (Rubin, 1986:618).

The bottom line, however, is not just simply that the strike has become less effective, or that overt conflict has been minimized. What is important to note here is that workers, as a result of the strike weapon's decreased efficiency, have been robbed of a great weapon. Strikes are a powerful solidarity-building mechanism (Fantasia, 1988). The solidarity among workers produced by a strike cannot be matched by the effects on workers of an appeal to arbitration. Thus the decrease in strike frequency may have dire consequences for the labor movement.

This paper has demonstrated how industrial conflict has been displaced and reconstituted "in a framework of negotiation" (Burawoy, cited in Rubin, 1986:619). Moreover, quantitative analysis has borne out and supplemented previous qualitative and theoretical accounts of this institutionalization process. Yet, there is certainly more work to be done within this sphere. As was stated in the beginning of this paper, the process of institutionalization yields a dual influence on worker militancy. It has been suggested that, beyond simply restraining and regulating worker militancy, the institution of collective bargaining has also influenced the content of workers' demands, by encouraging conflict over certain issues (economic) and discouraging it over others (job control). Thus, future research should concentrate on that aspect of institutionalization, and seek to
discover the extent to which strikes and arbitrations disaggregated by issue follow the aggregate pattern presented here. Other logical extensions of the research would be an investigation of the effects of state intervention on other dimensions of the strike (such as size and duration).
NOTES

1. The Second World War serves as a convenient point of demarcation for the two periods. The true boundary between the two eras, however, can be said more accurately to encompass the entire period between the passing of NRA in 1933 and the passage of Taft-Hartley in 1947. It is during this 15-year span that the basic U.S. industrial system as we know it today became institutionalized and codified. There are now strong indications that the postwar period ended in 1980 with the ascendancy to power of R. Reagan and his subsequent crushing of the PATCO strike the following year. This action is viewed by many as a denunciation by capital and the State of the 'capital-labor accord' which had governed capital-labor relations throughout the postwar period (Wallace, 1989). Thus, it seems appropriate to define the postwar period as the years 1948-1980.

2. The term "neoclassical strike theory" belongs to Cohn and Eaton (1989). For a fuller discussion of Hicks' theories and their limitations, see Cohn and Eaton (1989).

3. Ashenfelter and Johnson, in a footnote, recognize, although indirectly, the role of the state. There, in citing Cole (1967), they acknowledge a factor which has all but eliminated an important cause of strikes: union recognition. The issue of union recognition is generally resolved through elections supervised by the NLRB -- an agency of the state. See Golfield (1984) for the pivotal role played by the NLRB and the state in regulating the recognition of new unions, and how they have contributed to the decline of organized labor.

4. Ashenfelter and Johnson concede that results produced by their economic model are significantly improved by the inclusion of a dummy variable indexing the effects of the Landrum-Griffin Act in 1959 (1969:47). Unfortunately, Ashenfelter and Johnson fail to elaborate theoretically on the importance of this political variable.

5. Snyder uses the terms 'Early' and 'Recent' to refer to essentially the same periods I have called 'Prewar' and 'Postwar'. Snyder's periods cover, respectively, the years 1912-1948, and 1949-1971.

6. See Piven and Cloward (Poor People's Movements, 1977, chapter 3) for a historical presentation of the militant and establishment-threatening actions undertaken by the labor movement and the unemployed workers' movement during the depression years. Also Chapter 6 ('Eruption') of Bernstein's Turbulent Years (1969) provides rich historical detail of both the labor movement's
actions as well as the threatening manner in which they were perceived by those in power.

7. As Skeels points out (1982:494-495), some of the variance of the two analyses is a result of the different measures employed as the dependent variable: whereas Snyder used the number of strikes, Edwards used strike frequency. In this case, I would have more confidence in the latter measure. Strike frequency, which is strikes standardized by the size of the labor force, is more appropriate when dealing with long series of historical data. By relying on the unstandardized number of strikes, Snyder has incorporated a potential source of bias, as the size of the labor force has grown considerably during the postwar period. Thus, by standardizing the strike measure, Edwards has eliminated this source of measurement bias.

8. Edwards also notes that the failure of union density in a regression model does not necessarily mean that it is unimportant, since regression cannot capture the effect of those things which exert a constant influence (1981:78).

9. Pfeffer is a political scientist who spent a sabbatical in a factory, and was able to observe first hand the day-to-day workings of the union. My own experiences at an automotive parts factory where I worked for seven years led me to reach similar conclusions.

10. Freeman and Medoff (1984) report that the grievance and arbitration systems, by providing workers redress, have lowered significantly the numbers of workers who quit their jobs (pp. 104-107). This can be regarded as an added benefit of these informal systems justice for capital: less employee turnover results in lower labor costs for the employer (lower training costs, no loss of worker experience, etc.).

11. Over the years contract duration has lengthened, as companies and unions have shifted away from the once-prevalent one-year contracts to those of three years or longer. In 1947-48, less than a quarter of all contracts were for periods greater than one year (Woytinsky, et.al., 1953:274); in 1964, 36% of all union contracts were for three years or more, and this figure had reached 62% by 1981 (Wallace, 1989:24).

12. Abel (1982) has also questioned the very efficacy of arbitration in providing acceptable solutions to the plaintiffs. He invokes studies which suggest that plaintiffs in arbitration cases does worse than the litigant who is represented in a formal court. He also notes the inability of arbitrators to monitor compliance with decisions rendered (1982:298)

13. The use of the two-stage least squares method in calculating the residual of union density is not only theoretically grounded, but also allowed me to avoid problems of multicollinearity between
union density and one of my key variables: the frequency of arbitration appointments. The bivariate correlation between the two was exceptionally strong (.908), and prevented me from including the two variables in the model simultaneously. There exists no such problem between the arbitration variable and the calculated residual of union density.

14. I have used the less stringent level of $\alpha$, .10, because the size of the sample is relatively small (33 cases).

15. The number of arbitration appointments does not exist for the year 1947, because the arbitration system was not established until that year. Thus computing a lagged value of arbitration frequency would necessitate the dropping of the first case in the series. In order to avoid that necessity, I computed a reasonable "false value" for 1947. I first attempted to predict a value by estimating arbitration appointments using time as the independent variable (the variables have a .93 bivariate correlation); however, this yielded a negative value for the number of arbitration appointments, which is not logically acceptable. I then turned to the rate of change in arbitration appointments. The mean annual rate of change was .106. Thus, with 1948's value (646) as a base, I used the mean rate of change to compute a figure of 584 for 1947. Looking at the series as a whole, this does not seem to be an unreasonable figure. Thus the lag for 1948 was computed using the fabricated figure for 1947, allowing the analysis to continue without the loss of the first case. However, I also ran an analysis for the period 1949-1980 (dropping the first case), which resulted in no major departures from the results presented in Table 4. A comparison of the standardized coefficients for the significant variables follows (in parentheses is the coefficient for the 1948-1980 analysis): Frequency of arbitrations at $t-1$, .912 (.923); strike frequency at $t-1$, .110 (.095); unemployment rate, .077 (.084); and NLRB injunctions, .074 (.072). The change in real wages, significant in the 1948-1980 model, did not achieve significance in the 1949-1980 model.

16. The effect of arbitration on strike frequency is probably understated. The analysis presented here has included only those arbitrator appointments made by the FMCS; it does not include the number of private arbitrators to whom the parties may have appealed outside of the FMCS framework. Concurrently, the data reported by the FMCS indicate that arbitration rulings tend to render judgement on several issues at a time, thus diffusing several conflicts with one fell swoop. Accordingly, the effect of arbitration on strike frequency is almost certainly much stronger than what is indicated by my analysis.
APPENDIX

SOURCES OF THE DATA

What follows is a comprehensive list of the sources from which the data used in this study was culled. With the exception of the arbitration data, nearly all of the data are taken from the USECON Data Set, prepared by Dr. Michael Wallace, which contains a large number of political, economic and social variables for the United States, 1890-1990. The sources of the data for each of the variables included in the analyses presented here is as follows:


Three-Year Moving Average of the Change in Real Wages. This variable was derived by taking the Average Hourly Earnings for Manufacturing Workers (Non-Supervisory, Nonagricultural, Private Industry) (Monthly Labor Review [August 1983], Table 12, p. 83.) and
standardizing them by the CPI Index for 1972 to yield the real wage in 1972 dollars. From this variable representing real wages, lags were derived and change scores computed. Lages of the change scores were created and used to calculate a 3-year moving average of the change in real wages.


*Trough Unemployment.* This variable, which was used with the three above variables to estimate the Union Density Residual, is the previous high point of the unemployment variable, unless the current rate is higher.


*Organizational Effort* is constructed by taking the number of eligible votes in NLRB elections (from the annual reports of the
National Labor Relations Board, Table 16), and dividing by the number of non-unionized workers (derived by subtracting the number of union members from the non-agricultural work force).

*Presidential Election Year* is a dummy variable which is coded 1 for years in which there was a presidential election year, and 0 otherwise.

*The Disputes in which the Emergency Clauses of the Taft-Hartley Act have been invoked* is from published data of the U.S. Department of Labor, Bureau of Labor Statistics, and has not been standardized since the raw data is of such small absolute numbers.

*The Frequency of NLRB Injunctions against Unions* is taken from the Annual Report of the National Labor Relations Board (various years) and is the number of court injunctions sought by the NLRB against unions for violations of Article 10(1) of the Taft-Hartley Act, standardized by the union membership.

*The Frequency of Arbitration Appointments* is the number of arbitrators appointed by the Federal Mediation and Conciliation Service (FMCS, Annual Report [various years]) standardized by the union membership. The number of arbitration appointments for reported for 1976 were for a 15-month period (instead of the normal 12 months), due to a change in definition of the fiscal year; thus the data for that year were transformed by multiplying by .8 to achieve a 12-month figure which would be comparable to the rest of the series.
LIST OF REFERENCES


