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LA THÈSE A ÉTÉ MICROFILMÉE TELLE QUE NOUS L'AVONS RÉCU
STRIKE ACTIVITY
AND THE INDUSTRIAL RELATIONS SYSTEM IN CANADA

by

Brian L. Kinsley, B.A., M.A.

A thesis submitted to the Faculty of
Graduate Studies in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

Department of Sociology and Anthropology

Carleton University
Ottawa, Ontario
December, 1978
The undersigned recommended to the Faculty of Graduate Studies acceptance of the thesis:

"Strike Activity and the Industrial Relations System in Canada"

submitted by Brian L. Kinsley, B.A., M.A., in partial fulfilment of the requirements for the degree of Doctor of Philosophy

Carleton University
December 15, 1978
ABSTRACT

The study was undertaken to explain differences in strike activity between Canada and other countries of the western industrialized world and between time periods and among types of firms in Canada.

In the international comparison, it was found that there was a significant relationship between the industrial relations system and strike duration, frequency and time lost. Generally, strike activity is lower in countries which have national or industry level bargaining, a fairly well developed system of industrial democracy, an institutionalized system of strike restraints and a strong pro-labour party.

In the time series analysis, both economic and structural variables were shown to have a significant relationship to strike activity, especially frequency and time lost. For example, inflation and G,N,P. as a percentage of trend were positively associated with strike frequency and time lost. The hypotheses for strike duration were not supported to the same extent.
The firm level analysis was far more complex because the data is less adequate and there are a greater host of economic and structural variables that might have been considered in a model for explaining strike activity. Nevertheless, among other variables, strikes over wage issues tended to be longer in duration and firms, where conditions were physically difficult or dangerous, tended to be more strike prone.

It was concluded that strike activity is affected by economic and structural conditions mediated by the industrial relations system and that modifications in the industrial relations system to take account of changing economic conditions and varying structural factors should serve to decrease the incidence and duration of strikes.
TO

Peggy and Christopher who know what they had to give up and to Andrea and Lesley whose simultaneous arrival two years ago provided a joyful "distraction" for what was at times a not so joyful task.
ACKNOWLEDGEMENTS

I first wish to thank the members of my committee. I am above all grateful to Professor Don Whyte for giving me the freedom to write my own thesis while offering criticism and direction. Professor Smith of the Department of Economics showed interest from the beginning and demonstrated great patience while I worked toward a synthesis of the economic and sociological points of view. I wish also to thank Professor Charles Gordon who graciously accepted the role of a late-comer to the committee and without imposing new perspectives on the thesis made helpful suggestions for clarifying and expanding on some of the principal ideas.

In addition, I appreciate the advice and encouragement of Professor Frank Vallee, who served on the committee at an earlier stage.

My gratitude is also extended to the late Professor Zbigniew Jordan whose example and teaching has taught me to approach problems and ideas in a more disciplined way; that I may not have fully succeeded is not to his discredit.

I am grateful to the students of 610 who provided
a patient and tolerant sounding board for some of the ideas put forward at the initial stages of this research.

As well, I wish to thank Labour Canada for a grant of $2,000 which was used to collect data from the public archives.

In conclusion, it is only fitting that I should be a victim of an incidence of the very subject of this study. The recent postal strike delayed the arrival of critical comments from one of my advisors. If these comments have not been sufficiently taken into account, my final acknowledgement must go to the Canadian Union of Postal Workers.
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INTRODUCTION

A. PROBLEM AND OVERVIEW

Most countries take an interest in securing industrial peace in the sense that they wish to limit strike activity. Some appear to be more successful than others. Between 1971 and 1975 Canada lost approximately 0.35 percent of estimated working time to strikes and lockouts. Canada, according to this measure, ranks second to Italy in a comparison of strike rates among industrialized countries, and has a strike rate that is approximately three times that of the other 19 countries in this comparison (see Table 1). We may not consider strikes in Canada to be a serious policy problem but such outstanding differences require explanation.

The principal argument of the thesis is that the industrial relations system in Canada is so organized that the strike mechanism has become highly institutionalized and therefore a more frequently used and "acceptable" method for settling industrial disputes than for many other countries especially Japan and
those in Continental Europe. The industrial relations system has developed through the interaction between unionization and labour legislation. This has led the actors to emphasize firm or local level bargaining, and to deemphasize a social movement philosophy within the labour movement. Consequently they have shown less interest, both in the development of worker participation in decision making and in seeking other solutions to settling industrial disputes. This has led in turn to frequent and lengthy confrontations over immediate issues such as wages and fringe benefits and rarely over long term solutions to national economic problems, general welfare, the introduction of technological change and the like.

Such an approach permits us not only to explain why the strike rate in Canada is significantly different from that of many other countries but also why the variations in strike rates over time and among firms can be explained by changes and variations in economic and structural conditions.

To seek out the principal determinants of strike activity, at these three levels of analysis (international, national and firm level) three measures of strike activity are employed: frequency of strikes,
<table>
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<tr>
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<sup>a</sup> Mandays Lost X 100/Mandays Worked;  <sup>b</sup> Days Lost/Worker;  <sup>c</sup> Strikers/100,000 Workers;  <sup>d</sup> Strikes/100,000 Workers;  <sup>e</sup> Ranks Calculated Before Rounding.
strike duration and time lost as a percentage of estimated working time. The former two vary somewhat independently as frequency is an indication of decision and duration more a measure of effect than decision. To put it another way, at the macro level, numbers of strikes only indicate the number of decisions that have been made to use the strike as a means for settling a dispute. It is not a very useful indicator of the effects strikes have on the economy or work force. On the other hand, the length of the strike, especially in certain sectors of the economy, does give one an appreciation of the costs to workers and the economy. Because of the differences in these measures, frequency and duration of strikes must be treated separately. Time lost, like duration, is also a measure of effect but it is a composite measure and therefore cannot be "explained" by direct links to independent variables. Time lost is a function of the length of strikes, the number of workers involved, and the number of strikes. One can make direct theoretical links between actors and the decision to strike or the necessity of engaging in a short or lengthy dispute, but it is more difficult to do this in respect to time lost. Neither workers nor management makes a decision to involve
lesser or greater amounts of overall time lost. Given a specified work force, the decision to strike or not to strike for a certain period will determine the working time lost. Consequently, time lost will be used to buttress up and validate arguments relating to strike frequency and duration.

While the strike is the focus of this investigation, there is no suggestion that the strike is considered a serious problem per se or that it is especially serious in the Canadian context and one must necessarily work toward the reduction or elimination of this form of conflict. In short, one need not engage in a study of strikes with the view to offering other techniques for resolving conflict. Strike activity in Canada is an attractive problem because it is more prevalent than in many other countries, because explanations are as yet not totally satisfactory, because it is the most dramatic and well publicized form of industrial dispute and because it is better documented than other forms of industrial conflict.

Strikes can cause serious disruptions in certain sectors of the economy and result in hardship for businesses and individuals but in general they may not be as problematic as the popular literature has made
them out to be. More production may be lost to other forms of industrial protest such as absenteeism, sabotage, and inefficiency due to low morale than to strikes. We know, for instance, that time lost due to strikes in 1976 was less than 15% of the time lost from sickness, disability, bad weather or miscellaneous causes (Statistics Canada 1977: 80). This proportion dropped to less than 5% in 1977 (Statistics Canada 1978: 85). Moreover, production lost to strikes may be more easily redeemed, and at less cost than that lost to other forms of protest. Production lost to strikes does not always translate into an economic loss to society. Losses are minimized through postponed buying, stockpiling or purchasing alternative products or services. (This issue is discussed in a little more detail in Appendix A.)

In addition, the alternative to strike action may not be acceptable to labour itself or accommodated by the system of institutionalized arrangements that have evolved in Canada. The strike is clearly an outcome of free collective bargaining. To limit strike activity through legislative or other repressive means would imply an unattractive limitation to collective bargaining according to Dahrendorf (1968, ch.12) and
Hare (1958:4).

But, in the broadest terms, why do workers strike?

Workers strike when they believe that this is the best method for improving their working conditions and the material and non-material benefits they receive from their labour. A strike is a means of imposing such costs on an employer that the employer is forced to make concessions he would not otherwise make. To take strike action workers must assume they have a monopoly on the supply of labour. This monopoly comes from numerical and organizational strength and the protection of law. Workers are less likely to strike if an employer can by some means retrain other workers or operate the business relatively well without them in the short run.

This implies that there is a choice of strategies in settling labour disputes and that a number of conditions affecting management, labour or both can affect this choice. Some of these conditions, such as size and homogeneity of the workforce, affect the difficulty and cost of organizing for and maintaining collective action. Other factors impinge more directly on the worker and affect his attitudes toward the job
and employer and thus affect his willingness to participate in strike action. Such factors include income, job security and working conditions.

The next task is to describe how these variables are employed in explaining strike activity. Briefly, what is employed is a bargaining model which takes into account the two main parties, management and workers. A bargaining model is used because disputes are normally settled through mutual agreement between the two parties. It is further argued that each party attempts to maximize benefits and minimize costs. If strike action is taken, it is done so with the understanding that the rewards in the long run, if not in the short run, will be greater than costs, and both sides take this position. This is not to suggest that one party or the other cannot have mistakenly underestimated the costs or overestimated the benefits. As mentioned above, a compromise may be reached or one party or the other may be forced to concede everything.

B. Organization of the study

The thesis begins with a general discussion of social conflict, moves on to a description of the
industrial relations system and then delves specifically into the literature on strikes and the problem of strikes and becomes more and more specific in relation to strike activity as the argument develops.

Chapter one, deals very broadly with conflict theory and how it relates to industrial conflict. It provides the bridge between the more general discussions of conflict and strike activity as a specific manifestation of social conflict.

In chapter two a discussion is presented of the industrial relations system in Canada including labour legislation and the development of unionization and union philosophy.

Chapter three provides a review of the literature which has attempted explanations of strike activity. A critical appraisal of the literature will provide the substance for a more detailed outline of the principal model to be used in the dissertation which is set out in the latter part of the chapter.

Chapters four and five are given over exclusively to the presentation of data and analysis. Chapter four deals with international comparisons of frequency, duration and time lost to strikes. In chapter five the focus is entirely on Canada. The first section covers
changes in strike activity over time and the second with differences among firms.

The study ends with a conclusion which summarizes the findings and highlights the limitations.

The Appendix deals with the sources of data and the problems associated with using the various sets of data and independent variables for a study of strike activity. Briefly, four sets of data are used. For time series analyses, data are taken largely from Strikes and Lockouts in Canada, Labour Organizations in Canada and The Canadian Statistical Review. For an examination at the firm level, data have been taken from the Labour Canada strike files and the files of collective agreements (240 cases from the latter and 500 cases from the former). For a cross-national comparison, information on 20 countries was derived from the International Yearbook of Labour Statistics, national accounts data and the yearbooks of the countries concerned plus supplementary material from the literature.

C. The Method of Analysis

The technique used in the analysis is linear
regression and the equations generally take the form:

\[ \Delta Y = a + b_1 \Delta X_1 + b_2 \Delta X_2 \ldots + b_n \Delta X_n + \Delta e \]

where "Y" is the dependent or variable of interest, "a" is a constant, "X_1, X_2 \ldots X_n" are the independent or explanatory variables with their attendant coefficients and "\Delta e" is an error term. In the analysis frequent use is made of dummy variables first where there is no satisfactory interval measure or where the data departs too significantly from linearity.

In the time series analysis use is made of the Cochrane-Orcutt iterative technique, a response to problems of autocorrelation.

The most important point to be made here is that the emphasis throughout is on explanation rather than on prediction or forecasting wherever such a tradeoff is required. In the interest of tight prediction one might wish to use curvilinear analysis and leave the data in a relatively unmodified form. The logic here has been to use linear analysis and in some cases modify the data i.e. with the use of log forms, dummy variables or moving averages.
CHAPTER ONE

SOCIAL CONFLICT AND ITS APPLICATION TO INDUSTRIAL CONFLICT

Introduction

Social conflict is not only a readily identifiable type of social relationship but has been the object of study by numerous social scientists and scholars from Aristotle through Le Bon and Marx to such modern writers as Kenneth Boulding and Ralf Dahrendorf. The purpose of this chapter is two-fold. First, a brief review of some of the definitions, types and dimensions of social conflict will be given. The second part of the chapter will deal with the application of social conflict theory to industrial conflict with a particular reference to the Canadian context. This will provide a general framework for the particular manifestation of industrial conflict - the strike - which is the principal subject of this study.

In addition, the discussion of conflict here refers to conflict between groups or parties and not merely between individuals. A party is composed of two or more individuals and using Biersteadt's (1970:
278 ff) formulation may be (1) a societal group in which individuals share a common interest, states or identity and are conscious of this common identity, (2) a social group in which these two characteristics are combined with a communication network, or (3) an association in which all three characteristics are combined with a clearly defined hierarchy of authority and articulated goals.

A. SOCIAL CONFLICT

1. Definition

Conflict refers to a form of interaction in which two or more opposing parties directly attempt to control, neutralize, injure or eliminate their rivals (Coser, 1956:8), (Williams, 1970:218). Conflict erupts when parties hold and are aware they are holding mutually exclusive or incompatible interests and make a move to claim them; it has many forms. Weber states (1963:132-133).

A social relationship will be referred to as "conflict" in so far as action within it is oriented intentionally to carrying the actors own will against the resistance of the other party or parties. The term "peaceful" conflict will be
applied to cases in which actual physical violence is not employed. A peaceful conflict is "competition" in so far as it consists in a formally peaceful attempt to attain control over opportunities and advantages, which are also desired by others. A competitive process is "regulated" competition to the extent that its ends and means are oriented to an order.

Weber clearly suggests there is both peaceful and violent conflict and that competition is a form of peaceful conflict. Dahrendorf's definition appears to be informed by that of Max Weber; Dahrendorf states (1959: 135).

All relations between sets of individuals that involve an incompatible difference of objective i.e., in its most general form, a desire on the part of both contestants to attain what is available only to one, or only in part are, in this sense, relations of social conflict. The general concept of conflict does not imply any judgement as to the intensity or violence of relations caused by differences of objective. Conflict may assume the form of a strike, or well-regulated negotiation.

Williams (1970:218) conceptualizes three types of incompatible interests in stating:

Social conflicts arise from three great classes of oppositions: 1) from incompatibilities of claims of scarce loci of value, whether transferable or not transferable; 2) from incompatibilities of beliefs, norms, and value standards; 3) from the expression in behaviour of affective dispositions and impulses.

Coser distinguishes only two in stating that conflict involves a "... struggle over values and
claims to scarce status, power and resources..." (Göser, 1956:8). Values might be operationalized as goals and the means for achieving them and status, power and resources as the allocation of material and non-material rewards.

While these distinctions may be useful analytically they are difficult to maintain empirically. Groups that are in conflict over values or because of affective dispositions and impulses may be seeking psychological or material rewards or a change in the system that allocates them. For example, if the auto industry were to radically change production goals (placing more emphasis on manufacturing safe and long-lasting vehicles) and incorporating workers into the decision-making process, the rewards and the system for allocating them would likely change considerably.

The definition also suggests different types of resolution. If control is sought or achieved, one party retains or achieves dominance and thus can allocate the rewards favourable to itself or impose its system of values and beliefs on the vanquished. Likewise injury to or elimination of the rival will permit the victor to claim the spoils. On the other hand, two possible resolutions follow from neutraliza-
tion. Neither may gain access to the scarce resources - the pot of gold in no man's land which neither can touch for fear of annihilation - or both must tolerate each other's different values or beliefs. The alternative is for each to share the resources equally, modify their values or change their goals; in other words they must compromise.

Two other forms of interaction are related to conflict, either by contrast or comparison, namely cooperation and competition. Cooperation involves interaction where both parties stand to gain and where interests are compatible. Cooperation is the opposite of conflict (Williams, 1970:217). Competition refers to an indirect form of interaction in which a third party or the whole society stands to gain. As Simmel puts it:

Modern competition is described as the fight of all against all, but at the same time it is the fight of all for all. (Simmel, 1955:62 - emphasis his).

Competition is also distinguished from conflict by some writers in that it involves purely the pursuit of a goal without any attempt by the parties to control or eliminate their opponents. Mach and Snyder (1957:217) state that:
competition involves striving for scarce objects... according to established rules which strictly limit what the competitors can do to each other in the course of striving; the chief objective is the scarce object, not the injury or destruction of the opponent per se.

In a sense, the parties are neutralized and forced to share the resources either equally or in proportion to their own size and resources. Williams accepts this distinction (1970:218) while Dahrendorf does not (1959:209). Dahrendorf does not appear to take account of Simmel's qualification which is more important than that of Williams or Mack and Snyder.

In summary, social conflict involves a direct struggle between parties with incompatible interests in which one must gain at the other's expense and to which a gain by a third party is not necessarily associated.

1. Group Relationships and Social Conflict

Whether a relationship will be defined as one of conflict or as one having a high potential for open conflict is a function of the degree of dependency and the nature of the interaction.

Groups may be highly dependent or interdependent or highly independent and may or may not confront each other as equals vis-à-vis the principal point of interaction. Parties which interact as equal partners
in decision making and resource allocation are involved in a cooperative relationship which has low potential for conflict. There is a high potential for conflict between groups which are highly interdependent but where one group has greater power over the other and access to the scarce rewards.

Most complex organizations have a hierarchy of relationships - a separation between line and staff. The staff or management has greater authority in decision making and access to scarce rewards. In terms of power or authority the management group can be described as dominant and the other as subordinate.

However, because the groups are interdependent, control or compromise are the most likely solutions to any conflict which emerges.

Finally, conflict is potentially possible between groups which are independent, unequal in strength and which seek to secure scarce resources. The more powerful group may demand more than its "fair" share and ensuing conflicts may result in elimination, injury, neutralization or control of the weaker by the stronger group. The primary interest here is in those groups which are interdependent, yet unequal. Though such relationships have a high potential for conflict, they are not always
in a state of overt conflict; the conflict is latent. Conflict manifests itself only when the subordinate group becomes an interest group or conflict group. An interest group is a group in which the members have identified a common interest and have coalesced around a common ideology and specific goal, possibly with the aid of a leader. To this point, the group is what Dahrendorf refers to as a "quasi-group" or "a collectivity of individuals sharing positions with identical latent interests without having organized themselves as such" (Dahrendorf, 1959:237-238).

Dahrendorf's arguments can be summarized through the following statements:

(1) Every imperatively coordinated association is integrated around two distinguishable subgroups or parties. One party includes those who dominate and the other encompasses those who are dominated.

(2) Those who dominate usually have the power or authority to maintain their interests whether this be in power itself or in the differential rewards which generally accompany positions of domination.

(3) These sub-groups share interests in these differential rewards which are incompatible.

i. When these interests remain latent, the parties are merely quasi-groups.

ii. When these interests become manifest, the quasi-groups evolve into interest or conflict groups.
(4) When the group which is in a position of subordination becomes an interest group, the position of the dominant group is challenged and the system will be threatened with change. At such a point overt conflict is inevitable.

Three questions remain and are answered in succeeding sections: (1) Under what circumstances or conditions does a quasi-group become an interest group? (2) What are the dimensions along which conflict manifests itself? and (3) What are the possible consequences of conflict?

3. Emergence of Conflict

The emergence of conflict between two interdependent parties is primarily related to changes in the environment or in the relationship between the parties. Williams argues (1970:223) that a decrease in the frequency of interaction between the parties, assuming the other factors such as the inequality in the allocation of rewards and the degree of interdependency remain fairly constant, results in an increase in cultural differences and a decrease in empathy; these in turn will lead to greater hostility and conflict. Williams is largely concerned with individual conflict and when he speaks of cultural differences he is perhaps referring to differences in values, beliefs or perspectives.
Nevertheless, the proposition might equally apply to group conflicts. Frequent interaction assumes the existence of a good line of communication between the parties and this will presumably increase the degree of appreciation, or understanding of the rival's point of view. Continuous interaction might also permit the resolution of minor problems stemming from misunderstandings or ambiguities in the relationship. Cooper (1973:9) lends some support to the thesis. He found that strikes were of shorter duration when the people involved in bargaining had been involved in informal consultations throughout the entire tenure of the contract.

However, others have suggested alternative hypotheses. Communication and understanding can lead to an uncovering of mutually incompatible interests or values which can then lead to conflict (Bernard, 1957). Stryker (1951: 395-405) demonstrated that ignorance of differences led to harmonious relationships at least between parents and children. These studies do not altogether contradict Williams since frequency of interaction was not examined.

Secondly, changes may occur in the environment external to either party which accentuates the differences between them. For example, a decrease in the
ability of an employer to make profits may result in a change in the technology of the firm, or in the personnel or the expectations they have for the workers. A violation of the workers' expectations produces frustrations which themselves can lead to conflicts. Replacement of personnel due to economic factors, retirement or death might also bring about changes in the expectations of the members of the dominated group and provide the impetus for organized protest. In addition, changes in economic circumstances such as increased profits or inflation can result in demands for higher wages.

Finally, when the leadership of the dominant group attempts to change the goals of the organization, conflict is likely. The leadership group within the trade union movement has been moving toward a less militant and toward a more survival stance while the rank-and-file push for a greater role in decision making i.e. more power (Crispo and Arthurs 1968:251). In religious organizations the opposite appears to be true. The leadership is more interested in turning away from mere survival interests to the "real" mission of the church (Crysdale 1965: 88). Changes in goal orientation do not always bring conflict but only when
there is a lack of consensus between the groups, or as suggested above, poor communication links and insufficient time for implementation of change (Metz 1967: Ch. 9).

4. Dimensions of Conflict.

The discussion here refers to conflict between parties involved in an interdependent but unequal relationship although some of the arguments may be applicable to conflicts erupting in other types of relationships.

There are four main dimensions along which conflict may develop: conflicts may be communal or noncommunal, realistic or nonrealistic, of varying degrees of intensity and violent or nonviolent. These dimensions are not completely independent of each other.

Communal conflict refers to conflict which arises over issues which can be compromised and in situations where the parties are interdependent and there is a modicum of consensus concerning the overall goals the parties are attempting to achieve (Coser 1956: 75). Industrial conflict may be more frequently oriented to communal rather than noncommunal conflict. Noncommunal
conflict occurs when the parties disagree on the goals of the organization, or the means for achieving them as well as over issues on which there can be no compromise (Broyles 1967:855). The distinction between communal and noncommunal conflict is very similar to the difference drawn between the zero-sum and non-zero-sum game in game theory. Oberschall states (1973:52):

In zero-sum games, the interests of the two parties are diametrically opposed; what one player wins, the other loses. In non-zero-sum or mixed-motive games, the sum of the payoffs of each possible outcome does not necessarily add to zero.

A second dimension involves the distinction between realistic and nonrealistic or rational and irrational conflict, In Coser's words (1956: 49):

Conflicts which arise from frustration of specific demands within the relationship and, from estimates of gains of the participants, and which are directed at the presumed frustrating object, can be called realistic conflicts, insofar as they are means toward a specific result. Nonrealistic conflicts, on the other hand, although still involving interaction between two or more persons, are not occasioned by the rival ends of the antagonists, but by the need for tension release of at least one of them. In this case the choice of antagonists depends on determinants not directly related to a contentious issue and is not oriented toward the attainment of specific results.

Like other conceptual distinctions made in this chapter this too presents problems. By what means can one determine in a chosen antagonist is the presumed
frustrating object or an object chosen for the convenience of letting off tension or as a scapegoat? In addition, tension release may be realistic even if it does not involve the "rival ends of the antagonists". In some cases it may be quite realistic to work off tension against a group on objects which cannot "fight back". But this would seem a short term solution.

Furthermore, Coser seems to imply that conflict is a form of action, usually aggressive or violent, and therefore conflict can be judged as realistic or non-realistic. However, conflict is a relationship and as such includes a host of actions which can be judged as realistic or nonrealistic, rational or irrational, depending on whether they are goal oriented or directed at the appropriate party.

Hyman (1972:Ch.5) focuses on behaviour and argues that actions can be considered rational if: (1) there is an alternative course of action, (2) the knowledge on which the decision is being based is as complete and accurate as one could reasonably expect under the circumstances and (3) the means and ends form a coherent system. One may find some difficulty in making an empirical evaluation of such circumstances.

While this may not be as clear a statement as one
would prefer it is similar to those of economists e.g. (McKenzie & Tullock 1975) who suggest that individuals and presumably the groups with which they are associated make decisions which from the actor's point of view are designed to maximize benefits and minimize losses. Exchange theorists such as Blau (1964) and Weldman propose very similar arguments. Weldman states (1972:147):

We assume that human beings choose between alternative... courses of action by evaluating their experiences or expected experiences with each by a preference ranking. This ranking... guides their selection of the best perceived alternatives. We assume that the awareness of alternatives is limited, that alternatives are usually... evaluated in terms of short-term effects, that degree of satisfaction affects search behavior, and that in a good many cases social commitments restrict the available alternatives considered.

From these comments it would appear that a great deal of human behaviour is rational or assumed to be; it is rational in so far as there is some conscious choice of alternatives and from the actor's point of view the best alternative is chosen. This does not preclude the making of mistakes, but the actor will presumably learn from such mistakes and be better prepared to make future decisions.

The question is, in conflict relationships are
particular actions likely to be any less rational than actions in other social contexts? Unless one assumes that in the midst of conflict an actor is less likely to be goal oriented or consider the alternatives and consequences of action, one would have to conclude that such actors will not be more or less rational than those in other social relationships. This is not to argue that behaviour is never irrational or for that matter arational. Leibenstein and Weber offer qualifications on the assumption of rationality which are useful and instructive.

Leibenstein (1975) argues that rationality is selective or rather that it consists of a set of continuous variables. Individuals may be more or less calculating in their deliberations, rely to a greater or lesser extent on the views of others, be more or less sensitive to magnitudes of calculation and be more or less impulsive, to name a few. He might also have added that the parties to a conflict may be using different time frames over which the effects of a decision will be measured or take in or draw on a more or less limited data base on which to make decisions.

Max Weber (1963: 115-116) introduces four types of social action including rational-purposeful, action
based on absolute values, affectual action and traditional action. Only the first is purely, rational in that the actor considers the ends, means and consequences of any action. The second is rational to the extent that the means for achieving an action are chosen though the ends are given by loyalty or devotion to such things as church, state or leader. Affectual comes closest to irrational behaviour in that it is based on emotional responses. Traditional behaviour appears to be more arational than rational or irrational. The action may well achieve certain goals but there is no conscious input on the part of the actor. For example, in the live-and-let-live atmosphere of some traditional societies ritual battles are regularly fought but few are ever hurt or killed. However, if conditions were changed such that party A deviated from the traditional course of action, the effects on party B could be devastating. Only is party B, in the face of the change in action, did not alter its actions could the behaviour be considered irrational. (Charlie Brown, in the comic strip Peanuts, appears to be the most irrational of individuals in continuing to trust Lucy each season when she never upholds her promise not to jerk away the football during the kickoff.) Traditional
behaviour is akin to behaviour which has become highly institutionalized - perhaps over institutionalized. There are undoubtedly countless modern examples of this form of behaviour.

Of what use are these concepts? The concept of selective rationality is helpful in explaining why behaviour is not as predictable as one might have expected. (In some analyses it is considered random noise.) On the other hand, traditional or institutionalized behaviour may explain why behaviour which appears from an observer's point of view to be irrational nevertheless persists.

Thirdly, a conflict may vary in intensity. An intense conflict involves considerable expenditure of physical, material and perhaps emotional resources of a group's members. It also implies a high degree of participation by a large majority of members. According to Dahrendorf (1959:239-40) the intensity of conflict varies directly with how radical the changes are interpreted to be, indirectly with the degree of upward mobility between the dominant and subordinate group, the extent to which conflicts in other associations overlap, and indirectly with the degree to which the distribution of authority, rewards and facilities are congruent. The
radicalness of change refers to the extent to which those in authority at one point in time are replaced by those in subordination at another point.

Dahrendorf also suggests that the intensity of conflict varies inversely with the degree to which each party is organized. This appears to imply that increased organization leads to a lack of involvement on the part of members not in leadership positions. In addition, the relationship between parties may be accepted as more legitimate and become increasingly institutionalized.

Finally, conflicts may be violent or nonviolent. They may or may not involve the killing or maiming of people and the destruction of property; conflict and violence are not synonymous (Dahrendorf, 1959:211). Violence, Dahrendorf suggests (1959:238-39) varies directly with the suddenness of change and inversely with the degree of organization and the extent to which the conflict has been institutionalized. The suddenness of change refers to how quickly those in positions of domination are replaced by others, whether from the subordinate group or an alternative elite.

In summary, any single conflict relationship can then be rated as either violent or non-violent, more or
less intense, involving rational or irrational behaviour and being either communal or non-communal. Assuming these dimensions can be dichotomized in this way, it would be possible to set out 16 types of conflict relationships ranging from ones which involve rational decisions, are highly intense, violent and communal to ones which are irrational, non-violent, of low intensity and non-communal. However, not all may appear in reality and the form a conflict takes will depend on the kind of relationship that exists between the rival parties and the systems or society of which they are a part.

5. The Functions of Social Conflict

Conflict can affect the relationship between opposing parties and the internal structure of the parties themselves. The relationship between parties can be altered by conflict and this is the thesis advanced by both Marx and Dahrendorf. Marx, (1963:122ff) states: "No conflict, no progress; that is the law which civilization has followed to the present day." Dahrendorf (1959: 208) paraphrases this in saying: "Societies are essential historical creatures, and because they are, they require the motive force of
conflict - or, conversely, because there is conflict, there is historical change and development." This is echoed by Nieburg (1969:16-17) who makes the same point in stating that: "Conflict is an essential aspect of growth, one that we can neither fully control nor prevent nor should we try to do so." However, Dahrendorf (1959:136) does not agree that structural changes need be revolutionary changes brought about by the violent overthrow of the ruling elite.

On the other hand, Simmel (quoted in Coser 1956:133) argues that conflict can stabilize the relationship between two parties by indicating the comparative strength of each. He states:

The most effective prerequisite for preventing struggle, the exact knowledge of the comparative strength of the two parties, is very often attainable only by the actual fighting out of the conflict.

He also points out that conflict can result in a union between parties either through one giving up its identity to the other or by amalgamation (Simmel, 1955:13). Conflict might also be the integrating force between two parties as is the case for games of conflict.

Alternatively, conflict with another party can serve to bring internal unity and solidarity to a group, establish its norms and define itself (Coser, 1956:81ff).
B. INDUSTRIAL CONFLICT

1. Approaches to industrial conflict

There are two rather divergent approaches to the study of industrial conflict and these have been broadly characterized as the conflict and equilibrium approaches. However, few of the writers are purists and both traditions have variations within them.

The major conflict theorists have already been dealt with in some detail above. While most accept conflict as an inevitable aspect of the modern industrialized world, Marx, Dahrendorf, and Simmel see an end only through alterations in the system. Coser, Dubin and others simply see the conflict becoming a stable aspect of the management-worker relationship. The process of institutionalization has been discussed earlier in this chapter and need not be dealt with here.

In contrast to the conflict theorists, the equilibrium theorists assume the interests of management and workers are compatible and that the relationship is normally stable or can be stabilized. The earlier writers in this tradition adopted the human
relations perspective while the later scholars have
taken the systems approach.

Elton Mayo (1945) was one of the first of the
human relations school and saw conflict in industry as
a pathological state or unnatural condition that could
therefore be righted by "correct" industrial relations.
Problems between management and workers were thought to
stem from a lack of understanding and communication
between supervisor and supervised or in the failure
(because of lack of training or incompetence) of
management to follow sound industrial or human
relations practices. Brown (1954:69ff) gives Mayo a
very sympathetic hearing but his work has been
severely criticised for adopting a pro-management
stance. More recent writers appear to express the same
concern for the objectives of management; McGregor
states (1960:3):

Progress in any profession is associated with the
ability to predict and control, and this is also
true of industrial management. One of the major
tasks of management is to organize human effort in
the service of the economic objectives of the
enterprise.

He goes on to suggest a program for encouraging
workers to identify with the goals of management and in
this way bridge the gulf between them. The program does
not include worker control or a change in the objectives of management.

Systems theorists cast their net a little further to include environmental factors such as the market situation and internal conditions such as technology as well as role relationships and expectations.

The social-systems school looks upon management as a system of cultural interrelationships. The concept of the social system draws heavily on sociology and involves recognition of such elements as formal and informal organization within a total integrated system. Moreover, the organization or enterprise is recognized as subject to external pressures from the cultural environment. In effect, the enterprise system is recognized as a part of a larger environmental system (Johnson et al. 1973:412).

Nevertheless, the point of view varies little from that of the human relations perspective as the following quotation from the same passage suggests.

Managers are needed to convert the disorganized resources of men, machines, and money into a useful and effective enterprise. Essentially management is the process whereby unrelated resources are integrated into a total system for objective accomplishment (Johnson et al. 1973:416).

It is not that one can be critical of what is said so much as of what is not stated. The perspective is entirely that of the employer; it is as if there are no worker objectives which vary at all from those of management. To some extent they emphasize objectives
which are compatible. However, these writers either ignore conflict or believe it to be simply an inconvenient interlude in an otherwise peaceful and unitary relationship. Gouldner (1955), Dayal (1972) and Blake (1962) have also written in this tradition. Gouldner's position is somewhat ambiguous. He, for example, traces the cause of the wildcat strike he studied to changes in expectations. Changes in expectations which violated the informal norms that had been established over a period of time gave rise to serious tensions. Gouldner specifies seventeen hypotheses that relate violations in expectations to an increase in tension. Tension, he argues, leads to conflict. Had Gouldner argued that violations of expectations lead to manifest conflict, such an argument would have placed him more firmly among the conflict theorists.

Like conflict theorists, the systems theorists are interested in the conflict relationship itself, but concentrate on the more immediate factors pressing on the relationship itself as problematic.

2. Dimensions of Industrial Conflict

As suggested above, conflict is the prime mode of
interaction between the owners of industrial organizations or their representatives and the employees of these organizations or their representatives. Using the scheme outlined above how does one characterize this relationship? For the most part it is rational, low in intensity and violence and most often of the communal rather than noncommunal nature.

The conflict at the collective level can be characterized as rational for a number of reasons: First, most disputes centre around clearly articulated goals or grievances which can therefore be resolved - at least theoretically. Secondly, cases are argued and settled with the aid of as much information as can be supplied or acquired. There is little blind fighting. The fact that most contracts or disputes are settled without the most costly of tactics - the strike - testifies to this. For example, in 1966 (a very high strike year) 86.5% of the organized workers settled their contracts without a strike (Task Force, 1968:122) and such strikes only accounted for a loss of 0.34% of total working time (Labour Canada, 1971:16).

This is not to suggest that strikes are irrational. Strikes are costly and are therefore rarely taken before all the alternatives have been examined
in the light of pertinent data. They are normally consistent with the aims of the strikers - to win concessions not won at initial bargaining stages, although they do perform other functions internal to the union organization.

According to Dahrendorf’s propositions, industrial conflicts should be lessening in intensity i.e. in the amount of energy invested in them. Though there may not be fewer strikes and indeed there are not, strikes should be of shorter duration (less costly). Hibbs (1973:3) argues that this is the case but the empirical evidence for Canada suggests the opposite. In addition, unions are no longer perceived as the threat to management control they once were thought to be (Serrin, 1973:124) nor do the unions seem interested. Walter Reuther is reported to have said: “We make collective bargaining agreements... not revolutions” (Quoted in Serrin, 1973:157).

Dahrendorf also suggests that organization decreases intensity of conflict, including participation in organizations. Unions are better organized in the way that management always has been and now have a fair degree of protection from the law. Goldthorpe et al. (1968:Ch.5) showed that most members did not partici-
pate in union affairs and did not believe the union should have a say in management decisions. Goldthorpe also presented evidence that there was not a big differential between staff and line in terms of pay and in some cases the pay was lower for staff than workers when overtime was considered. This too supports the Dahrendorf hypothesis that intensity will decrease if the rewards are dissociated.

Violence is rare in industrial disputes. Even when the disputes reach the strike stage, few involve violence. This is attributed by Dahrendorf to the degree of institutionalization of the conflict process and the nature of proposed changes. Industrial conflict has become highly routinized. Most strikes occur at times of new contract negotiations (approx. 71% in 1976 -- Labour Canada, 1977:16). In addition, strikes rarely occur in industries or firms which are not unionized. Strikes themselves are highly institutionalized as well. The predominating pattern now -- especially for big firms -- is to close the struck plant and for the union to post only a token number of picketers. In the past it was necessary for union members to take over the plants or picket heavily to prevent the firm from using scabs or molesting the picketers. In the 1967
strike against Ford, the company supplied coal and barrels for burning it in so the men could keep warm (Serrin, 1973:153). There are numerous other indicators of institutionalization and Schuster specifies 24 such indicators related to eight hypotheses. Industrial conflict in Canada is shown to be institutionalized according to 17 of the 24 items (Schuster, 1970:305-307).

Finally, most issues of conflict are communal though the evidence is rather weak. The largest proportion of disputes revolves around wages and other negotiable issues. Fewer and fewer strikes occur over union recognition and similar noncommunal issues.

CONCLUSION

In this chapter an attempt has been made to outline the major concerns of social conflict theorists and to show their applicability to industrial conflict. It is theorized that the relationship between management and workers is mainly antithetical and therefore has a high potential for conflict. Despite this high potential for conflict, the disagreements, because of the interdependent relationship between the parties and
a steady process of institutionalization of the conflict, are most likely to occur over compromisable issues. In addition the conflict will normally be realistic, low in intensity, and non-violent.

To suggest that the relationship between management and labour is one of conflict does not imply that it is just one of conflict. There may be many issues and points of interaction that are of mutual concern, the resolution of which are of benefit to both parties (Walton & McKersie, 1965). But the main focus of the argument is on the conflict relationship.
CHAPTER TWO
THE INDUSTRIAL RELATIONS SYSTEM

Introduction

The purpose of the last chapter was to locate strike action, conceptually, within the framework of social conflict and to illustrate the characteristics and dimensions of this form of collective action. The objective of this chapter is to develop the argument that the choice of the strike mechanism is related to a particular institutional framework - the industrial relations system - which varies among countries and has changed over time. One can identify an institution as a set of formal and informal rules and sanctions which regulate behaviour with respect to particular social functions or needs. Essentially, certain forms of action and the rules governing them become routinized and "institutionalized" to the point where they are accepted as the common way of doing things; once rules are institutionalized they become, in essence, imperatives for action and impose themselves on the individuals or groups around which the institution has developed.
At a more concrete level one can describe the industrial relations system in the way that Craig (1975) does, for example. With such a model or conceptual framework we identify the inputs of the system, the outputs and the mechanisms for converting the former into the latter. There are two elements to the inputs. First, of direct interest are the objectives, goals and relative power of management, labour and in some cases an interested third party. But their goals and philosophy are shaped by several external systems including the environment, the political-legal system, the economic system, and finally, the social system. The environmental factors of climate, geography, resources and technology have a great deal to do with the type of industry and industrial organization that is established and this in turn will affect the relationship between labour and management. Equally important is the input of the economic system which includes the labour, product and capital markets. The accessibility of these markets will have an obvious effect on the power of labour and management and the development of their objectives and general philosophy. Thirdly, there are political-legal systems which
determine in a very direct way the organization of the industrial relations system and the development of mechanisms for achieving its objectives. Some of these mechanisms are imposed, such as bargaining in good faith, conciliation and the like. A fourth system Craig omitted is the system of ownership. As the Task Force on Labour Relations pointed out, Canada has a mixed economy; there is an underlying system of private ownership along with various forms of public ownership. This mix adds to the complexity of the industrial relations system and hence to its interpretation. Nevertheless, in a very real sense, it is the system of private ownership or separation of management and labour in the private sector which is central to the development of the industrial relations system in Canada and western industrialized countries. Finally, there are other social institutions the values and beliefs of which have had and do have an effect on the industrial relations system such as the church and educational institutions.

In short, these are the systems that provide the external inputs into the industrial relations system. The internal inputs encompass the goals and philosophy
of labour, management and not infrequently those of
government and private agencies which have a direct
interest in the affair or which represent those who
do. The outputs for the worker are what normally appear
in the collective agreement such as wages, fringe
benefits, vacations, protection against technological
change and the like. The mechanisms for converting
inputs into these outputs are what we normally think of
as the industrial relations process: collective
bargaining, conciliation, arbitration and for some
writers strike action as well. While Craig (1975: 7ff)
argues that the strike is a mechanism, it is as well an
output of the bargaining process. A strike is taken
which then usually forces another round of bargaining
leading to a compromise or the forcing of one side or
the other to concede completely. For the purpose of
this analysis the strike should be considered as an
output since it is the focus of the analysis while at
the same time remaining a means to achieve an end and
not an end in itself. The notion of a feedback loop can
be used because the outputs can and do affect both the
internal and environmental inputs just as they both af-
fected the particular conversion mechanisms that are chosen
at any point in time. As has been stated, the purpose of this study is to look at the conditions which result in strike outputs rather than a settlement without a strike. Needless to say, whatever level of analysis is engaged in, the various inputs and outputs will come into the analysis. This study concentrates on those which lead to strike action as a mechanism for converting the desire for more pay to a higher wage rate or the insecurity of job to protection against technological change. This schema is illustrated in figure 2.1 below.

The remainder of the chapter is devoted to the legislative and legal system and its effect on unionization and the development of trade union philosophy and objectives.

A. The Legislative Setting and Unionization

In modern times the political institution generally makes provision for five major aspects of social welfare and labour relations including the organization of labour and collective bargaining, the definition and certification of bargaining units, the
Figure 2.1: The Industrial Relations System

Inputs
- External
  - Environmental
  - Economic
  - Legal-Political
  - System of Ownership
  - Social

- Internal
  - Philosophy and goals of Labour Management
  - Public Agencies

Conversion Mechanisms
- Bargaining Arbitration
- Conciliation Slowdowns Strikes etc.

Outputs
- Wages
- Hours
- Fringe benefits
- Working Conditions

Feedback

Source: Adapted from Craig (1975).
settlement and regulation of disputes including disputes of rights and disputes of interest, union security and finally the general welfare and security of workers.

It was apparent that legislation was required to protect the welfare of workers almost as soon as workers were brought together in factories to work for a single employer or industrial structure. Few employers were as benevolent as a Robert Owen and the harshness and brutality of the early factory system is well documented by such writers as Engels (1969), Böwdich and Ramsland (1961) and Lipton (1973) to name but a few. Under general labour legislation laws have been passed to regulate hours of work, provide statutory holidays, minimum vacation and wages, prohibit the use and abuse of child labour, to provide unemployment insurance and workmen's compensation and finally to make minimum provision for job security. The act of 1972 requires that employers inform workers ninety days in advance of any technological change which will affect a significant proportion of the workers. After receiving such a notice the union is permitted to negotiate over the effects of the change.
Except for this last provision, that notice be given concerning technological change, welfare provisions are made under the general labour code or specific legislation rather than under industrial relations legislation per se. The other pertinent aspects of industrial relations (collective bargaining, regulation of conflict, union organization, and security) are dealt with under labour relations legislation either as part of the labour code, as in the federal cases, or as specific acts, as in the case of some of the provinces.

Workers have not been satisfied with the minimum standards set for working conditions, safety and rates of pay; they began to organize, based on the medieval guild system of Europe, at the beginning of the industrial revolution to protect their jobs and improve wages and working conditions. However, they needed both protection by the law against arbitrary and ruthless treatment from employers and the law itself - the freedom to organize. The first Canadian legislation of this kind was passed in 1872 by John A. Macdonald who anticipated a difficult election and therefore curried labour's favour which traditionally voted liberal. In an important strike the previous year by the Toronto printers, workers had been charged with conspiracy
in restraint of trade, a law originally passed to prevent monopolies among industries. The Trade Union Act of 1872 made it legal to organize unions and register a trade union. However, Macdonald also passed an amendment to the criminal code making it illegal to use violence and intimidation during the organization of a union or during a strike as well as a law against watching and besetting which covered picketing. What he gave with one hand, he took away with the other. Labour had the right to organize and call strikes but not the power to make them effective. To make matters worse, contracts were not legally binding on an employer, but it was a criminal offence for individuals to leave the employment of an employer (Lipton 1973: 40ff). In the subsequent liberal regime the laws were amended to make breach of contract on the part of an employee a civil offence and a slight change in the criminal code regarding watching and besetting made it possible for unions to use pickets to at least pass out information and employ non-violent techniques to enlist help and sympathy.

Little was done concerning the rights of labour to organize until after the passing of the Wagner act (1935) in the U.S. which clearly set out the right of
labour to organize without interference or intimidation from employers. Even then, it was nine years before similar legislation was passed in Canada. Only during the Second World War under the pressure of having to maintain war production did the act get more serious revision. An order in council in 1944 guaranteed labour's right to organize. This right has been retained in subsequent legislation and extended to employers as well.

These protections appear to have had a significant effect on trade union organization. It is clear in the early stages that workers were fired for trade union activity and charged in the courts for conspiracy for organizing unions and for conducting strikes. Police were enlisted in the aid of employers and this has been well documented (Lipton 1973; Stewart 1977). The Winnipeg General Strike is a particular case in point (Penner 1973). When the act was finally amended to permit workers to form associations and to engage in lawful union activity, unionization began to grow. It had been at a standstill until the early 1940's at approximately 16% of the non-agricultural work force and grew steadily from that time until the late sixties to approximately 35% of the non-agricultural work force (Labour Canada 1975:XVIII).
When the act was revised in 1972 this provision was reiterated and extended to the employer as well. That is to say, employers were given the right to form organizations for the purposes of regulating industrial relations. Virtually all provinces and the federal act make such provisions and in addition spell out in some detail the various unfair labour practices that are specifically prohibited with respect to the formation of organizations (Sufrin 1970: 43ff).

The second area covered by industrial relations legislation is the mechanism for defining and certifying the bargaining units for the employees. This was not effectively done until the 2nd World War with the passing of P.C. 1003 mentioned above and written into law in 1948 (Industrial Disputes Investigation Act). The board charged with the responsibility of certification of unions was given almost total discretion in determining the size and character of bargaining units, though it was directed to constitute professionals as single units. The board has laid out some of its own criteria for determining the composition of a bargaining unit; a bargaining unit is normally made up of a group which has a community of interest, generally a group in a single industry or plant confined to a small geographical area.
In practice this has led to the certification of rather small bargaining units (Labour Canada 1976b). Local unions average approximately 200 members and often there are two or more bargaining units per local (Statistics Canada 1977b). The Task Force on Labour Relations did not recommend a change in this discretionary power nor did they recommend the formation of regional bargaining units. However, they did recommend that some encouragement be given for the formation of large bargaining units. When the act was revised in 1972 the board was empowered to certify union councils as bargaining agents which gives some impetus to increase the size of bargaining units but the initiative must be shown by the employees. In a recent decision, bank employees among others were given the right to organize at a city rather than a branch level. However, the trend for the past few decades has been for small units and a change in emphasis and powers of the board will not bring about a sudden change in the size of bargaining units and therefore the level of bargaining. In addition, there are a number of other factors which militate against the organization of industry wide bargaining in Canada and these will be discussed in further detail below.
A third facet of industrial relations legislation encompasses the regulation of industrial disputes. This has taken two forms: the introduction of compulsory conciliation and arbitration and the regulations of strikes per se. Conciliation procedures were first introduced in special legislation in the early 1900's by Mackenzie King to settle disputes in the coal mining industry, disputes which were felt to be contrary to the public interest. Strikes were and still are prohibited until either a conciliation officer has interceded and submitted a report or the respective labour minister has ordered there will be no conciliation. The waiting period has been referred to as the "cooling off" period (Jamieson 1973: 126). This legislation was written into the labour relations act of 1907 and all subsequent acts despite the criticism (Woods 1955, Jamieson 1973). The Task Force on Labour Relations favoured voluntary conciliation but did not recommend any changes. As most countries, including the U.S., (Peach & Kuechle 1975:63) do not have compulsory conciliation, this is one factor that sets Canada apart.

There are numerous problems with and objections to compulsory conciliation. First, in being applied to
all levels of disputes it may lose the power to be effective in disputes which are of major consequence or appear to be contrary to the general public interest. Secondly, because conciliation is anticipated the parties may open negotiations with more "unrealistic" demands and be less willing to compromise than might otherwise be the case. There may be a temptation to treat the conciliation officer as an arbitrator and since a report must be submitted the officer or commissioner may and does act as an arbitrator and not just as an individual who attempts to encourage and promote voluntary agreement between the parties.

In short, the terms of reference of the conciliator appear to be contradictory. The conciliator is not only charged with helping the parties to an agreement but also with presenting a report (Canada Labour Code: 187). This presents the officer with a dilemma: does he recommend what is fair in his judgment or what he thinks the parties will accept (Carrothers 1965:393). Carrothers adds:

"The relevance of resolving this dilemma fades, however, in the presence of a greater one: whatever may be the basis of his recommendation, if the parties foresee that he will exercise his power to recommend, they will devote their efforts during the period of conciliation not to seeking agreement but to influencing the conciliation officer in the exercise of his power."
While expressed as a statement of fact, the argument might better have been stated as an hypothesis.²

Another major flaw Carrothers points out is that a conciliation officer or board must be taken into confidence and eventually offer suggestions for settling the dispute. The recommendation most likely to succeed or appear reasonable might be one which uses information that has been gained in confidence. The officer must treat the question of making recommendations with caution (Peach & Kuechle 1975:176).

Fourthly, the conciliation process may simply introduce a frustrating element into the bargaining process.³ It is virtually an outside intervention between the two parties and may result in, as some unionists argue, a "heating up" rather than a cooling off (Jāmieson 1973: 126). If this is the case it will have an effect opposite to that predicted and must therefore be based on a false assumption. There is some evidence that this is the case. As mentioned above, Mackenzie King seemed to argue that the strike was due to a "heating up" of the relationship between parties which implies an emotional, if not irrational, choice of mechanism for settling a dispute (King 1913). The waiting period was designed to give an opportunity to the conciliators to do their work as well as permit the parties to "cool off" and presumably take a more
reasoned approach. In his words:

The whole effort at conciliation is necessarily concentrated upon the elimination of fear and the establishment of faith between the parties concerned. Its main objective is to make self-evident wherein interests are common and not opposed (King 1918: 206).

However, it is more likely that an impasse has occurred between the parties because there is a genuine conflict of interest. This is not to suggest that compulsory conciliation cannot be used to resolve such conflicts. A second logical reason for compulsory conciliation may be that the strike is considered too costly to permit the parties to proceed without state intervention. Under what circumstances, then, can conciliation be effective? There are perhaps four major conditions which can bring about a divergence between management and labour; factors internal to the union (for example, the need for new leadership to flex its muscles (Serrin 1973), a decision based on a somewhat different set of information (the union on past profits and inflation - the management on expected profits and inflation), a misinterpretation of information or, finally, lack of information on the part of one party or the other. For the former two, conciliation is not likely to prove very effective and, for the latter types, the problems of conciliation have been outlined above.
The use of compulsory conciliation is well established in the Canadian industrial relations system in spite of its logical and practical problems. Most provinces follow the federal government in adopting this procedure for first stage conciliation at least. And the procedure has been utilized in a significant number of cases as documented by the Task Force (1969: 122). Between 1953 and 1966 conciliation officers or boards were involved with from 18% to 38% of employees in industries of 500 employees or more. There is no indication as to how many firms requested conciliation services nor does one learn how many firms were denied the service. From an analysis of 1974 data it appears that as many as 60% of the firms may have used the services of a conciliator and a minimum of 7% were not given such services though they were involved in a work stoppage and would have to have requested it.

With these very considerable problems can one expect that conciliation will have a depressing effect on strike frequency and duration as it is presumably expected to have? At best one might expect no effect; the evidence is presented in chapter five.

As mentioned above, a strike cannot be called until after a request has been made for conciliation services
and that request has been denied or an officer or board appointed and a report received. There are other regulations which affect strikes. Strikes cannot be called during the term of an agreement and can be prohibited in essential services or during an election. Disputes over interpretations of a contract are to be referred to arbitration. In addition, the act (Canada Labour Code, Ch. 18, Sec. 18(1)) states:

No employee shall participate in a strike unless he is a member of a bargaining unit in respect of which a notice to bargain has been given...

In effect, strikes are prohibited among workers whose right to bargain collectively has not been recognized.

Provisions regarding the right to strike or the conditions under which a strike could be called have changed substantially since the 1940's. The exception is that the public service was given the right to strike in 1967 with the passage of the Public Service Staff Relations Act. Under the terms of this act a union of federal public servants must choose, before bargaining commences, whether, in the case of an impasse, to submit to binding arbitration or to pursue the conciliation/strike route.

The Public Service Alliance of Canada has increased its membership by some 20% since 1976; the
increase may not have been related to the adoption of the act although the membership had been stable for some years before that date.

Finally, the fifth factor which can be seen as an important element in the institutional framework of the industrial relations system is union security as opposed to security to organize a union. Unions sought not only freedom to organize but freedom from fluctuating or low membership due to attrition or refusal to join and pay dues. Unions pressed for closed or union shops which would require union membership as a condition of employment. Since the 1940's it has been legal for contracts to require union membership, but many employers have resisted this. In the strike by auto workers against Ford in 1945 the union pressed for a union shop while Ford opposed it. Rand suggested a compromise - an "agency shop" where workers would not be forced to join the union but would be required to pay dues in support of the union which conducted negotiations on behalf of all employees. Under this "Rand formula" employers usually agree to deduct dues from source on written request from the employee.
The union and agency shop has a clear advantage for the union as an organization. It can depend on regular fees which are essential for self maintenance. The disadvantage for the rank-and-file is that over the short run it cannot register a complaint by withdrawing dues-paying membership when their concerns are not being promptly dealt with or taken into account. But, mandatory union membership does pose a dilemma for unionism according to Olson (1971). On the one hand, it is anti-democratic to require membership in an organization that may not represent your interests as you see them. On the other hand, individuals may not support an organization if they know the goals will be accomplished regardless of whether they join or not. Despite the anti-democratic nature of requiring union support, the federal government and all provinces but Quebec permit contracts to carry closed shop or agency shop clauses and the check-off.

B. The Structure of Collective Action:

The last section dealt mainly with the legislative system and to some extent how it affected unionization. This section looks at how the approach and
philosophy of collective bargaining has developed in response to this legislation, keeping in mind that the process is clearly an interactive one. The Canadian system is best illustrated in contrast to that of continental Europe. In Canada there is a greater emphasis on business unionism which aims at wrestling economic and fringe benefits from the immediate employer to protect workers against changes in economic conditions and technology. This is in contrast to a unionism that seeks changes at the political level to improve or maintain the welfare of all workers. In part, this results in a greater use of national or industry level bargaining as opposed to local level bargaining as is the case in Canada. In addition, in Europe there is more evidence of the imposition of sanctions against illegal strikes and of voluntary restraint on strike activity. Also, there is a greater emphasis on worker participation in decision-making. Finally, labour is not only more prone to direct political action but is more likely to support a pro-labour party. While each of these is examined separately they tend to form a single institutional framework for dealing with the problem of labour management conflict - a framework rather different from that of Canada. It is this
choice of approach, it will be argued, that makes the essential difference between the strike rate in Canada and that of many of the continental European countries.

1. National Level Bargaining

One can review the philosophy of business unionism by summarizing the views of Samuel Gompers who, according to Laxer (1976:40), argues:

that workers are able to improve their economic position without challenging the economic and political system of American corporate capitalism;

that the purpose of the trade union is simply to defend the immediate economic interests of their members;

that the interests of the workers and employers can be compatible.

Krugger makes a similar point (1975).

Worker organization, higher wages and fringe benefits and improved working conditions are what most unionists expect from unions. Although some also hope for political action, this is secondary, for the majority, to the union's function as an instrument for change at the workplace.

The utilization of national level bargaining is closely associated with the rise of business unionism and a deemphasizing of a politically oriented labour movement. In turn, these developments are related to the choice of the strike mechanism as a means for
settling disputes in a greater number of cases than in many other countries. This concern was expressed by Prime Minister Trudeau in a speech to the C.L.C. (Canadian Labour Congress) when he said, "Because employees are divided into so many bargaining units we are subjected to a series of successive disputes. We hardly get one settled when we are hit with another" (Quoted in Finn, 1975: 507). The fact that most of the bargaining takes place between a single employer and a single local union (Task Force on Labour relations 1969) is due to both legislation and conflicts within the labour union itself. There are a number of factors which contribute to an emphasis on bargaining at a local as opposed to a national or industry level. One prominent factor is the rise of business or market unionism as opposed to a unionism which concentrates more on political reform or social movement unionism as Porter (1965) calls it. Secondly, there is fragmentation of the union between national and international unions, craft and industrial unions and French and English unions.

Business unionism did not just spring up like Topsy without any evidence of previous growth. There
has been a schism in the labour movement practically from its beginning and it is exemplified by other schisms such as that between craft and industrial unionism and national and international unionism. Business unionism has a class collaboration self-help philosophy in contrast to a class consciousness or class conflict philosophy. The former concentrates on improving the immediate economic benefits of the worker while the unions imbued with the latter philosophy press for changes at the political level, for universal standards, income redistribution and the like.

The debate over whether the union should move in a political or non-political direction peppered the history of the T.L.C. (Trades and Labour Congress). The closest it came to political action was in its endorsement of labour candidates in the 1906 election. Not long after, however, it purged such unions from its ranks; the congress withdrew the chapter of the C.B.R.E (Canadian Brotherhood of Railway Employees), whose president was a strong socialist and nationalist, ostensibly because it could not support dual unionism; the T.L.C. supported an international union which claimed jurisdiction over
railway employees. Then, in 1921 it appeared to support the formation of the Dominion Labour Party but within a few years reaffirmed its independent stance vis-à-vis direct political involvement.

The slide toward business unionism cannot easily be disentangled from two other factors - the division between craft and industrial unions and the presence of international unions. The constitutions of many craft unions did not permit direct political affiliation and this made it difficult for a congress dominated by such unions to directly support a political party. Lipton puts it rather bluntly: "Craft and business unionism-minded officials based on international headquarters killed the Labour Party." (1973:235) This was done by threatening to withdraw charters of unions that put forward labour candidates.

Even with the development of the C.C.F. (Canadian Commonwealth Federation) party in 1932, there was no strong effort made to make it a pro-labour party. The constitution did not permit affiliation of labour organizations at the national level, but only at the provincial level. Mosher
might have brought the A.C.C.L. (All Canadian Congress of Labour) and the C.B.R.E. into the C.C.F. party had its constitution permitted but there were strong opponents against such a move within the congress and the union (Horowitz 1968: 66). Mosher had been the only representative of labour at the founding convention of the C.C.F. party which tended to have greater appeal to the western farm radicals and middle class socialist than the industrial or transportation workers.

However, elections in the 1950's in British Columbia, in which labour and the C.C.F. cooperated, indicated how association between the C.C.F. and labour could bring positive results at the polls. This spurred party officials to begin working toward a new party which would this time explicitly involve labour. Nevertheless, there was staunch avoidance of calling it a labour party just as the old party had avoided the use of the term socialism. The N.D.P. (New Democratic Party) was founded in 1961; its philosophy was designed to appeal to as broad a spectrum as possible, including small-l liberals, labour and radical farmers. In this they have been successful in three western provinces and are strongly entrenched in a fourth. Little or no inroads have been made federally. (}
This fear of being associated with European type socialism goes back to the 1920's and 1930's when many unions were purging themselves of communists and labour congresses of communist inspired unions and locals. The treatises by Horowitz (1968) and Abella (1973) deal with this issue in considerable detail. Ironically, the large component of communists in the labour movement did not contribute to the promotion of a philosophy of class conflict but of class collaboration and introduced a further schism in the movement which deflected, its interests and energies. In the early 1940's the communists supported the war effort and encouraged its members to vote for the King government as the government of national unity. It ignored almost completely the interests of the workers at both the local and national levels. The communists were opposed to strikes and supported current national political policies. This lack of concern for the interests of workers led to the demise of unions with communist leaders such as the Mine, Mill and Smelter workers.

The C.L.C. has clearly been trying to eke out a role for itself in participating in national policy decisions but has had a very difficult time doing so. It called a national day of protest over the introduction
wage and price controls but this tactic did not receive overwhelming support (Stewart 1977: 143-144). It has suggested tripartite decision making concerning wage and monetary policies but again has met with less success within its own ranks than with business or government. Finally, it has had to withdraw its membership from such agencies as the Economic Council of Canada because it felt its views were not being heard let alone heeded. Porter (1965) suggested that by 1961, the year of the formation of the N.D.P., it may have been too late for the development of a more social movement oriented philosophy. His further comment about the power of labour still seems apt. He stated:

Labour leaders are...on the periphery of the over-all structure of power, called in by others when the "others" consider it necessary, or when the labour leaders demand a hearing from the political elite (Porter, 1965: 540).

Canadian labour is further fragmented by the division of the labour movement into numerous industrial and craft unions - especially craft unions. In 1975 there were some 192 unions excluding hundreds of unaffiliated locals. Sweden, with nearly as many organized workers has half that number and West Germany, with more than twice as many workers unionized, has
only 23 unions. Craft unionism itself mitigates centralized bargaining in that its logic is to organize by craft rather than industry and most of the craft unions are internationals which prohibit political affiliation. According to Porter (1965:350) 93% of the C.C.L. leaders supported the C.C.F. along with 74% of CNTU Leaders but only 45% of the T.L.C. leaders supported the C.C.F. party. This indicates the varying support given to a socialist inclined party. The T.L.C. was composed largely of craft unions.

Labour legislation developed first along British lines and later in correspondence with American law. This was even truer of the labour movement; Canadian workers have joined "international" unions but the head-offices are all in the U.S. and the jurisdiction of these unions does not extend beyond North America.

This, according to Cook (1976:11-12), militates against the development of centralized bargaining and national union policies. Approximately 59% of union members in Canada belong to international unions. If one excludes government employees who are unlikely to belong to international unions, the figure rises to over 68%. This is not to suggest that Canadian unions have been all that successful in defining a broader role in
industrial relations than the international unions as Williams (1978:78) so rightly points out.

International unionism has contributed to north-south ties as opposed to east-west ties which further inhibits the development of a labour movement with national interests. Quebec workers have generally been more nationalistic than workers in other parts of Canada and joined Quebec based unions as opposed to international unions. The first unions were confessional unions before they broke with their formal Catholic affiliation. At present about 37% of Quebec unionists do not belong to unions affiliated to the C.L.C. while only 13% of other Canadian union members do not (derived from Statistics Canada 1977 and Labour Canada 1977).

Finally, the fragmentation in the labour movement is matched by the fact that most industries, with respect to industrial relations, come under the jurisdiction of the provincial governments. While it is true that most provinces have passed legislation that is similar to the federal legislation, there have been notable exceptions. For many years Quebec did not have comparable legislation and in recent years a number of governments (notably British Columbia,
Saskatchewan and Quebec) have introduced legislation that gives added protection to workers. In B.C., unions have the right to picket companies that deal with a struck plant, and Quebec laws make it more difficult to hire replacement workers during a strike. Saskatchewan has made it possible for strikers to be eligible for welfare if it is needed. Australia is the only other nation where labour falls under state or provincial jurisdiction.

2. Industrial Democracy

The second factor which distinguishes the Canadian North-American and British system from that of Continental Europe is the extent to which workers have been encouraged to participate in plant level decision making. These decisions may include such factors as allocation of work assignments, procedures for hiring and dismissing employees, the introduction of new technology and the like (Jenkins 1973:1-8). There are ways workers have been encouraged or obliged to participate in decision making; Germany's co-determination model is the most often referred to. All industries in Germany with 5 or more workers must have a works council which shares in decision making.
and receives advance notice of changes in company plans and policies (Malles 1973:175). Along with Germany and Austria the Scandinavian countries, the Netherlands, Belgium and Japan appear to have the most advanced systems. France, Italy and Israel are just experimenting. The closest Canada comes to worker participation are union-management committees and the requirement for such a committee now appears in many collective agreements.

Ironically, some European countries are examining the Canadian system as it incorporates a rudimentary form of worker participation without splitting the workers between works councils on the one hand and unions on the other. In most European countries the union is separate from the works councils (Schregle 1976). Workers' participation, which extends to workers' control, has obvious implications for labour-management relations. At present, industries are organized from the top down; in worker controlled industries this is reversed. A number of plants and industries in Canada have been taken over by the workers (Pitts 1978:27), and in such cases the conflict relationship between employer and employee is substantially reduced. This does not eliminate all conflict since some differential in power among employees will
persist as in most human relationships but, on the whole, conflict is clearly diminished.

Since, in most countries, worker control *per se* has not reached a very significant level, one can exaggerate the effects it directly has on the settlement of industrial disputes. It does eliminate conflict with respect to issues over which workers have been given genuine decision making power but, at the same time, it is closely related to other aspects of the industrial relations system. The development of various forms of industrial democracy has the same evolutionary roots as the other factors in this discussion such as national level bargaining, the negotiation of a basic agreement and the growth of a pro-labour party. Mann comments on the relationship between unions and worker control *vis à vis* Britain. He stated (1973:32-32):

It is now evident that the almost exclusive preoccupation of the trade unions with economism is not a mere case of "betrayal" by their leadership; it is rooted in the worker's very experience, and reinforces the union's position. Normally confronted by an employer who will budge on economic but not on control issues, the worker takes what he can easily get and attempts to reduce the salience of what is denied him. Though this leaves him partially alienated, it does not place him, as it were, "outside" the structure of capitalist society, but rather compromised by it. Hence he grasps neither the totality of society nor alternative structures.
Goldthorpe et al (1968) make a similar point in their discussion of affluent workers whom they argue appear to be satisfied in seeking economic and instrumental ends rather than any form of worker control. They are simply no threat to private ownership even in a country where a labour party enjoys political power.

3. Restraints on Strikes

As outlined above, in Canada there are clearly defined legal provisions setting out who can strike under what conditions. The most recent legislation on the subject was passed on April 21, 1978 making it illegal for postal workers to strike during an election campaign (Canadian Press 1978). In Europe, as Malles (1973) points out, the right to strike stems from basic civil rights rather than from specific labour legislation. By the same token, the rights of those who may be hurt, as third party bystanders, are also recognized and thus strikes may be limited, not by direct statutes, but by the implication and precedents of civil rights litigation. In many countries there is greater emphasis, once an agreement has been made, enforcing the law more strictly.

Above all, in many European countries there is
a much greater emphasis on voluntary restraint and establishing agreements not to strike. This is especially true in Switzerland. In Switzerland, a large trust fund has been established which is forfeited if either party precipitates a strike or lockout (Schregle 1974). The primary experience in North America has been with the Steel workers in the U.S. and perhaps this is a pattern that will be repeated.

Just as strike action is left to voluntary restraint and control in many continental European countries, the same is true of third party intervention. In many countries such as Austria, Germany and the Scandinavian countries, conciliation, mediation and arbitration are well defined and established procedures but, for the most part, there is no compulsion or mandatory "cooling-off period" as there is in the Canadian case (Malles 1973: 123-131).

4. Political Parties and Labour Relations

The final element in the industrial relations system to be discussed is the role of national labour parties. In countries with a labour movement more inclined toward a social movement philosophy, one finds labour parties with a stronger role in national poli-
tics either as a strong opposition party or the party in power. In continental Europe, political action was the initial method of promoting the welfare of workers in contrast to North America where improvements in wages and working conditions first came through collective bargaining and only later were consolidated through statutes (Malles 1973).

However, as Bouvard (1972) points out, not all labour congresses in European countries have affiliated with labour parties. In some countries such as Sweden and Norway affiliation was compulsory but there has in recent years been a movement toward more independence. In addition, the existence of a strong or moderately strong socialist or pro-labour party does not automatically signify strong labour movement origins or ties. As has been demonstrated earlier in this chapter, in Canada the socialist party had its origins in a broader movement of Fabian socialists and grass roots farm protest and in a minimum of labour activists. The British labour party still has strong ties to intellectual socialists brought up through Eton and Harrow, Oxford and Cambridge, just as do members of the Tory party.
The relationship between the presence of a strong pro-labour party and industrial conflict is somewhat ambiguous. A labour party, whether in power or a strong minority in opposition, may either pass legislation favourable to the workers or take a more positive position toward labour demands. The latter would tend to encourage labour disputes and strike activity while the former would tend to discourage industrial disputes by dealing with or eliminating issues over which disputes are likely to erupt. However, as indicated above, there tends to be less interference as a whole in labour relations in continental Europe. In short, it is difficult to separate cause and effect. The early existence of strong labour parties predated in many cases the labour movement and set the stage for a more liberal position vis-à-vis labour, and this liberalism makes it unlikely that governments, whether pro labour or not, will interfere with the institutionalized process.

CONCLUSION

Compared to continental Europe, the industrial relations system in Canada places a stronger emphasis
on bargaining at the local level, has a less well developed system of industrial democracy, makes greater use of compulsory third party interventions in industrial disputes, has fewer voluntary restraints on strike activity and finally, has been slower to develop labour's interest in support of a national labour party.

While each of these factors has been examined as a somewhat independent phenomenon, they are clearly interdependent. The development of national level bargaining is affected by split political and trade union jurisdictions, national versus international unionism and the schisms between business unionism and a politically oriented labour movement.

Many of these schisms have been created by or frozen in the constitution and statutes. The British North America Act gave the larger responsibility for labour to the provinces, as if the regional labour market has only a marginal effect on the national economic system. Legislation forbids strikes during the term of agreement and among non-unionized workers, and introduces a waiting period during which compulsory conciliation takes place. In addition, legislation sanctions the union shop and check-off (Rand
formula) systems, the demand for which came from labour organizations in Canada. Furthermore, the regulations governing certification have permitted the establishment of small local bargaining units and have not encouraged the formation of larger regional or industry, let alone national, level bargaining units.

This general orientation, it is hypothesized, leads to the choice of the strike as a mechanism for settling disputes in a much higher proportion of cases than for many other countries. In countries with national level bargaining, rational decisions are made in a broader context. All firms will have to meet roughly the same terms and will not have to fear competition from firms in a position to pay lower wages. In addition, since bargaining takes place among national employer and employee organizations, it would not be productive for a local union to call a strike against an employer who has only a minimum role in negotiating a collective agreement.5

Worker participation reduces the issues over which there might be disputes. When workers own and control an industry, decisions are presumably made in consideration of the employees and not just the firm in abstract. No basic conflict relationship would
exist, hence no logic for industrial disputes.

Legal restrictions against strikes among non-unionized workers seems unnecessary. Strikes, almost by definition, are organized collective action. The likelihood of workers striking without being organized is improbable. Most "wild cat" strikes are neither spontaneous nor unorganized (Staple 1977). Organization sufficient for calling and maintaining a strike is surely sufficient for certification if not recognition. The second type of legal restraint is third party intervention. Strikes are prohibited while conciliation takes place; but, can either the waiting period or conciliation solve industrial disputes? Conciliation appears to be based on a false assumption. Conciliation can work if either party or both have insufficient information, have interpreted information incorrectly or have miscalculated the consequences of conflict. However, it has been argued that conflicts are essentially rational - parties will have examined the available information and options and thus the role of a conciliator, in most cases, may be superfluous. In addition, pressure is placed on the conciliator to render the judgement of an arbitrator
rather than conciliate and to bring the immediate conflict to a resolution as opposed to seeking a longer term solution. Finally, with compulsory conciliation the parties may put less effort into settling at an earlier stage. With the weight of these factors against compulsory conciliation procedures one would not expect such third party intervention to diminish the probability of industrial disputes leading to strike activity.
FOOTNOTES

1 This has been borne out. Banks in the Ottawa area have organized at the branch level. This was facilitated by the changes to the labour code which make it possible for the industrial relations board to impose a first settlement. This clearly aids the small bargaining unit which may not have the power to wrestle an initial contract from a reluctant employer (Canada Labour Code, April, 1978).

2 According to Peach and Kuechle (1975:176), this dilemma is avoided by many mediators by not making recommendations or making recommendations that the parties have virtually accepted. However, their primary evidence is based on the U.S. experience.

3 Peach and Kuechle (1975:66) indicate how General Motors and the United Auto Workers get around the intervention of the state.

There are other social-economic factors that raise questions about the ability of the legal system to cope. Witness, for example, the regular practice of some companies and unions regarding conciliation requirements under Canadian law. General Motors Corporation and the United Automobile Workers, for example, abhor government involvement in the collective bargaining process. Thus, as a matter of formality, they schedule meetings with the Director of Conciliation Services at the start of each bargaining session. Typically they meet for less than ten minutes and request the conciliator to write a report indicating that he was ineffective in securing a settlement. Then, the statutory time period begins to operate so that a strike deadline comes into being, leaving the parties free to strike or lock out when the contract term expires. Consequently any expert aid which might have been secured from an outside party is consciously avoided and the parties are left to their own devices.
In some provinces, Ontario for example, conciliation cannot be denied and it is rarely denied at the federal level (Labour Canada 1977).

It could be argued that national or industry level bargaining would lead to fewer but larger strikes. However, strikes of this magnitude would be difficult to organize and very costly, and thus unlikely.
CHAPTER THREE
EXPLANATIONS OF STRIKE ACTIVITY

Introduction

The purpose of this chapter is to describe and evaluate some of the explanations of strike activity that appear in the literature. There are four major types of studies to which one can refer. Two of these involve macro-level analysis and the other two micro-level studies - those which choose the level of the firm or plant as the unit of analysis. First, there are time series analyses which usually concentrate on a single nation for a specified period of time. Cross-sectional studies are a second type; they normally focus on comparisons among nations, states, provinces or industries. Thirdly, a few but growing number of studies are based on a sufficiently large number of firms such that generalizations of some sort can be made. Finally, there are case studies, which, as the name implies, deal with a single firm or plant - usually one which has reached national attention, has been chosen for some methodological reason, was close
at hand, or was selected for some other fortuitous reason.

Case studies do not often outline or provide tests for general "models", but serve more to highlight the great variety of causes that can bring about strikes at the organizational level. For this reason, less attention will be shown to such studies. Many time series, cross-sectional and firm level analyses provide explanations based on explicit or implicit models. Most are based on two important assumptions. First, labour relations involve two principal parties - management and workers - and disputes between them are settled through negotiations or bargaining and not by unilateral actions, adjudication or arbitration.

Secondly, the decision to strike is generally based on a rational calculation that the benefits of such action will exceed the costs; some of these include the cost of organizing a strike, acquiring information and the lost wages and benefits for workers and profits and customers for management. While these are the most common ones, not every model deals with them and most make additional assumptions. Each model will be examined in the context of its chief exponents.
under the following headings - social cohesion and collective action, militancy and strike activity, structural imperatives and industrial conflict and bargaining models.

A. Social Cohesion and Collective Action

The work by Kerr and Seigel (1954) was one of the first to examine the differences in strike frequency among industries and understandably, the model is less explicit than one might wish. Essentially, they argue that segregation of workers in unpleasant jobs leads to greater social cohesion which in turn results in a greater frequency of strikes.

The authors arrive at this conclusion after examining the strike prone industries in some eleven industrialized countries. The workers who were most strike prone (miners, textile workers, loggers and longshoremen) had two characteristics in common. First, they tend to be either physically or socially isolated from the general population. Secondly, the work involved in these jobs is very unpleasant - it may be repetitive, physically exhausting, dangerous or dirty.
They point out that both characteristics have to be present - isolation and unpleasant work - before there is a notable relationship with strike activity. However, they do not give us a fully explained rationale for linking these factors to strike activity.

Taking their generalizations, one can make some inferences. They suggest that isolation and unpleasant work increases social cohesion among workers, assuming that it does not also increase cohesion between management and workers. In addition, we must assume that strike activity is a form of collective action that requires a considerable degree of organization which can maintain loyalty and discipline. Presumably, social cohesion contributes to or is a dimension of social organization. However, as Eldridge (1968) points out, the term social cohesion just becomes a substitute for isolation and unpleasant work. There is no independent measure for it. In short, we can just as easily link isolation and drudgery of work directly to strike action. If the argument has merit, we must make a further assumption. Where workers are isolated, there will be greater communication both on and off the job and this will be enhanced by the unpleasant nature of
the work. Then, one can argue that the greater the communication among workers, the less costly it is to organize them. The less costly it is to organize them, the less costly it will be to sustain collective action, i.e., strike action. Assuming this is what the authors had in mind we have what might be called the social cohesion model of strike activity. But the authors do not stop at presenting their own case. They reject other possible explanations not so much for theoretical reasons but because empirical evidence did not support them. First, they rejected a set of economic factors including the sensitivity of the industry to the business cycle, the structure of the product market, the elasticity of demand for the product, labour's percentage of total cost, profitability, average size of plant, the state of technological change, and the rate of expansion or contraction of the industry. The second set of factors they reject are those related to the bargaining system such as, the presence of dominant personalities, actions in bargaining techniques and the political climate. It is true, many of these would be randomly distributed among industries or firms and not contri-
bute to differential rates among industries. Concerning the economic conditions, it is not apparent just how much evidence was amassed in their refutation since none at all is presented or alluded to, other than the statement that nothing promising seemed evident. On the contrary, Shorey (1975) demonstrates that there are economic and structural conditions that account for differences in strike activity among industries including wage rates, firm size, proportion of female workers, the rate of change of capital stock and productivity, and the proportion of the workforce on piece rates. In addition, Eisele (1974: 569) states there is a higher strike rate in plants using assembly line techniques compared to those involving continuous process or small batch manufacturing.

Two additional criticisms can be levelled at the analysis of Kerr and Seigel. First, since it is usually plants or firms that are struck rather than industries, many of the variables should be measured at the firm or plant level rather than the industry level. This may eliminate some of the glaring inconsistencies they and others have noted. Secondly, they do not consider, nor does Shorey, the proportion of union-
ization in each industry (which in itself would have to be explained) and how it relates to strike action. There are considerable differences in rates of unionization among industries; because most strikes take place in unionized plants some consideration must be given to this factor.

In conclusion, a number of structural or organizational conditions will affect strike activity to the extent that they affect social cohesion; that is, they determine the cost of organizing a group of workers to take part in this form of collective action. This is an important argument and will be explored further in the chapters dealing with firm level analysis.

B. Militancy and Strike Activity

A number of authors attribute strike action to the aggressive nature of particular types of employees. In some cases it is just considered a necessary intervening variable while in others it plays a more prominent role. Kerr and Seigel (1954: 147) state:

If a job is physically difficult and unpleasant, unskilled or semi-skilled, and casual or seasonal and fosters an independent spirit (as in the logger in the woods), it will draw tough, inconsistent,
and virile workers, and they will be inclined to strike. If the job is physically easy and performed in pleasant surroundings, skilled and responsible, steady and subject to rules and close supervision, it will attract women or the more submissive type of man who will abhor strikes.

While one can be amused at this type of characterization, the aggressiveness is seen as a necessary intervening factor in strike causation.

As a final example, Shorey (1975) often uses this type of language when developing his rationale for examining the effects of certain variables on strike activity. He suggests that women by physical nature and socialization tend to be less aggressive than men. In addition, he argues that changes in wages between industries or over time will cause men to become more aggressive or militant. This introduces a different line of argument and attributes changes in militancy to structural changes.

If one cannot attribute militancy to psychological predispositions, to what can one attribute it? Crispo and Arthurs (1968) suggest that militancy has been increasing and that it is attributable to the changing characteristics of the work force i.e. age and education levels and to alterations in economic conditions. They
argue that the younger and more educated worker entering the market, not having experienced the difficulties of unemployment, depression, etc. will not settle for the wages and working conditions of older and less well educated workers. Apart from blind faith they seem to put in youth and formal education, it would appear to be difficult to explain a dramatically fluctuating strike rate by gradual changes in age composition and levels of education in the work force.

Their latter point, however, is well taken. Changes in economic conditions, technology and the undermining of customary relationships affect degrees of militancy. High unemployment and inflation, changes in salary scales among white, blue collar and professional workers and violations of normative expectations encourage increased demands for higher wages, job security and changes in working conditions (Hyman 1975: 233ff), (Gouldner 1954).

Changes in strike activity are not the only evidence of increased militancy; unionization itself might be considered as evidence of this effect as well. In 1962, only 16% of unionized workers were females; in 1973, 26% were females (Statistics Canada 1977: 48).
This is perhaps the case because there has been a phenomenal growth in membership in white collar unions. Since 1967 CUPE has had a membership increase of over 100%, from under 90,000 to over 185,000 members, while the United Steel Workers, the largest industrial union, has increased its membership by only 50% to about 185,000 (Labour Canada 1969 and 1976).

To put the argument another way, tradition may better explain why some industries are more strike prone (militant) than the psychological predispositions of the workers attracted to them. Individuals do not have the flexibility in occupational choice that the Kerr and Siegel thesis implies (Pavalco 1971: 44ff). Females, for example, have been traditionally shunted into particular occupations and these occupations have been slower to unionize. These have included the white collar occupations, retail sales, finance and service industries. In addition, until recently women were less likely to seek careers as opposed to short term jobs; this has changed. Besides tradition, many industries have smaller sized plants which are harder to organize (Labour Canada 1970: 31).

Finally, increased unionization is associated with
higher strike rates in the less traditionally militant occupations. In 1961 the service industries accounted for 6% of the strikes while in 1976 they accounted for 21% (Labour Canada 1962 and 1977). In that period the service industry has only grown from 25% of the labour force to 35%.

Some of these arguments may be quite valid but they raise several problems. First, the only firm measure of aggressiveness offered is strike activity; other than possibly unionization, there is no independent measure. This is a tautological argument; that is, why do men strike more often than women? - because they are more aggressive. How do we know they are more aggressive? - they strike more often. Secondly, this suggests that strikes are ipso facto acts of aggression. This is a value judgement. Aggression usually implies extra-legal tactics, if not violence. Most strikes do not include either. As Dahrendorf (1959) points out, conflicts such as strikes can be violent or non-violent, intense or less intense.

More importantly, the degree of militancy is not likely to fluctuate over time independently of other factors and therefore would not provide an explanation
in itself for the cyclical pattern of strike activity. One first has to demonstrate there have been changes in the industrial relations system, economic conditions and the like before invoking the "black box" of militancy.

In conclusion, whether one argues that strikes are caused by a predisposition toward aggressiveness and militancy or that militancy is brought on by changes in structural or economic conditions, one is forced to find an independent measure of this militancy before it is helpful in providing an independent explanation of strike activity. Given our state of knowledge, this would not seem practical and therefore the militancy model does not provide a very useful approach to explaining industrial conflict and strikes. To demonstrate that one industry will be more strike prone than another or why one country has a higher strike rate than another, an independent measure of militancy would have to be found. Since this would seem impractical at best the militancy model would not seem to be worth pursuing further.
C. Structural Imperatives and Industrial Conflict

Other arguments by various authors complement these explanations of strike activity though they do not form as coherent a set of hypotheses or as single a point of view as those described under the rubric of militancy or social-cohesion; nevertheless, there are a number of distinct but related arguments. In brief, this can be thought of as the imperatives of institutionalizations or structures which have a determinant effect on the frequency or intensity of conflict and how conflict is dealt with.

Hart (1948) made a very clear statement of this perspective in his paper "Industrial Relations Research". Institutions, he argues, have a tendency to expand their interests to encompass the entire range of human needs and in a sense become welfare oriented. This welfare orientation occurs at a point in the history of the institutions such as a trade union movement when it must interest itself in matters, for political reasons, that do not normally come within its purview. We have seen this phenomenon in the transfer of interests of the home and family to such institutions as
medicine, religion and the school. The author's argument is based largely on his research on Windsor and the U.A.W. In this instance, union wage bargaining was taken out of the hands of the locals by the international office. This left a gap for the local officials; they had to become involved in other activities to justify their existence and continue to get elected. A logical step was to interest themselves in welfare policies which do not necessarily overlap with plant bargaining but involve municipal, provincial and federal politics. It is to the credit of Hart that he predicted the U.A.W. would ally itself to a pro-labour party and be able to place labour candidates in Provincial and Federal houses. This is an unanticipated consequence of national level or industry level bargaining and ironically does not bring about greater confrontation with business but a more congenial relationship.

The shift in bargaining from the local to the national level is only one form of institutionalization and has particular consequences. Extended and continued conflict will, according to Dahrendorf (1959: 65), lead to a regulation of conflict itself and decrease
both the intensity and violence of conflict. Dubin (1954: 225-226) goes a little further in suggesting that conflicts not only become standardized and rules established to carry out these conflicts but that conflict is eventually resolved. There is no guidance as to how quickly conflict will be resolved, however. Ross and Hartman (1960) believed that the resolution of industrial conflict was rather more imminent than has proven to be the case. Because of the decline in the strike rates in many European countries, they predicted the withering away of the strike. However, the strike is merely one of those regularized mechanisms for dealing with industrial conflict especially in North America.

Schuster (1970) develops a more elaborate scheme for measuring institutionalization and chose 24 measures of this process in his comparison of Canada, Sweden and the United States. On seven of these factors Canada and the United States differed from Sweden. Sweden does not rely on legislation to settle industrial disputes, and prefers voluntary arrangements and "shared commitments to arrangements made in dealing with conflicting goals". As well, the extent to which
workers participate in decision making in Sweden is greater than in Canada or the United States. This is true of a number of European countries including West Germany and Norway as noted in Appendix B. Also, the utilization of arbitration in contract interpretation is higher in Sweden than Canada and vice versa for the use of arbitration in contract settlement. Finally, more rules have been developed by the conflicting parties for dealing with conflict in Sweden than the other two countries in Schuster's study. The principal argument here is that certain forms of institutionalization or arrangements do not prohibit conflict as much as they alter the rules such that disputes will be settled more frequently by means other than strikes. This is best illustrated with participation in decision making. Where workers have a say in the organization of work, they will have fewer issues over which to conflict and thus fewer disputes resulting in strike activity. It is not that they are less militant (or for that matter rational) or have fewer disputes but that they are resolved in a different way.

Another structural element is suggested by Ingham (1974) who argues in a comparison of England and Sweden
that a centralized oligopoly leads to a centralized employer association which in turn gives rise to centralized labour organizations. His example does not hold up well to a comparison with Canada and the United States but Smucker and Biljouw (1977) suggest that a key variable may be diversification and not concentration. Canada compared to many European countries has a far more diversified economy, as does the United States. This diversification then militates against the development of both centralized employer and labour organizations alike.

Other factors prohibiting centralized bargaining in Canada have been mentioned in Chapter Two and include the emphasis on locally based bargaining units, the split among eleven jurisdictions (twelve if you include the establishment of the Public Service Staff Relations Act outside the Canada Labour Code) and the north-south as opposed to east-west ties in the larger industrial and trade unions in Canada.

The introduction of this "institutional theory" does not, as Synder argues (1977), require a different theory but an extension of the theory - "the number and range of hypotheses and variables to be considered".
Workers affected by institutionalization of various kinds are no less rational or militant. It simply permits a different arrangement for working out industrial disputes and in some instances results in fewer and less lengthy strikes.

D. Bargaining Models

The development of bargaining regulations is a major element in the institutionalization of industrial conflict. The remainder of the discussion deals with writers, principally economists, who have focused largely on the bargaining relationship of management and workers to develop an explanation of strike activity. There are several variations on this approach, three of which are discussed below.

1. A Three Party Model

Ashenfelter and Johnson (1969) developed an economic model for explaining variations in strike activity over time. They hypothesized, in operational terms, that numbers of strikes are directly related to the rate of change in prices and inversely related to
the unemployment rate and the rate of change in wages. Furthermore, they suggested that strikes would decrease over time, numbers of strikes would be less during the colder seasons and finally would increase due to the introduction of more protection for labour unions.

The reasons for expecting these relationships are not explicitly set out in all cases; where they are not, they must be inferred. First, they reject the argument that strikes are the result of faulty bargaining or irrational behaviour. Only if strikes are rational responses to changes in the environment, can one hope to understand or predict them. Hence, they posit, on the surface at least, a "rational" model. Workers respond both to economic and political conditions for the setting of wage demands and for the decision to take strike action; likewise management.

Given this general model, the first suggestion made by Ashenfelter and Johnson is that the cyclical variation in strike activity is related almost exclusively to wage demands and that the necessary condition for a strike is that there be a difference between what workers demand and management is willing to offer. In other words, the greater the difference between what
workers demand and what management is willing to offer, the longer the strike. The case in which management and workers agree at point of contract expiration constitutes a strike of zero days. But why are the positions of labour and management ever divergent? First, the wage demand of the workers is determined by the unemployment rate, previous wages and prices and to some extent previous profits. Management sets its wage offer by calculating the ratio of the previous wage bill with the past profit level, implied by the author's statement, "the higher the ratio between previous wages and previous profits the less likely (or the fewer) the strikes". One must assume that this ratio must be different, or interpreted differently, from that which could be calculated by labour. Otherwise, if both had access to the same information and determined wages rationally, there would invariably be agreement assuming neither side made an error.

But there is another side to the argument; the authors assume that only management can realistically alter the wage offer. Again, these are only implied reasons. First, it appears that management uses different information to make its calculation of a
realistic wage. No doubt they have a more accurate picture, short of opening their books to labour, of what the true profit/wage ratio is. Secondly, and this is the more important argument, management and workers will not be able to come to an agreement through a process of bargaining (exchanging information) because the process is mitigated by the conflicting interests of union officials. To elaborate, Ashenfelter and Johnson posit a three party bargaining model (the most unique aspect of the approach) composed of workers, management and union officials and, because union officials are principally interested in maintaining their positions in office and the strength of the union, they simply pass on the wage demands of the rank and file, realistic or not. Essentially there is no bargaining, at least not between workers and management or union officials and management. The authors explicitly assume that negotiations take place only once; they suggest the argument because the model would be too complex to assume otherwise. But, to assume otherwise would imply that bargaining does, in effect, take place.

The question of how the differences between management and workers arise has still not been fully
answered. It is due partly to the fact that each uses a slightly different information base. But this does not indicate why the difference should be greater at some times than at others, hence resulting in fluctuations of strike activity. They offer two suggestions. First, "workers always want more" and presumably more still when conditions seem to warrant it. This is an assumption about the psychological predisposition of workers and does not seem to fit the general tenor of the argument. One could equally argue that management always wants to offer less. The second suggestion seems to be that the greater the wage demand (which is based on such factors as the unemployment rate and change in prices), the more likely it is there will be a difference between what management will be ready to offer and the workers willing to accept; why, we are not told.

To this point, the argument has revolved around the setting of wage rates. A second part of the model suggests conditions under which a strike itself would be more or less probable. As mentioned above, strikes are expected to decrease during the colder months. During this period economic activity is slower and workers are reluctant to take strike action during
inclement weather. This would not seem to be a very good argument for a large part of the United States and would also imply that the breakdown in negotiations could be that accurately orchestrated in spite of the fact that each party would have opposite interests.

Secondly, workers are thought to be less willing to strike during periods of high unemployment because there will be fewer part-time jobs available. In addition, strikes should decrease over time because, as industrial relations systems mature, there will be fewer strikes due to institutional factors.

Finally, an assumption is made about using numbers of strikes as the dependent variable. It is assumed that one does not need to control for the numbers of firms or the size of the labour force because unionization has been fairly constant over the period of investigation and the amount of multi-industry bargaining has been increasing. Is this assumption correct? Constant unionization does not imply constant numbers of union workers or union organizations. Secondly, the latter argument does not appear to be supported by the Canadian experience. The number of local unions has increased by over 60% since 1952 and multi-industry
bargaining does not appear to have increased by nearly that much. In short, numbers of strikes would not appear to be a standardized figure.

An equal number of criticisms can be brought to bear on the main assumptions of the model and the use of the independent variables.

First, they imply that strikes of zero days are only quantitatively different from strikes of one or more days. This is not realistic. There may well be a quantum jump in the energy and resources necessary before a decision to strike is made in comparison to settling without having reached all of one's objectives.

Secondly, to suggest that management alone (not the workers or the union) can alter the wage offer and that bargaining only takes place once is to virtually suggest that bargaining as it is commonly understood does not take place at all. This would seem to fly completely in the face of reality. They argue that union officials do not bargain because they simply pass the demands of the workers (implying they have no official or unofficial role in determining this demand) on to management and that, in coming between management
and workers, they do not permit a bargaining relationship. While this may be true of some bargaining situations, it can hardly be true of them all. Some union officials are full time employees who have little stake in simply acquiescing to rank-and-file demands. It is the introduction of this third party, the union officials that Ashenfelter and Johnson believe results in the potential for divergence between the position of management and workers. However, their arguments do not appear to be very credible and another rationale will have to be found.

Thirdly, many of the arguments put forward to link economic variables to strike activity imply a behavioural model which is usually absent in economic models such as this one. This is especially true concerning the hypothesized effects on seasonality and the unemployment rate. It is argued that workers will be more likely to strike if unemployment is low because they can probably find part-time jobs. However, whether workers do in fact consider such a factor consciously or unconsciously is never tested. There is simply an assumed relationship between the strike rate and the unemployment rate. No one knows for sure just what
factors workers consider before taking strike action. As far as the unemployment rate is concerned, it is as much a measure of general economic activity as it is a measure of the availability of part-time jobs and as such may be related to strike activity—especially seasonal variations, for quite different reasons. One should at least be aware of some of these alternative interpretations in outlining an explicit model of strike behaviour.

Finally, the Ashenfelter and Johnson model is really developed to predict duration of strikes rather than numbers of strikes. They do not attempt to test their model on strike duration.

In summary, while economic activity may well be related to strike activity, the model proposed by Ashenfelter and Johnson is not sufficiently realistic to be convincing. They virtually deny the existence of bargaining which is a cornerstone of a system of industrial relations in western industrialized countries by introducing a third party, union officials, who abrogate it. In addition, the links they establish between economic variables on the one hand and the setting of wages and strike action on the other hand are very weak
in some cases and non-existent in others. In short, despite the apparent empirical evidence, the rationale for establishing a relationship between strike activity and economic variables is not satisfactory.

2. Bilateral Monopoly

Heiser (1970) develops one of the most restrictive models examined. He assumes that there is a two party system—management and workers or management and union and that the union has a monopoly on labour, a union shop and total membership. Management, on the other hand, has a monopoly on the services or goods it offers and is totally vertically integrated. He also assumes that there are no legal restraints or institutional factors which affect the bargaining or that these are randomly distributed. His model does not apply to such countries as Australia which uses precedent and arbitration.

In addition to these constraints, the main assumption is that both management and workers are rational—that is they will not engage in an action that will cost them more in monetary terms than they will gain. It seems that a strike will occur, from the point of view
of the union, when it feels it can get a wage higher than is being offered and one that will increase the average wage of workers and the total wage bill. The length of strike depends on how long the workers can hold out with strike pay and at what point the net effect will be in their favour.

On the employer side, the strike will be taken if it can get a lower rate such that the profits lost from the strike will be less than those gained from the lower wage bill.

His main argument is that in the monopolistic situation, the wage level is not indeterminate, largely because the demand for a product is never totally elastic. In short it is implied that the strike becomes an equilibrium mechanism as argued by Ashenfelter and Johnson.

However, the article does not indicate why the parties cannot determine in advance at what point the resources will be exhausted - thus the exact length of strike - and simply make adjustments accordingly. An unstated implication is that neither side has perfect knowledge of the other's economic position and is not willing to share it. One can only really determine this by threatening or taking strike action. Finally, it is not clear at all how one would test this model.
The difference between the wage demand and the wage offer is the key variable but it is unknown in most cases as are the strengths of unions in terms of strike pay and other sources of income. Nevertheless, the model makes several realistic assumptions i.e. rationality, bargaining and unionization and as such can provide useful input for a modified model of strike activity.

3. The Uncertainty Model

In an article on strike activity in Canada (1970) Vanderkamp sets down two assumptions which comprise the model. First, bargaining is the principal mechanism for arriving at an agreement for a new wage level and other benefits. But under some conditions there is less certainty at the outset as to what a realistic settlement might be, hence, the uncertainty model. Secondly, he assumes that individuals act rationally in the manner suggested by Heiser and Ashenfelter and Johnson.

Vanderkamp argues that the zone of bargaining expands and contracts with changes in economic conditions. As the zone widens, there is less certainty about what a settlement should be and increased difficulty in communicating what each side may be willing to settle at. This is based on the view that bargaining involves
an exchange of information about what one expects and why and what one feels he knows about the other's real position; this is combined with an effort to disguise what one would be willing to settle for. Where the bargaining zone is narrow or each side knows an equal amount about the other, a settlement will be reached without strike action, because there is less chance for error. Alternatively, when uncertainty remains, a strike may be necessary to determine just what the real positions are. In short, it is an equilibrating mechanism in the sense that Ashenfelter and Johnson speak of it.

The principal advantage of the model is that it leaves the essentials of bargaining intact and does not flagrantly violate common sense realism in the way that Ashenfelter and Johnson do. However, a wide bargaining zone may not in itself produce a strike. Workers and management will consider the net benefits of any action and how it is affected by the unemployment rate, for example. While this may not narrow the bargaining zone per se, it may force a settlement on one party or the other. Some of the variables that will affect the bargaining position are wage rates, general economic growth and changes in prices. Vanderkamp argues that during recessions, the wage rate is unlikely to drop i.e. is
"sticky" on the down side but workers will not expect large increases. This produces a very narrow bargaining zone. Alternatively, during high growth periods workers will expect substantial increases, hence a wide bargaining zone.

Vanderkamp compares his results with those of Ashenfelter and Johnson because he does not see his model as differing very much from theirs. While it does not differ significantly in the type of independent variables used, it does differ in the basic rationale. While his results may not appear to be as encouraging as those of Ashenfelter and Johnson, his model has advantages of simplicity and realism.

The arguments of Walsh presented in his article on strikes in Canada (1975) can be compared to Vanderkamp's because the principal ideas are similar and the analysis is comparable. Walsh argues that the employer will be more rigid in his bargaining during business cycle peaks because he takes less risks in enduring short strikes. If business is booming, there is less fear of losing sales to competitors and therefore profits. Presumably, then, when unemployment and inflation are down and the wage rate and profits are high, strike activity will be low. With respect to this variable, it is predicted that workers will demand higher wages during high inflation, thus
increasing the number of strikes. We are not told how management reacts. Either it is not affected at all or does not consider higher prices sufficient grounds for higher wage increases. The unemployment rate will be negatively associated with strikes because the workers will have alternative sources of income. But wouldn't management be more accommodative considering the workers do have alternatives and the labour pool is reduced? By taking strikes the employer runs the risk of losing employees - a risk he does not take during periods of high unemployment. From this point of view we would expect the relationship to be positive. Changes in wages are expected to be negatively associated with strike action, mainly because of the effect on the attitude of the worker. Finally, following the arguments of Ashenfelter and Johnson, the trend is expected to be negative due to reductions of strikes due to institutional factors.

There are two basic problems with the arguments of Welch. First, as other authors, he considers the effect of a particular variable from the point of view of one party only, such as inflation on the union. Secondly, he chides Vanderkamp for using the variable, GNP as percent of trend, as a general economic indicator when the unemployment rate is perhaps better but, at the same time, does not treat the unemployment rate as a general indica-
tor of strike action. To consider the variable as such, one would have to adopt a model more similar to Vanderkamp's than to the others. As a general economic indicator, one would expect the unemployment rate to be positively associated with strike activity as indeed Walsh found.

In conclusion, for both empirical and theoretical reasons a model such as that of Vanderkamp would appear to be promising.

4. Conclusion

In reviewing the various models of strike activity, two things seem to stand out. First, not one of the models states unambiguous relationships among the variables considered and secondly, a model of strike activity has to combine a principle of bargaining and a principle of rationality which in itself produces complexity in explanation and uncertainty in prediction. The two are closely related. Because we have a bargaining model, one must consider the effect changes in a particular variable will have on both parties to the relationship, and how it is likely to affect demands for benefits on the one hand, and the decision to take a strike on the other. This complexity and ambiguity has been illustrated well for the effects of the unemployment rate. In empirical terms, for quarterly data we find a negative association for numbers of strikes
but no association for other measures of strike activity. For annual data we find a positive association in one study and no statistically significant association in another. In developing a model of strike activity one must retain a realistic assumption about the bargaining model and the rationale for the relationship between the independent variables and strike activity. As mentioned above, the model presented by Vanderkamp seems to be the most promising and in presenting a more detailed outline of a model of strike activity in the next section particular attention will be given to this model.

E. An Approach to Explaining Strike Activity

The previous sections dealt with various explanations of strike activity. This part attempts to provide a synthesis of the assumptions and general hypotheses of these "models". The principal hypothesis is that the stronger the factors which promote a divergence between management and labour, the more likely there will be a strike. Besides the obvious assumption that divergence is a necessary condition for strike activity, there are two primary assumptions. Briefly, they concern how the system for producing goods and services is organized and rationality.
The first assumption refers to the way in which industrial activity is organized in countries like Canada. One can suggest three main principles by which a system of production might be organized: state owned as in the U.S.S.R., privately owned, and worker owned and controlled. Most production is carried on by government or privately owned enterprises in Canada. As such a management staff represents the owner-employer and is responsible to the owner and not to the workers. The system of unionization as we know it in Canada would not be necessary if this were not the most common feature of the enterprise system in this country. Because management represents the owners, and thus, while they have some joint interests, other interests are basically in conflict. To the extent that there are "incompatible differences in objectives", to use Dahrendorf's phrase, the relationship between parties is considered one of conflict.

There are several areas in the industrial relations system where there are differences in objectives. Management has greater authority to determine how the plant is operated, what labour and capital equipment are required, how resources are allocated and above all how the rewards of the system are divided. In short, the relationship between workers and management is a conflict relationship. Management has control of the resources and many are of
interest to both parties — management in retaining or increasing returns, and the workers in increasing their share. This does not imply that conflict is always manifest between the parties. In the modern age, conflict is generally latent during the term of a collective agreement, where such exists, and manifest during negotiations and a strike, should the latter event occur.

As indicated, however, there are joint interests as well. Labour is dependent on the employer and vice versa. Normally a union will not knowingly insist on demands which risk closure of the plant nor will the employer wish to assume those costs that are not normally associated with offering wages that are too low, such as low morale and high turnover rates.

Such a system implies that there are two essential parties, management (the party with authority) and the workers (the party which is virtually subordinate). These are the primary parties of interaction. This is not to argue that factions never develop within parties or that there are never other parties with interests in the dispute that do not get involved or are affected by the dispute. Concerning labour, rank-and-file may have views separate from the union officials, and management and stockholders may not share the same perspective. In addition, government may intercede as an additional
party to represent the public good. However, in the final analysis it is labour that deals with management to resolve disputes and it is factors which affect their relative positions that are of primary interest. As in the case of Ashenfelter and Johnson (1961) one may wish to suggest the importance of other interest groups as factors impinging on the manoeuvrability and decision making of either of the parties, but this does not require, as Ashenfelter and Johnson argue (1969), that we deal in essence with a multi-party rather than a two-party model, as appealing as such a position might be.

In conclusion, there seems little advantage in adopting a multi-party model. It shall be assumed that there are two parties - the employees usually represented by union officials or informal spokesmen.

The second basic assumption is that the participants in labour disputes, no less than the actors in society as a whole, act rationally. That is to say, they consider both the advantages and disadvantages of a particular action based on all the information that can be reasonably assembled and take that action which will be of greatest benefit. There is no suggestion however, that a state of perfect knowledge exists or that
mistakes in judgment are not made. To repeat, it is simply argued that workers will refrain from strike action if the costs appear to exceed the benefits. Put another way, the divergence between parties will be maintained as long as there appears to be a benefit to doing so.

Three additional assumptions are largely derived from the assumption of rationality. It is assumed that bargaining is the principal method of dispute settlement. Bargaining presupposes a rational system of decision making. By the same token, strike action is assumed to have an effect on decisions. If you increase the costs of disagreement, then you improve the chances of coming to an agreement vis-à-vis the contract terms. Finally, it follows from both the basic assumptions that bargaining is collective bargaining and strike action is collective action. It is rational to organize for reasons of strength and common voice. And the natural opposition of the two parties predisposes each to organize. Each is dealt with in a little more detail.

The assumption is made that, for the most part, disputes are settled through bargaining or negotiations rather than by arbitration. This is particularly true
for disputes over interests, i.e., conflicts which erupt over modifications or additions to a contract rather than an interpretation of an existing agreement. The latter are most often sent for arbitration. If and when arbitration is used in disputes over interests, it will affect strike activity to the extent that such a procedure becomes a legal constraint. Nevertheless, it is the overriding principle of industrial relations in western industrial societies that conditions of employment are negotiable. They are not settled in the modern age, by unilateral actions of management, nor are they settled in courts of law.

But what is bargaining? Bargaining is a system of interaction between a seller and a buyer. In this case, management is the buyer of labour and the union the supplier. To arrive at an agreed price each must indicate seriousness of intent and make initial offers. In doing so, as Clark Kerr suggests, "An effort is made to analyze in advance the goals and moves of the opposing party, without exposing one's own." In addition, one must generally seek more than what one is willing to accept but without too quickly indicating the price at which one is finally willing to settle. In short, bargaining
in an exchange of information where the system is not entirely open. Just as in bargaining in the old Medina in Casablanca or in the modern car lot there is some duplicity and withholding of information.

However, unlike the leather goods industry but rather similar to auto production, labour attempts to impose a monopoly. During a legal walkout pickets try to prevent the hiring of new employees. Often they are aided by law in that workers in a certified union on a legal strike cannot be fired.

This leads directly to a discussion of the strike. A strike is taken to impose costs on the other party and force a modification of position vis à vis the settlement issues. As Ashenfelter and Johnson (1969) and others have put it, the strike is a mechanism for bringing or forcing a convergence between what management and the union consider to be a reasonable settlement. Many times this involves a compromise by each party but does not preclude one party or the other from totally giving in.

As argued above, the strike is effective only because there is a rational response to the imposition of costs. When it appear that a prolongation of a strike will no longer increase benefits over costs the
strike comes to an end. This has implications for the analysis. The strike, from this perspective, is the outcome of a number of factors both internal and external to the workers' environment and management's environment which, on occasion, result in the decision to take a strike rather than accept a settlement. In this sense, it is an output of sets of measurable conditions. As conditions change, there will be more or fewer decisions to take strike action.

Finally, strike action is a form of collective action. This implies that it requires organization whether formal or informal. An organization requires leadership, rules for selecting the leaders and for the admission and behaviour of members. Above all it implies a common interest of adherents. In most cases, especially in recent history, strikes are carried out almost exclusively by workers who are formally organized into unions. Of 724 strikes in 1973 only ten could be classified as having occurred in non-unionized plants.

All the various assumptions dealt with above can now be summarized briefly as follows:

1. Within the firm there is a separation of authority between workers and management which implies that the relationship between them is one of conflict usually latent but at times manifest. At the same time, because the parties are also interdependent, there are areas of common interest so that conflict is limited.
- The industrial relations system is principally composed of two parties - management and labour.

2. - Actors in the industrial relations system behave rationally.

- Disputes over interests are settled through bargaining or negotiations, as opposed to arbitration or unilateral action.

- A strike is a mechanism for bringing or forcing a convergence between what management and the union consider a reasonable settlement.

- Strikes are a form of collective action.

From the above summary, a number of hypotheses can be put forward. First, the more extreme the economic conditions, the greater the divergence between management and workers and therefore the greater the strike activity. Following Vanderkamp (1971), extreme conditions result in a wider bargaining zone than less extreme conditions because management is unlikely to suggest, let alone insist on, an absolute reduction in wages. As a result, when conditions are least extreme, the bargaining zone will be the most narrow and workers and management will have less difficulty reaching an agreement.

Concerning the exchange of information, it can be argued that the more mature or experienced the participants are the more likely information will be exchanged frankly and with little deception. Conversely, there are a number of conditions, which result in a
poor system of exchange. First, lack of trust may either result in an unwillingness to exchange information or a lack of belief even when it is provided. Secondly, a number of structural conditions, conditions particular to the industry or firm, may make it difficult to provide accurate information. For example, in the construction industry, which is less stable and certain regarding the future, past activity may not be a good guide to base a settlement on. There are usually many sub-contract workers who move from one site to another - even one company to another - though remaining with the same bargaining unit. Other factors such as size of the work force or type of working conditions may hamper or facilitate communication among workers or between workers and management depending on circumstances and the type of firm or industry. Finally, the issues over which one is bargaining may be more difficult to cost to the point where it is less costly to take a strike than to work out an agreement. For example, workers may demand better safety equipment and, though the management may be able to cost the installing of safety equipment, such unilateral action may jeopardize the competitive position of the firm.
A strike may be less costly than working out a solution. But this takes us to the third and final factor which will bring about a convergence or divergence between parties.

It has been argued that decisions are made rationally—that is, a decision will be taken only after information bearing on the question has been examined and it has been determined which decision will be most beneficial, financially, in the long run if not the short run. There are a host of factors which might affect the increase or decrease of the costs of taking strike action. For example, sanctions increasingly imposed on illegal strikes would depress strike activity as would the prohibition of strikes. At the firm level, the costs of organizing a heterogeneous workforce may exceed the benefits to be gained from taking strike action which presupposes either a formal or informal organization. In effect, one is arguing that where the costs exceed potential benefits the union has insufficient power and this will encourage a convergence between the two parties which can come about by either both parties modifying their view or one party totally accepting the position of the other. This is reflected
in the definition of bargaining power suggested by Chamberlain (1955: 81) who states:

Bargaining power can be defined as the capacity to effect an agreement on one's own terms; operationally, one's bargaining power is another's inducement to agree. If X and Y are in a contest over the terms of their cooperation, X's bargaining power is represented by Y's inducement to agree..."

This is not to suggest, however, that the bargaining power of one party or the other is solely based on the resources of the party alone. As mentioned above, the external environment and conditions often dictate the costs and benefits of such action.

Given the various assumptions outlined above, the conditions which bring about an increase in strike activity can be summarized as the following hypotheses:

1. The more conditions decrease the cost of taking strike action, the greater the divergence between the parties and the greater the likelihood of strike activity.

2. The more extreme the environmental conditions impinging on the industrial relations system, (e.g. inflation) the more divergent the parties and therefore the greater the strike activity.

3. The stronger the conditions which mitigate an open exchange of information, the more divergent will be the views of management and labour and therefore the greater the strike activity.

There are three basic problems in applying this model — problems which plague a large majority of models, especially in the social sciences.

First, we are generalizing from the aggregates
level to the level of the individual in some cases. For example, we are suggesting that certain economic activity, e.g. the unemployment rate (an aggregate or macro level indicator) affects how individuals make decisions (the micro level) which in turn affects strike activity, another measure taken at the macro or structural level. We cannot be sure that there is an isomorphic relationship between the two. Secondly, some variables, theoretically, have opposing effects on each party. In such cases it is impossible to predict the direction of this effect on the dependent variable, considerably weakening the explanatory power.

The third problem is that we have no measures at all for divergence between management and labour. So we must make the further inference that the changes in strike activity that one attributes to changes in conditions related to the industrial relations system imply that there has been an increase in the divergence between management and labour.

Finally, just as we have no measure for divergence, we have no measure for some of the rather more interesting explanatory variables such as union/
management experience in bargaining. A number of these problems are mentioned in chapter four and will be examined further as the analysis proceeds throughout the substantive chapters that follow.
CHAPTER FOUR
STRIKES: AN INTERNATIONAL PERSPECTIVE

Introduction

The purpose of this chapter is to provide some understanding about why the strike rate in Canada is so much higher than that in many other western industrialized countries.

The main method is to show how structural features of the industrial relations system have an effect on various indices of strike activity. One will recall that Canada, of the twenty countries in the comparison, ranked highest in terms of days lost per worker, second in time lost, and seventh highest with respect to frequency of strikes. The description of the various industrial relations systems was presented in chapter two.

Unfortunately, one cannot easily or in a straightforward way compare strike activity across countries. First, there is no standard definition of what constitutes a strike for statistical purposes, secondly the diligence with which such data are collected varies considerably among countries. Finally, information on
the average length of strikes and number of strikes (Austria, West Germany) is not available which makes it impossible to calculate certain measures of frequency and duration. Fisher (1973) deals with some of these issues and a more detailed discussion is presented in Appendix A.

However, the differences in strike activity among countries is so great, as illustrated in the introduction, that problems in using the data for international comparisons pale to insignificance. There are more than ten times the number of strikes per 100,000 workers in Canada as compared to Norway, or Switzerland, and this cannot be accounted for by minor differences in methods of gathering data.

Nor are differences likely due to variations in economic conditions among countries such as per capita income, unemployment rates or standard of living. Empirically, countries such as Sweden, Switzerland and West Germany have per-capita incomes and standards of living quite comparable to Canada and the United States. In addition, from a practical point of view, it is difficult to compare economic conditions because of very significant differences in national accounting,
exchange rates, and the methods of collecting information on unemployment rates. Canada and the U.S. use monthly labour force surveys while in most countries the unemployment rate is based on voluntary registered unemployment. This is discussed in more detail in Appendix A. However, the most important rationale for not rejecting differences in economic conditions as an explanation of strike variation is theoretical. The use of the strike as a mechanism is first and foremost the outgrowth of the institutionalization of the industrial relations process as has been discussed in some detail above. Others who have attempted to explain differences in strike activity among countries have adopted this approach and such an approach will be taken here.

Hoffman (1973) focuses on the industrial relations system in her nine-country comparison. The discussion is concluded with a summary of such processes as final-offer selection, the non-stoppage strike and worker participation in decision-making.

Ingham argues that centralization of employer and union organizations and concentration of ownership lead to a more rational system of industrial relations and a
greater limitation on strike activity. He compared only the United Kingdom and the Scandinavian countries; one cannot generalize too much from these results. Indeed, concentration of ownership and wealth are as great in Canada and the United States as any countries in the world (Pryor 1972) and they have among the highest strike rates. Smucker and Van Biljouw (1977) suggest that diversification of the economy is more likely to forestall unification in labour and employer organizations. This in turn leads to a far greater number of bargaining relationships and more strike activity. In the ten countries for which such data was available they found a fairly strong relationship between man-days lost to strikes and industrial diversity.

In a much earlier work, Ross and Hartman (1969) also concentrated on institutional or structural factors to explain differences in strike activity among the 15 countries they examined. They concluded that strikes would wither away as unionization stabilized, as factions decreased within the labour movement, as the role of the union became accepted by management, as support of the labour party became consolidated and finally, as the state took a substantial interest in
regulating the economy and supervising labour-management relations. Critics have been quick to point out that the strike has not withered away, especially in Britain, North America, Italy and Australia. But, neither have the conditions emerged which would bring about such a decrease in strike activity.

It is factors similar to those of Ross and Hartman that will be examined to determine their comparative effects on strike activity. The factors introduced in chapter two include, the existence of national or industry level bargaining, the extent of industrial democracy, the existence of voluntary and legal restraints on strike activity and finally the presence of a pro-labour party. The industrial relations system is important because it is through this institution that the formal and informal rules are developed for engaging in disputes and selecting the mechanisms for their settlement. In countries where the system is sensitive to changes in economic conditions, variations in these conditions may affect strike activity. However, this will not be true for comparisons among countries. Consequently, for practical as well as theoretical reasons, differences in industrial relations systems are chosen to explain variations in strike activity.
For the purpose of analysis, each country had to be classified as to whether the characteristics (nation or industry level bargaining, strike restraints, industrial democracy and a pro-labour party) were present or absent. As is apparent from figure 4.1, which summarizes the results, some countries such as Norway and Sweden are characterized by the presence of all four factors while in others, such as Canada, all these factors are absent. Further detail on each country is presented in Appendix B.

The analysis of the relationship between these four elements of the industrial relations system and strike activity is presented in the next section.

Strikes: An International Comparison

1. Strike Frequency

Figure 4.1 dramatically portrays the differences in strike frequency among the various countries chosen for investigation. Canada ranks seventh, well ahead of the U.S. which placed thirteenth; Italy and Australia placed first and second, respectively. How do the factors discussed above (bargaining level, restraints against strikes, industrial democracy and the presence
Table 4.1: Characteristics of the Industrial Relations System for Selected Countries

<table>
<thead>
<tr>
<th>Countries</th>
<th>National or Industry level Bargaining</th>
<th>Industry Democracy</th>
<th>Strike Restraints</th>
<th>Labour Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>West Germany</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Sweden</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Norway</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Denmark</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Belgium</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Japan</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Switzerland</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Finland</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Israel</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Australia</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Britain</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Spain</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Italy</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>France</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>New Zealand</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Ireland</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>United States</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Canada</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: See Appendix B.
or absence of a pro-labour party) relate to these differences? Answering this question is the aim of this section.

First, the level of bargaining. In nine of the twenty countries, firm level bargaining is more the norm than national or industry level bargaining, Canada included. One would expect a somewhat higher level of strike frequency in these countries since bargaining takes place for literally thousands of bargaining units which increases the probability of the strike by force of numbers. More importantly, with national level bargaining, local unions do not deal with individual employers and cannot affect the outcome of negotiations by calling a strike against an individual employer. However, a central labour organization may call strikes of short duration to emphasize a bargaining point or to encourage speedier bargaining. This will dampen the effect of national level bargaining on strike activity. One particular case in point is Australia; it has the highest strike frequency and it is known that most strikes are called to protest slow negotiations and anticipated settlements (Hoffman 1973). Overall, the strike frequency for countries with industry or national
Figure 4.1: Average Number of Strikers Per 100,000 Workers for Selected Countries 1971-1975

- Italy
- Australia
- Finland
- France
- Israel
- New Zealand
- Canada
- Britain
- Japan
- Denmark
- Ireland
- Spain
- U.S.A.
- Belgium
- W. Germany
- Austria
- Sweden
- Netherlands
- Norway
- Switzerland

---

level bargaining is not as high as that for countries where local level bargaining prevails (6 compared to 9.3 strikers per 100,000 workers).

Similarly, one would expect strike frequencies to be lower where there are voluntary no-strike pacts or where formal and informal sanctions are imposed on those who participate in strikes, especially strikes during the term of a collective agreement. In countries where laws against illegal strikes are enforced there is greater risk and therefore higher costs in taking strike action than in those countries where there is little enforcement. This is confirmed. In the twelve countries with fewer sanctions or voluntary restraints, the strike frequency is 11.4 strikers per 100,000 workers; in the other eight countries the rate is merely 2.2 strikers per 100,000 workers.

The third variable to examine is the presence of some reasonably active form of worker participation in decision making - the rudiments of industrial democracy. Where workers are privy to decisions which affect their wages, working conditions and job security, it is less likely there will be as many issues over which to take strike action. Eight countries were identified which
have a fairly well developed system of works councils - Norway, Sweden, Denmark, West Germany, Austria, Japan and the Netherlands. While they do not approach the industrial democracy model of Yugoslavia and in some cases may have the same causal roots as the reluctance to take strike action, the evidence is quite strong that the presence of works councils does have a depressing effect on strike frequency. Frequency of strikes is nearly six times higher (2 compared to 11.5 strikers per 100,000 workers) in those countries which do not have an established system of works councils or some form of industrial democracy.

Finally, the effect of a strong pro-labour party is examined. The relationship is indeterminate. One could expect a pro-labour party to encourage strike activity since the legislator should be more sympathetic and counteract any move to impose sanctions or restrictions on strike activity. On the other hand, the presence of a pro-labour party might encourage settlements which are move favourable to labour and thus reduce the need for strike actions. Empirically the former argument is given stronger support. Strike frequency is almost three times as high as in countries with a strong pro-
Table 4.2: Strike Frequency and the Industrial Relations System for Selected Countries, 1971-75

<table>
<thead>
<tr>
<th>Factors</th>
<th>Present</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\overline{X}$</td>
<td>$N$</td>
<td>$\overline{X}$</td>
<td>$N$</td>
</tr>
<tr>
<td>Industry or National Level Bargaining</td>
<td>0.6</td>
<td>11</td>
<td>9.7</td>
<td>9</td>
</tr>
<tr>
<td>Strike Restraints</td>
<td>2.2</td>
<td>8</td>
<td>11.4</td>
<td>12</td>
</tr>
<tr>
<td>Industrial Democracy</td>
<td>0.2</td>
<td>8</td>
<td>11.5</td>
<td>12</td>
</tr>
<tr>
<td>Pro-Labour Party</td>
<td>9.4</td>
<td>16</td>
<td>3.2</td>
<td>4</td>
</tr>
</tbody>
</table>

N  No. of Countries

labour party. This is consistent with the U.S. results that Skeels (1974) found. He discovered that when the Democratic party was in office (the party considered more sympathetic to labour) strike activity increased.

Table 4.3 presents the results for an alternative measure of strike frequency, strikes per 100,000 workers. They are very similar to those given in the previous table and thus verify and add credibility to these findings.
Table 4.3: Strike Frequency and the Industrial Relations System for Selected Countries, 1971-75

<table>
<thead>
<tr>
<th>Factors</th>
<th>Present</th>
<th>Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{X} )</td>
<td>N</td>
</tr>
<tr>
<td>Industry or National Level Bargaining</td>
<td>15.7</td>
<td>11</td>
</tr>
<tr>
<td>Strike Restraints</td>
<td>5.0</td>
<td>8</td>
</tr>
<tr>
<td>Industrial Democracy</td>
<td>3.6</td>
<td>8</td>
</tr>
<tr>
<td>Pro-Labour Party</td>
<td>19.0</td>
<td>16</td>
</tr>
</tbody>
</table>

\( N = \) No. of Countries

The four variables are employed in a multiple regression routine and for the year 1971. The equation is:

\[ SF_{Log} = a + b_1BL - b_2SR - b_3ID - b_4LP + e \]

Fifty-four percent of the variance is explained, but only one of the variables, strike restraints, is statistically significant. There is a negative association between the imposition of strike restraints and strike frequency. That is to say, that just over half the variation in strike activity among the various countries can be explained or accounted for by these four variables and this lends support to the argument that there is a casual relationship between strike frequency and
the type of industrial relations system. That a higher proportion of the variance was not explained and only a single variable statistically significant is discouraging but understandable. There is a close inter-relationship among all the independent variables as they do form a "system". In addition, each had to be treated as a dummy variable which effectively removes variation among countries classified together. Furthermore, the results are not consistent across all five years; the proportion of variance explained ranges from 27% in 1974 to 64% in 1972 with the other three years at approximately 50%. The results for 1971 are reproduced in Table 4.4 below:

Table 4.4: Regression Results for Determinants of Strike Frequency\(^a\) for Selected Countries, 1971

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Coef.</th>
<th>S.E.B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.2</td>
<td></td>
</tr>
<tr>
<td>Bargaining Level</td>
<td>-.12</td>
<td>.35</td>
</tr>
<tr>
<td>Strike Restraints</td>
<td>-.88</td>
<td>.34(^b)</td>
</tr>
<tr>
<td>Industrial Democracy</td>
<td>-.37</td>
<td>.39</td>
</tr>
<tr>
<td>Pro-Labour Party</td>
<td>.12</td>
<td>.35</td>
</tr>
</tbody>
</table>

Summary Statistics

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(R^2)</td>
<td>.54</td>
</tr>
<tr>
<td>S.E.E.</td>
<td>.58</td>
</tr>
</tbody>
</table>

\(a\). Strikers per 100,000 workers;

\(b\). Significant at .05
2. Strike Duration

Just as we did not have the preferred measure of strike frequency for the discussion above, neither do we have the preferred measure for duration of strikes. Days lost per worker rather than days lost per strike must be used but one has no reason to assume that the variation among countries would be significantly different if the latter measure were available. (For a more complete discussion of the problems associated with strike duration see Appendix A.)

The average days lost per striker in Canada between 1971 and 1975 was 15.5 days, which placed Canada well ahead of 18 of the 20 countries and virtually tied with the United States.

Four factors are considered to have an effect on variations in duration of strikes. First, consider the level at which bargaining takes place. If bargaining takes place at the national or industry level, most negotiations take place between committees representing the unions and the employers. Consequently, it would not be profitable to strike a single firm as neither an individual employer nor an individual union local has a great deal to say in the final determination of the terms of a collective agreement. Short strikes might be taken against a single firm to indicate serious interest to put
political pressure on the bargaining team. A long strike would needlessly and unfairly hurt the workers and the firm. In brief, it is hypothesized that strikes will be shorter where bargaining takes place at the industry or the national level.

Secondly, as mentioned above, in some countries there are more direct restraints against strikes. There are more voluntary peace agreements and, more importantly, laws against illegal strikes are likely to be enforced. Where strikes are strongly sanctioned one would expect strikes to be shorter in length. Workers are not going to run the risk of increasing the opportunity to be sanctioned by taking extended walkouts.

The third variable to be looked at is the political system. Many European countries have strong pro-labour parties which, if not in power, are a shared large portion of the opposition. One would expect the presence of such political power to be favourable to labour and to reduce the necessity of protracted strikes. On the other hand, the presence of a strong labour party may counteract the effects of legal sanctions and thus increase the length of strikes. It can be concluded that the effect of the presence of a strong pro-labour party may be minimal.

Finally, the relationship between industrial democracy and strike duration is ambiguous. On the one hand,
Figure 4.2: Average Days Lost per Worker for Selected Countries, 1971-1975

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<tr>
<th>Country</th>
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</table>

where workers are permitted decision making power and access to prior information concerning changes in administration, technology, work schedules and the like, there ought to be fewer issues over which there might be disagreements serious enough to cause lengthy disputes. On the other hand, once a strike has occurred, it may be serious enough to warrant a long dispute.

In those countries with local level bargaining, workers lose about 2.3 more days to strikes than those who strike in countries where industry or national level bargaining predominates. The same is true when one examines the effect of restraints against strikes. On the other hand, in the countries with strong labour parties, the number of days lost per striker is only 4.4 compared to 10.9 days in countries where there is no strong pro-labour party. Countries with industrial democracy have shorter strikes but the strikes are not substantially shorter than for countries where industrial democracy is absent. The results are summarized in Table 4.5 below.

The arguments are further substantiated, to some extent, as reflected in Table 4.6. The equation used, for the year 1973, was:

$$SD_{\log} = a - b_1 BL - b_2 SR + b_3 ID - b_4 LP + e$$
Table 4.5: Strike Duration and the Industrial Relations System for Selected Countries, 1971-1975

<table>
<thead>
<tr>
<th>Factors</th>
<th>Mean Days Lost Per Worker</th>
<th>Present</th>
<th>Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
<td>N</td>
<td>X</td>
</tr>
<tr>
<td>Bargaining Level</td>
<td>4.7</td>
<td>11</td>
<td>7.0</td>
</tr>
<tr>
<td>Strike Restraints</td>
<td>4.3</td>
<td>8</td>
<td>6.7</td>
</tr>
<tr>
<td>Industrial Democracy</td>
<td>5.4</td>
<td>8</td>
<td>6.0</td>
</tr>
<tr>
<td>Pro-Labour Party</td>
<td>4.4</td>
<td>16</td>
<td>10.9</td>
</tr>
</tbody>
</table>

N No. of Countries

Some 51% of the variance among countries in days lost per striker is accounted for by these four variables. The relationship between three of these variables (strike restraints, industrial democracy and the presence of a pro-labour party) and strike duration is statistically significant. The highest proportion of the variance is explained by strike restraints. The presence of a pro-labour party and industrial democracy makes more modest contributions. Where strike restraints are most prevalent, strikes tend to be shorter in duration and the presence of a pro-labour party has the same effect. On the other hand, as predicted, the presence of industrial democracy is positively associated with strike duration. Bargaining level is not significantly associated with strike duration when one controls for the other variables.
but the sign is in the predicted direction. The higher the bargaining level, the shorter the strikes.

Table 4.6: Regression Results for Determinants of Strike Duration\textsuperscript{a} for Selected Countries, 1973

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Coef.</th>
<th>S.E.B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
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<tr>
<td>Bargaining Level</td>
<td>-0.08</td>
<td>0.08</td>
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<tr>
<td>Strike Restraints</td>
<td>-0.5</td>
<td>0.17\textsuperscript{b}</td>
</tr>
<tr>
<td>Industrial Democracy</td>
<td>0.49</td>
<td>0.15\textsuperscript{c}</td>
</tr>
<tr>
<td>Pro-Labour Party</td>
<td>-0.31</td>
<td>0.15\textsuperscript{d}</td>
</tr>
</tbody>
</table>

Summary Statistics

\[ R^2 \]

\[ 0.51 \]

\[ S.E.E. \]

\[ 0.26 \]

\( a. \) Days lost per worker; \( b. \) Sig. at .05; \( c. \) Sig. at .01

Such results are perhaps more suggestive than definitive. The regression coefficients are not stable over the five years. The portion of the variance in strike duration among the 20 countries that can be attributed to the four variables used in the equation for the years 1971-1975 respectively are 0.19, 0.40, 0.51, 0.27 and 0.27.

However, one must be reminded that days lost per striker is not the preferred measure of strike duration.
If one could have calculated days lost per strike the results would have been more interesting and a greater proportion of the variance might have been accounted for.

3. Time Lost to Strikes

Time lost as a percentage of estimated time worked may be the most interesting variable for international comparisons because the other measures, as indicated above, may be somewhat invalid and unreliable. In addition, although it is a composite variable and therefore does not have a direct relationship to the independent variables, it provides a validity check for the other measures.

As Figure 4.3 shows, Canada ranks second to Italy in the percentage of time lost due to strikes. Approximately 0.36% of working time was lost in Canada compared to Switzerland of virtually zero time lost and Italy at 5.4%.

The explanation for the variability in time lost is virtually the same as that used for frequency and duration as it is a composite of these plus size of strike. Time lost can only vary in accordance with size, frequency or duration. Consequently, there will be counteractive effects. If particular variables cause a rise in frequency and a fall in duration, the effect on time lost will be somewhat neutralized. Consequently, the associa-
Figure 4.3: Average Time Lost to Strikes as a Percentage of Estimated Working Time for Selected Countries 1971-1975

- Italy
- Canada
- Finland
- Australia
- Britain
- U.S.A.
- Denmark
- Ireland
- Belgium
- Israel
- France
- New Zealand
- Japan
- Spain
- Sweden
- W. Germany
- Norway
- Netherlands
- Austria
- Switzerland

tion between the independent variables and the dependent variable may in some ways be more descriptive than explanatory. As can be seen from Table 4.7, time lost in countries with firm level bargaining is over three times that of countries with higher level bargaining. A very similar difference is evident between countries with various strike restraints and those where they are absent. As noted above, in countries which do not have strong works councils, the strike frequency was much higher than in countries where such councils were present. The same is true for time lost. Time lost in the latter countries averaged only 0.5% while in the former it was 0.18% of estimated working time. Finally,

Table 4.7: Time Lost and the Industrial Relations System for Selected Countries, 1971-75

<table>
<thead>
<tr>
<th>Factors</th>
<th>Time Lost as a % of Estimated Working Time</th>
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<tbody>
<tr>
<td></td>
<td>Present</td>
</tr>
<tr>
<td></td>
<td>X</td>
</tr>
<tr>
<td>National or Industrial Level Bargaining</td>
<td>.05</td>
</tr>
<tr>
<td>Strike Restraints</td>
<td>.04</td>
</tr>
<tr>
<td>Industrial Democracy</td>
<td>.05</td>
</tr>
<tr>
<td>Pro-Labour Party</td>
<td>.12</td>
</tr>
</tbody>
</table>

N No. of Countries
the difference in time lost rates between countries with or without strong pro-labour parties is not as great as for the other variables. It seems that the counteracting effects of duration and frequency account for this.

The regression results for time lost due to strikes is very similar to those found for frequency and duration. Approximately 49% of the variance is explained but only one variable, strike restraints, is significant and it highly so. Table 4.8 gives a summary of the results.

The regression equation employed was:

\[
\log a = b_1BL + b_2SR + b_3 ID + b_4 LP + e.
\]

Table 4.8: Regression Results for Determinants of Time Lost\(^{a}\) for Selected Countries, 1973

<table>
<thead>
<tr>
<th></th>
<th>Coef.</th>
<th>S.E.B.</th>
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<tr>
<td>Constant</td>
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<tr>
<td>Bargaining Level</td>
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<td>Strike Restraints</td>
<td>-1.07</td>
<td>.40(^a)</td>
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<td>Industrial Democracy</td>
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<tr>
<td>Pro-Labour Party</td>
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<td>.42</td>
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</table>

\(^a\) Summary Statistics

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<tbody>
<tr>
<td>R(^2)</td>
<td>.49</td>
<td></td>
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<tr>
<td>Standard Error</td>
<td>.69</td>
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</table>

\(a\). Time lost as a % of estimated working time;
\(b\). Sig. at .01
Summary and Conclusion

Though the results are not conclusive or always very dramatic, it seems fairly clear from the data just presented that differences in industrial relations systems do substantially account for the differences in strike activity among the twenty countries. In the language of Ross and Hartman, strikes have withered away to a considerable extent in countries that have developed industrial relations systems which embrace national or industry level bargaining, have developed systems of voluntary and legal restraints on strikes, and have generally encouraged worker participation in decision making. On the other hand, the consolidation of support for labour parties has had a less marked effect on time lost; the strike frequency in countries with labour parties is not much lower than in the few countries where a strong pro-labour party is absent. However, workers, on the average, are absent only 4.4 days in countries with strong labour parties compared to the 10.9 for countries without a strong labour party.

The effect of industrial democracy appears to be just the reverse of this pattern. Strike frequency and time lost are high in countries which do not subscribe to
some form of industrial democracy but strikes are only slightly longer.

In comparing countries where there are a number of restraints on strikes, we see that the pattern is almost identical to that of industrial democracy. These include fairly substantial differences in frequency of strikes, modest differences in days lost per striker and a significant difference in time lost.

On looking at the level of bargaining briefly, there is no substantial difference in strike frequency for countries with national or industry level bargaining compared to local level bargaining. There is an equally moderate effect on duration of strikes with countries with national or industry level bargaining having somewhat shorter strikes. These combine to give a time lost rate to countries with local level bargaining which is over three times higher than the countries with higher level bargaining.

Finally, to a considerable extent, the "bad" strike record in Canada is due to the length of strikes. If the frequency were to remain constant, somewhat above average, but the days lost per worker were reduced to the median (four days or almost one-quarter the present level), the time lost would be reduced by an equivalent
amount. This would bring it close to the average for the twenty industrialized countries.
CHAPTER FIVE

STRIKE ACTIVITY IN CANADA

Introduction

In the last chapter the case was made that strike activity was related to the type of industrial relations system and that this explained, in large part, the very considerable difference between the strike rate in Canada and many other countries, especially those of continental Europe. This chapter deals with strike activity in Canada, how it changes from one time period to another and the variation in strike activity among types of firms. This cannot be explained in reference to the industrial relations legislation or the factors examined in the previous chapter. First, such factors are virtually the same for all firms. Secondly, over time, minor changes in the elements of the industrial relations system may be frequent but will have only a moderate effect on strike activity. Dramatic changes are rare and these can be taken into account. For the most part it is clear that the explanation for changes in strike activity over time and among firms is due to variation
in economic and structural conditions. It is the changes and differences in these conditions, it will be argued, that affect the costs of taking strike action and therefore have a determining effect on the strike rate.

The first section will deal with an analysis of strikes over time including strike frequency, strike duration and time lost to strikes. The second section will focus on the level of the firm and will also examine strike frequency and duration; there is no meaningful measure of time lost for this level of analysis.

A. Time Series Analysis

1. Strike Frequency

There are several measures of frequency that can be used to demonstrate changes in activity over time. A common use is made of the number of strikes beginning or number in progress during the year or quarter.
This gives an immediate impression of just how many decisions are made to take strike action and there has been some dramatic increase over time as pictured in Figure 5.1. From 1921 to 1939 inclusive, there was an average of 115 strikes per year beginning. Between 1939 and 1976 this average increased to 370, over three times the pre-war figure. However, this does not take into account the increasing size of the industrial work force. Canada, particularly after the war, greatly expanded its industrial production and thus the number of plants involved in collective bargaining.

Just how greatly the potential for strikes has increased is illuminated by the second measure of frequency, the percentage of strikes per local union. This is used because it more closely represents the unit that actually participates in strikes. The more exact figure would be the number of contracts being negotiated during a year but this figure is not generally available. Since there are about two contracts for each local union (Statistics Canada 1976) and contracts are negotiated on the average once every two years, the number of local unions should serve as a
Figure 5.1: Strike Frequency - Number of strikes


Strike Frequency is expressed as a moving average over three years except for 1975 and 1976.
useful indicator. According to this variable, the number of strikes per 100 union locals has been decreasing slightly since 1921 though a cyclical pattern predominates (Figure 5.2). On the average, one can expect about 5% of locals to take strike action though the rate varies between 2.5% and 11%. From 1917 to 1952, on the average 4.6% of all locals were on strike and for the period 1952-1976 the rate was nearly identical at 4.7%.

The final measure of strike frequency to be considered is the number of strikes per 100,000 union members. On the average, there are less than 20 strikes per 100,000 union members and the rate varies between a low of 12 strikes and a high of 57 strikes. There has been a fairly marked decline between the pre 1952 period and the post 1952 period. In the former period the number of strikes averaged 37 while in the latter period they dropped to 21. As with the other measures, it is evident from Figure 5.3 that there is considerable fluctuation within these time periods as well.

Can these fluctuations be explained?

As indicated, a good deal of work has been done on strike frequency, on time series analysis, espe-
Figure 5.2: Strike Frequency - Strikes per 100 local Unions, 1921-1976


Strike Frequency is expressed as a moving average over three years except for 1975 and 1976.
Figure 5.3: Strike Frequency - Strikes per 100,000 Union Members, 1921-1976

Strike Frequency is expressed as a moving average over three years except for 1975 and 1976.
cially with respect to numbers of strikes as a measure of strike frequency. Table 5.1 gives the results of two equations, one for Canada and the other for the U.S. using quarterly data.

The results of the two equations are rather similar though the equation of Smith explains but 80% of the variance compared to 94% for Ahsenfelter and Johnson. Unemployment in both cases is negatively associated, as predicted, as are changes in wages for the U.S. and workers' share of product for the Canadian case. All three dummy variables are significant which suggests, surprisingly perhaps, that strike activity is greater in the first three quarters than in the last quarter. One might have expected reduced strike activity in the first quarter as well and predicted a negative coefficient. The outstanding difference between the countries is that the trend is negative for the U.S. case but positive for the Canadian data. A negative association was predicted because one would expect a reduction in the number of strikes due to institutional factors. The hypothesis does not appear to be supported, at least for Canada.

Skeels presented a similar set of results for the
Table 5.1 Regression Results for Determinants of Strike Frequency Based on Canada and U.S. Quarterly Data

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Number of Strikes</th>
<th>U.S. $^a$</th>
<th>E.B.</th>
<th>Canada $^b$</th>
<th>S.E.B.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1664</td>
<td></td>
<td></td>
<td>156</td>
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</tr>
<tr>
<td>Unemp. rate</td>
<td>-132</td>
<td>11.8$^d$</td>
<td>-8.78</td>
<td>1.86$^d$</td>
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<tr>
<td>Change in prices</td>
<td>64.4</td>
<td>14.2$^d$</td>
<td></td>
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<tr>
<td>Change in wages</td>
<td>-80.6</td>
<td>24.7$^d$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worker's share of product</td>
<td></td>
<td></td>
<td>-1074</td>
<td>326$^d$</td>
<td></td>
</tr>
<tr>
<td>1st Q. dummy</td>
<td>227</td>
<td>30.2$^d$</td>
<td>24.5</td>
<td>8.04$^d$</td>
<td></td>
</tr>
<tr>
<td>2nd Q. dummy</td>
<td>602</td>
<td>27.8$^d$</td>
<td>50.8</td>
<td>7.42$^d$</td>
<td></td>
</tr>
<tr>
<td>3rd Q. dummy</td>
<td>459</td>
<td>24.4$^d$</td>
<td>19.5</td>
<td>7.39$^c$</td>
<td></td>
</tr>
<tr>
<td>Time trend</td>
<td>-2.8</td>
<td>1.1$^c$</td>
<td>1.36</td>
<td>0.14$^d$</td>
<td></td>
</tr>
</tbody>
</table>

Summary Statistics

$R^2$ = .94
Durbin-Watson = 1.52
S.E.E. = 75

Sources:
- Adapted from Ashenfelter & Johnson 1969:44
- Adapted from Smith 1971:670
- Significant at .05; $c$. Significant at .01
U.S. 1952-1968, using a slightly different set of variables and employing the dependent variable in log form. His results were very comparable to those of Ashenfelter and Johnson. Unlike the latter authors, Skeels presented results for a second measure of strike frequency—number of strikes per 100 workers. Nearly 73% of the variance was explained which is not as substantial as that for number of strikes but it has the obvious advantage of controlling for the increase in the size of the labour force. Only one of the economic variables (real GNP) was significant. Neither the unemployment rate nor the change in wages remained significant and the time trend remained negative and significant. Two additional variables were significant—variables representing the party of Congress and the Landrum-Griffin Act each treated as dummy variables. Both were positive, i.e. when the majority in Congress were Democrats, strike activity was higher as expected since Democrats traditionally have a more sympathetic attitude toward labour. The introduction of the Landrum-Griffin Act made it easier for unions to organize and offers greater protection
to workers who take strike action. This protection and the more positive attitude it reflected towards labour resulted in a higher incidence of strike activity after 1958. Incidentally, on one of the Ashenfelter and Johnson equations this variable was also introduced with the same results.

No comparable work for Canadian data appears in the literature but some additional work was reported by Walsh (1975) for annual data again using numbers of strikes as the only measure of strike frequency. The results are reproduced in Table 5.2.

Again the results are very similar with one startling exception, the unemployment rate is positively associated with strike activity rather than negatively. This seems to go unnoticed by Walsh who states all variables are in the predicted direction and he predicted the unemployment rate would be negative.

With these results we can now pose three questions. Why is the first quarter dummy variable positive? Why is the unemployment rate negative for quarterly data and positive for annual data? Why is the time trend for the Canadian data positive and negative for the U.S. data? One has to examine more
Table 5.2: Regression Results for Determinants of Numbers of Strikes, Canada, 1952-1972

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Coef.</th>
<th>&quot;t&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>11.8</td>
<td>3.76&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>3.1</td>
<td>6.8&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Change in prices</td>
<td>5.3</td>
<td>5.1&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Change in wages</td>
<td>-3.3</td>
<td>4.2&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>After-tax corporate profits</td>
<td>0.2</td>
<td>2.2&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Time trend</td>
<td>2.7</td>
<td>10.1&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

Summary Statistics

- \( R^2 \) = .96
- Durbin-Watson = 2.23

---

a. Source: adapted from Walsh 1975:51;
b. Significant at .05; c. Significant at .01
closely the rationale for employing the various explanatory variables. To the extent possible, this will be accomplished in the rest of this section which presents the evidence of the current investigation.

Drawing on the general propositions outlined in Chapter three one can link a number of variables, directly or indirectly, to the frequency of strikes. First, it is hypothesized that changes in the per capita GNP as a percentage of trend will be positively associated with strike frequency. It is argued that as long as real per capita GNP follows trend, established bargaining patterns will produce more frequent settlements without strikes. As real per capita GNP varies from trend, it will be more difficult for the parties to come to an understanding about what a reasonable settlement ought to be. The same argument can be made for real GNP, though such a variable would not standardize for any trend that may be present.

A similar case can be made with respect to the effect changes in prices have on strike frequency. In periods of high inflation workers will demand catchup increases and protection against future inflation; management will not want to make increases so large
that, if the future rate of inflation is not as high as in the past, it will damage its future profit picture. To put it another way, during periods of high inflation the ability of union and management to predict or estimate accurately what a realistic wage increase should be and to predict how the other party interpretes the picture diminishes. As the ability to predict decreases, the likelihood increases of not being able to reach a settlement through negotiations. Consequently, the higher the rate of inflation, the higher the frequency of strikes.

The unemployment rate is a third variable to be considered. There is general agreement in previous studies that the unemployment rate should be negatively associated with strike frequency. It is argued that when unemployment is high, workers, not being able to find alternative means for employment, will be reluctant to strike. As argued above this assumes that workers do in fact consider alternative means for employment before taking strike action. But can this assumption be safely made? It is not tested directly and, furthermore, since strikes on the average do not last more than two weeks, with the largest proportion
lasting but a few days, and since many unions provide strike funds, one can question just how strong a factor this would be.

In addition, management is also affected by the unemployment rate. If the economy is such that there are high numbers of unemployed workers, the economy may be sluggish and management less willing to resist a strike, and in some cases may realize that high unemployment may promote opportunities to recruit other workers. As well, during periods of high unemployment, plants may be laying off workers, further dampening the employee's willingness to strike. In short there are counterbalancing effects of the unemployment rate.

Furthermore, to the extent that the unemployment rate is a general indicator of economic conditions, it may not be so easily linked specifically to strike actions and will, undoubtedly, be related to other measures of economic conditions. As a general indicator, one would predict a positive association between strike activity and the unemployment rate, since high unemployment might increase uncertainty about a settlement.
Considering all these points, one cannot easily predict the effect the unemployment rate will have on the increase or decrease in the number of strikes in particular or the frequency of strikes in general.

The fourth variable included is the proportion of the work force unionized. On the one hand, unionized workers are more likely to strike because they are less difficult to organize, they get more protection from the law and are more likely to be supported by strike funds and other unions. Thus, it is less costly for them in the short run. For this reason, unionization should be positively associated with strike activity. On the other hand, as unionization increases, the number of strikes due to institutional factors such as union recognition should decrease. Again, there will be some contravening effects.

The effect of post-war legislation can be interpreted in a similar way. The legislation made it easier for unions to become organized which initially could result in a higher strike rate. Nevertheless, as Vanderkamp argues, the legislation, though it reduces the risk of workers becoming organized and taking a strike, also results in a greater acceptance
of collective bargaining which should result in a lower strike rate.

Finally, a trend variable is added. There is empirical evidence of a strong positive trend in so far as number of strikes are concerned and this proves to be the case in both the Vanderkamp and Smith formulations. This will be especially true for number of strikes as the statistic itself is not standardized for the increase in the number of firms. For standardized measures of strike frequency such as number of strikes per local or strikes per 1,000 union members, the trend is expected to be negative, again because the number of strikes due to institutional factors should be decreasing.

The results of the current research are given in Table 5.3 which deals with annual data and Table 5.4 which uses quarterly data.

Considering the annual data, Table 5.3, (column 1) reports the results for the number of strikes. The equation reads:

\[ \Delta NS = a + b_1 \Delta GNP + b_2 \Delta T + b_3 \Delta U + b_4 \Delta WU + b_5 \Delta FWL - b_6 T + e \]

Five of the six variables are statistically significant. The proportion of the work force unionized is not significant. Per capita GNP in constant dollars, as per cent of trend, rate of change in prices, the
unemployment rate are all positively associated and significant. Approximately 84% of the variance is explained.

In a second equation the percentage of strikes per local union is the dependent variable. In this case, only the unemployment rate and GNP in constant dollars as per cent of trend are statistically significant of the seven variables. Nevertheless, 84% of the variance is explained. The equation used was:

Equation 3 deals with the final measure of strike frequency for annual data, percentage of strikes per union members. The equation used was:

$$\Delta S = a + b_1 \Delta GNP + b_2 \Delta I + b_3 \Delta U + b_4 \Delta WU + b_5 \Delta PL + b_6 \Delta CW - b_7 T + e$$

In this equation, the GNP variable and the unemployment rate are positively associated with the strike rate and both are statistically significant. The rate of change in prices is not significant and finally, the trend is negative; as predicted, and statistically significant. 93 per cent of the variance is explained.

Turning now to quarterly data, only the number of strikes are considered. The arguments are virtually the same as those used for annual data with the exception that seasonal dummies are used. It is argued that first, there is likely to be more economic

$$\Delta S_M = a + b_1 \Delta GNP + b_2 \Delta I + b_3 \Delta U - b_4 T + e$$
Table 5.3: Regression Results for Determinants of Strike Frequency, 1921-1975

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>No. of Strikes</th>
<th>Strike/100 Locals</th>
<th>Strike/100 Members</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>S.E.</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Constant</td>
<td>905</td>
<td>-</td>
<td>4.12</td>
</tr>
<tr>
<td>GNP as % of trend</td>
<td>-9.64</td>
<td>2.92$^c$</td>
<td>0.56</td>
</tr>
<tr>
<td>Inflation</td>
<td>16.3</td>
<td>6.5$^c$</td>
<td>.07</td>
</tr>
<tr>
<td>Unem. Rate</td>
<td>20.5</td>
<td>8.6$^c$</td>
<td>.25</td>
</tr>
<tr>
<td>Prop. work force unionized</td>
<td>-778</td>
<td>728</td>
<td>5.68</td>
</tr>
<tr>
<td>D (pre 1945)</td>
<td>0</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>post 1944</td>
<td>1</td>
<td>-223</td>
<td>78.8$^c$</td>
</tr>
<tr>
<td>Change in wages</td>
<td>-</td>
<td>-</td>
<td>.04</td>
</tr>
<tr>
<td>Trend</td>
<td>13.7</td>
<td>4.17$^c$</td>
<td>.012</td>
</tr>
</tbody>
</table>

Summary Statistics

<table>
<thead>
<tr>
<th></th>
<th>$R^2$</th>
<th>$R^2$</th>
<th>.93</th>
</tr>
</thead>
<tbody>
<tr>
<td>Darbin-Watson</td>
<td>1.48</td>
<td>1.34</td>
<td>1.39</td>
</tr>
<tr>
<td>S.E.E.</td>
<td>87.9</td>
<td>.70</td>
<td>.036</td>
</tr>
<tr>
<td>Mean of Dep. Var.</td>
<td>274</td>
<td>4.67-</td>
<td>.283</td>
</tr>
</tbody>
</table>

a. Variables expressed as moving average over three years; b. Significant .05; c. Significant .01
activity in the second and third quarters than in the first and fourth quarters and as a consequence a greater proportion of strikes should occur between April and September. For example, construction is at its peak during the summer months and workers are more likely to press their demands at that time and because the economy is more active, the bargaining zone will be wider.

The results are presented in Table 5.4 in three separate equations - two incorporate three season dummies; one excludes the dummy variables, but includes a time trend and an additional economic variable. All the equations show very similar results. In equation 1, change in prices and the second and third quarter dummy variables are significant. The first quarter dummy and the unemployment rate are not. The unemployment rate is consistently negative across all three equations, just as it is consistently non-significant. In equation 2 the variable, GNP in constant dollars as per cent of trend, and a trend variable are both positive and significant. In spite of the absence of the seasonal dummies the results are very similar. Equation 3 excludes the GNP variable but adds again the
Table 5.4: Regression Results for Determinants of Number of Strikes, 1953I-1974IV

<table>
<thead>
<tr>
<th>Ind. Variables</th>
<th>Coef.</th>
<th>S.E.</th>
<th>Coef.</th>
<th>S.E.</th>
<th>Coef.</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>84.8</td>
<td>32.8</td>
<td>12.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change in Prices\textsuperscript{a}</td>
<td>12.4</td>
<td>6.2</td>
<td>30.9</td>
<td>6.0</td>
<td>23.4</td>
<td>5.7</td>
</tr>
<tr>
<td>Unemp. Rate\textsuperscript{a}</td>
<td>-2.1</td>
<td>11.1</td>
<td>-4.9</td>
<td>4.00</td>
<td>-5.4</td>
<td>4.1</td>
</tr>
<tr>
<td>D1 1st q dummy</td>
<td>10.5</td>
<td>6.6</td>
<td>-</td>
<td>-</td>
<td>9.8</td>
<td>7.3</td>
</tr>
<tr>
<td>D2 2nd q dummy</td>
<td>67.0</td>
<td>10.7</td>
<td>-</td>
<td>-</td>
<td>49.8</td>
<td>7.8</td>
</tr>
<tr>
<td>D3 3rd q dummy</td>
<td>55.2</td>
<td>11.1</td>
<td>-</td>
<td>-</td>
<td>36.1</td>
<td>7.3</td>
</tr>
<tr>
<td>Change in real per capita GNP</td>
<td>-</td>
<td>-</td>
<td>1.4</td>
<td>.36</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Trend (1953I 1)</td>
<td>-</td>
<td>-</td>
<td>5.9</td>
<td>.91</td>
<td>6.5</td>
<td>0.9</td>
</tr>
</tbody>
</table>

Summary Statistics

<table>
<thead>
<tr>
<th></th>
<th>Coef.</th>
<th>S.E.</th>
<th>Coef.</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>$R^2$</td>
<td>0.79</td>
<td>0.78</td>
<td>0.83</td>
<td></td>
</tr>
<tr>
<td>Durbin-Watson</td>
<td>2.09</td>
<td>1.78</td>
<td>1.84</td>
<td></td>
</tr>
<tr>
<td>S.E.E.</td>
<td>30.2</td>
<td>30.0</td>
<td>26.8</td>
<td></td>
</tr>
<tr>
<td>Mean of Dep. Var.</td>
<td>105.0</td>
<td>105.0</td>
<td>105.0</td>
<td></td>
</tr>
</tbody>
</table>

\textsuperscript{a} Variables expressed as moving average over four quarters;
\textsuperscript{b} Significant at .05; \textsuperscript{c} Significant at 0.1
three seasonal dummies and with the result that about
an additional 5% of the variance is explained.

2. Duration of Strikes

Strikes have been increasing in duration. The
median strike between the years 1917 and 1951 lasted
6.7 days while strikes over the period since that time
have stretched to 8.4 days. The shortest strikes took
place during the war years, 1940 to 46 when they
lasted, on average, 3.1 days but in 1975 they reached
a peak of 32 days.

Unlike strike frequency or time lost, little
previous work has been done to try and explain why the
average number of days lost fluctuates from one time
period to another. There are a number of possible
reasons for this. First, the statistic is not readily
available in annual publications. Secondly, average
days lost may indicate the impact of strikes as much
or more than the decision to strike. As a consequence,
the theoretical link between indicator and indicatum
is somewhat harder to make. Finally, interest has
generally or more often been shown in explaining strike activity with economic variables. However, it is evident from Figure 5.4 that the cycle for average days lost is much longer than it is for some of the other measures of strike activity and it does not correspond very closely at all to the usual business cycle. One can see that strikes decrease in duration from the early twenties to the war years, after which they rise again, dipping slightly in the early fifties and sixties. This indicates there may be some political or legislative factors which best account for this type of cycle. For example, one can argue that the reason for the very short strikes during the war years was very likely due to the fact that strikes were prohibited in essential industries. Workers did not refrain from striking during this period (the strike frequency increased somewhat) but, fearing reprisals, did not risk taking long strikes.

But before commencing with a summary of the analysis, the works of Walsh and Skeels are briefly dealt with. These are perhaps the only two authors who have attempted to explain variations in strike duration though they do not distinguish in their analysis
Figure 5.4: Strike Duration - Median Days Per Dispute, 1921-1976

Source: Derived from Labour Canada, Strikes and Lockouts in Canada (Issues 1921-1976)

Days lost is expressed as a moving average over three years except for 1975 and 1976.
between strike duration and other measures of strike activity thus assuming that the same set of independent variables should be employed to explain any measure of strike activity. This is surprising considering that Skeels (1971) points out that numbers of strikes is an indication of decision and time lost a measure of impact. And, by extension, as argued above, duration is both a measure of decision and impact. Logically, one may require a different set of variables to explain this behaviour. Needless to say, the explanation is the same. Skeels (1971) and Walsh (1975), the former for the U.S. using quarterly data and the latter for Canada employing annual data, use mandays lost per worker as a measure of duration. As noted above in Chapter 4, there is a correlation of only 0.4 between median days lost and days lost per worker. Their results must be taken in this light.

Skeels found four variables to be significant and altogether his equation explained about 56% of the variance. The results are summarized in Table 5.5 below.
Table 9.5: Regression Results for Determinants of Strike Duration U.S. quarterly 1952-1968

<table>
<thead>
<tr>
<th></th>
<th>Coef</th>
<th>&quot;t&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.83</td>
<td>2.61b</td>
</tr>
<tr>
<td>Real G.N.P.</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>-.04</td>
<td>0.44</td>
</tr>
<tr>
<td>Change in hourly earnings</td>
<td>-.04</td>
<td>0.85</td>
</tr>
<tr>
<td>Party in Congress (Rep 0, Dem 1)</td>
<td>0.35</td>
<td>1.84</td>
</tr>
<tr>
<td>Party in Presidency (Rep 0, Dem 1)</td>
<td>-.23</td>
<td>1.92</td>
</tr>
<tr>
<td>1st quarter dummy</td>
<td>-.47</td>
<td>3.44c</td>
</tr>
<tr>
<td>2nd quarter dummy</td>
<td>0.15</td>
<td>1.01</td>
</tr>
<tr>
<td>3rd quarter dummy</td>
<td>0.26</td>
<td>1.54</td>
</tr>
<tr>
<td>Landrum-Griffin act (pre 1958 0, post 1957 1)</td>
<td>0.86</td>
<td>3.39c</td>
</tr>
<tr>
<td>Time Trend</td>
<td>-.08</td>
<td>2.91c</td>
</tr>
</tbody>
</table>

Summary Statistics

$R^2$ 0.56

a. Source: Adapted from Skeels, 1971, p. 523
b. Significant at .05
c. Significant at .01
As indicated above, real G.N.P. is positively associated with strike duration as is the introduction of the Landrum-Griffin Act which offered protection to union organizers and union organizations. Strikes were significantly shorter during the January to March quarter and the general trend was negative and significant.

Walsh produces results for the years 1952 to 1972 based on annual data, using a less diverse range of variables. With his equation he explains about 47% of the variance - 14% less than the Skeels's equation for the U.S. Table 5.6 presents the results.

In the formulation of Walsh, only one variable is significant - the after-tax corporate profits - it being negatively associated with strike duration. The rationale is apparently similar to that of Ashenfelter and Johnson. The higher the profits, the more quickly management is ready to settle because they can afford it and wish to continue to capitalize on the good market situation. On the other hand, workers are likely to make larger demands when profits are high - making it more difficult for management to comply. This begs the question. Why were the other variables
Table 5.6: Regression Results for Determinants of Strike Duration, Canada, annual data 1952-1972\(^a\)

<table>
<thead>
<tr>
<th></th>
<th>Coef.</th>
<th>&quot;t&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>23.18</td>
<td>5.39(^c)</td>
</tr>
<tr>
<td>Unemployment Rate (t-2)</td>
<td>6.22</td>
<td>0.88</td>
</tr>
<tr>
<td>% Change in Consumer Price Index (t)</td>
<td>1.09</td>
<td>0.75</td>
</tr>
<tr>
<td>% Change in wages and salaries (t)</td>
<td>0.29</td>
<td>0.26</td>
</tr>
<tr>
<td>% Change in after-tax corporate profits (t-1)</td>
<td>-0.28</td>
<td>2.11(^b)</td>
</tr>
<tr>
<td>Time Trend</td>
<td>-0.60</td>
<td>1.65</td>
</tr>
</tbody>
</table>

Summary Statistics

\[ R^2 \] 0.43

Durbin-Watson 1.64

---

\(a\). Source: Adapted from Walsh, 1975: 51.

\(b\). Significant at .05

\(c\). Significant at .01

in the equation not significantly associated with strike duration? One is forced to come back to the point raised earlier that strike duration is less a
measure of decision than effect, unlike the decision to take a strike. One does not voluntarily elect to remain on strike for a specified length of time. In addition, other variables must be introduced besides economic ones. Walsh is especially guilty of the latter criticism.

What rationale can be provided for linking the economic and non-economic variables to strike duration? Changes in real wages may have an effect on strike duration. When wages are slipping, workers will pressure for larger increases and management may be equally reluctant to offer them. On the other hand, low wages may make strikes less "affordable". Hence the relationship is ambiguous. The arguments for inflation and G.N.P. are similar to those presented above with respect to frequency and need not be repeated here.

In addition to the economic variables, three non-economic variables are examined - the effect of the war years, strike frequency and the change in labour legislation after 1946.

Since strikes were prohibited in essential
industries during the second world war, workers would hesitate to take long strikes for fear of reprisals. Thus, a war dummy variable would be expected to be positively associated with strike duration.

Since post war legislation has made it easier for unions to organize, it may also have contributed to longer strikes. Workers no longer need have as much fear of reprisals from an unsympathetic management. However, as mentioned above, this legislation should also have contributed to better industrial relations, and thus depressed strike activity. Nevertheless, the former may be the stronger influence since a strike once started is an indication that the relationship between management and workers may be strained.

To conclude, it can be argued that very long strikes are a different sort of phenomenon than the very short strikes or even those of average duration. Where the strike is of very long duration, there may be very serious industrial relations problems on the one hand or grave economic problems for the firm on the other. Empirically, the long strike is infrequent. The mean normally exceeds the median by several days. In 1973, for example, nearly 75% of the strikes lasted
24 days, 88% under 50 days, 97.3% under 100 days and only
2.7% were over 100 days. One would expect very long
strikes to be infrequent because the costs are prohibi-
tive for both workers and management. If one assumes
that long strikes are due as much to institutional fac-
tors as to economic conditions, one would expect the
number of long strikes to remain fairly constant. There-
fore, as the frequency of strikes increases, the propor-
tion of long strikes should decrease. Consequently, one
would predict that frequency of strikes would be nega-
tively associated with strike duration. While this is
only an indirect test of the effects institutional fac-
tors have on strike duration, the results presented in
Table 5.7 lend some support to the argument. In both
equations, the association between frequency of strikes
and duration is statistically significant and in the
direction predicted.

The results of the following two equations are
reported:

1. $\Delta SD = a + b_1 \Delta I + b_2 \Delta GNP + b_3 \Delta SL + b_4 \Delta W + e$

2. $\Delta SD = a + b_1 \Delta I + b_2 \Delta GNP + b_3 \Delta W - b_4 \Delta SM + b_5 \Delta PWL + e$

Of the economic variables, in equation 1, two are
significant, real per capita GNP as % of trend and the
wage rate, but overall only 49% of the variance is
explained. In the second equation, of the economic
variables, only the wage rate is significant. In
Table 5.7: Regression results for Determinants of Strike Duration, 1921-1975

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Coef.</th>
<th>S.E.</th>
<th>Coef.</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-19.3</td>
<td>-</td>
<td>-3.94</td>
<td>-</td>
</tr>
<tr>
<td>Rate of Inflation</td>
<td>-.23</td>
<td>.15</td>
<td>.02</td>
<td>.085</td>
</tr>
<tr>
<td>Real Per Capita GNP as % of Trend</td>
<td>.009</td>
<td>.004^a</td>
<td>.025</td>
<td>.027</td>
</tr>
<tr>
<td>Wage Rate</td>
<td>.3</td>
<td>.06^b</td>
<td>.002</td>
<td>.009^a</td>
</tr>
<tr>
<td>Stks/100 Locals</td>
<td>-.543</td>
<td>.234^a</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Stks/100 union members</td>
<td>-</td>
<td>-</td>
<td>-7.09</td>
<td>3.07^a</td>
</tr>
<tr>
<td>D.(Pre 1945 = 0, Post 1945 = 1)</td>
<td>-</td>
<td>-</td>
<td>.58</td>
<td>1.03</td>
</tr>
</tbody>
</table>

Summary Statistics

- $R^2 = .49, .89$
- Darbin-Watson = .39, 1.03
- S.E.E. = 2.09, .93
- Mean of Dep. variables = 7.1, 7.1

a. Significant at .05
b. Significant at .01
addition a dummy variable is added to represent post-war legislation and though positive as predicted, it is not significant. In this equation, 89% of the variance is explained. However, we cannot express much confidence in either equation since the Durbin-Watson statistic indicates a high degree of auto-correlation. The results are at bestsuggestive:

3. Working Time Lost

Time lost as a percentage of total estimated working time is a valuable indicator of overall strike activity and gives us a rough estimate of the direct costs of strikes. It does not tell us the indirect costs and inconveniences nor does it indicate the psychological and political benefits. By plotting the time lost rate, one can picture the fluctuations that occur from one time period to another and see that there has been a gradual increase in the last few years (Figure 7.1). The average time lost between 1917 and 1951 was 0.12% and for the period 1952-1978 was 0.20%. The increase since the early 60's has been even more dramatic, jumping from 0.07% in 1963 to 0.59% in 1976.
Time lost gives us some impression of cost of strikes but, though relatively high at the present time, it still does not equal the time lost due to accidents, sickness or absenteeism (Statistics Canada 1977a). So far, efforts to adequately or accurately measure the economic costs of strikes have not been very successful (Fisher 1973 and Hameed & Lomas 1975). Attempts to weigh public inconvenience against workers' economic, political and psychological benefits are even less rewarding.

Time lost is a composite variable combining size, frequency and duration of strikes and as such cannot be easily linked directly to even the most specific of the independent variables. As Skeels suggests (1971), it reflects the impact of strike action rather than the decision to strike. Workers do not vote to take a certain amount of total working time off but simply to take or not to take strike action. The same is true of management in deciding to take a strike or the union in deciding to recommend such action. Because it is a measure of impact which does reflect the various dimensions, it will be subject to the effects of a wider variety of independent variables.
Table 5.5: Time Lost to Strikes as a Percentage of Estimated Working Time, 1921-1976\textsuperscript{a}.

\begin{center}
\begin{tabular}{c\hspace{1cm}c\hspace{1cm}c\hspace{1cm}c\hspace{1cm}c\hspace{1cm}c\hspace{1cm}c}
\hline
\text{Year} & 1921 & 1931 & 1941 & 1951 & 1961 & 1971 & 1976 \\
\hline
\text{% Time Lost} & \text{Value} & \text{Value} & \text{Value} & \text{Value} & \text{Value} & \text{Value} & \text{Value} \\
\hline
\end{tabular}
\end{center}

\textit{a.} Source: Derived from Labour Canada 1977, 5-6.
Time Lost is expressed as a moving average over three years except for 1975-1976.
In reviewing the results of previous studies, Skeels and Smith are examined initially. Skeels presents results for U.S. quarterly data and, with the same eleven variables he employed in his other equations, explains about 55% of the variance in time lost. Four variables are significant. Real G.N.P. and the dummy variable representing the introduction of the Landrum-Griffin act are positive. The first quarter dummy and the time trend are negatively associated with time lost. The results are consistent with those presented for frequency but, like duration, are not as impressive.

The overall result agrees with Walsh (Table 5.9) though Walsh used a different set of variables. For Walsh, only change in prices was significant. None of the variables, change in wages or profits, the unemployment rate nor the time trend, were significantly associated with time lost.

For the present study, the results of two equations are presented in Table 5.10 The first uses the unemployment rate, change in prices, percent change in wages, a dummy variable representing post war legislation in industrial relations, percent workers
Table 5.8: Regression Results for Determinants of Time Lost, as a Percentage of Estimated Working for Canada and the U.S. Quarterly data

<table>
<thead>
<tr>
<th></th>
<th>U.S. 1952-68&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Canada 1953-68&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-6.25</td>
<td>1.16</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-0.05</td>
<td>-0.46</td>
</tr>
<tr>
<td>Change in wages</td>
<td>-0.04</td>
<td>0.75</td>
</tr>
<tr>
<td>Real G.N.P.</td>
<td>0.01</td>
<td>2.26&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>Workers share of G.N.P.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1st Q. dummy</td>
<td>-0.50</td>
<td>3.25&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>2nd Q. dummy</td>
<td>0.20</td>
<td>1.19</td>
</tr>
<tr>
<td>3rd Q. dummy</td>
<td>0.34</td>
<td>1.72</td>
</tr>
<tr>
<td>Party of the Pres.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rep. 0, Dem. 1</td>
<td>.40</td>
<td>1.84</td>
</tr>
<tr>
<td>Party of Congress</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rep. 0, Dem. 1</td>
<td>-0.20</td>
<td>1.50</td>
</tr>
<tr>
<td>Landrum-Griffin Act</td>
<td>1.03</td>
<td>3.59&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
<tr>
<td>Time Trend</td>
<td>-0.09</td>
<td>2.88&lt;sup&gt;d&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

**Summary Statistics**

- $R^2$ = .55  \( (\text{Canada}) = .34 \)
- Durbin-Watson = 1.41
- S.E. = .12

<sup>a</sup> Source: Adapted from Skeels 1971:521
<sup>b</sup> Source: Adapted from Smith 1971:675
<sup>c</sup> Significant at .05, d. Significant at .01
Table 5.9: Regression Results for Determinant of Time Lost, Canada, Annual 1946-72.

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>1946-66</th>
<th>1952-1972</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>coef.</td>
<td>S.E.B.</td>
</tr>
<tr>
<td>Constant</td>
<td>-1.64</td>
<td>-</td>
</tr>
<tr>
<td>Real per capita G.N.P. as % of Trend</td>
<td>0.018</td>
<td>0.004d</td>
</tr>
<tr>
<td>Change in Prices</td>
<td>0.016</td>
<td>0.007c</td>
</tr>
<tr>
<td>Change in Wages</td>
<td>-0.025</td>
<td>0.009d</td>
</tr>
<tr>
<td>Unemployment</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Change in Profits</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Trend</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Summary Statistics

R² | .61 | .67 |
Durbin-Watson | 2.16 |

a. Source: Adapted from Vanderkamp 1971
b. Source: Adapted from Walsh 1975
c. Significant at .05, d. Significant at .01

unionized, and real per capita G.N.P. as % of trend. As argued above, the relationship the unemployment rate will have with strike activity is ambiguous. Change in prices is expected to be positive as workers
will attempt to recoup past losses and build in protection against the future. Management will, not knowing if the rate of inflation will persist, try to hold down wages; both positions will encourage strike action. Percent change in wages will be negatively associated with time lost. As wages fall, workers attempt to make up the loss; falling wages will be translated into dissatisfaction. The effect of the post war legislation is likely to be both positive and negative. It will be negative in the sense that a greater acceptance of collective bargaining and a more regulated system will decrease strike activity. However, because unions, and thereby workers, have more protection through the law, strikes once begun may be longer. Thus, the legislation may well account for an increase in time lost. The same arguments will apply to % of work force unionized. Strike action is most frequently carried out by unionized workers and as the number of workers unionized increases, the possibility of more strike action increases.

The results indicate that all the variables are significantly associated with time lost with the exception of the unemployment rate. The coefficient
for change in wages is negative while the others are all positive. A percentage change in the prices accounts for a 0.013% change in increase in time lost. Post war legislation has led to a 0.01 percent increase in time lost and each percentage increase in the number of workers unionized has led to a 0.10% increase in time lost. A percentage change in the wages results in 0.005% decrease in time lost. Overall, about 87% of the variance is explained.

In the second equation, the results are very similar. The dummy variable representing the post war legislation and the per cent of the work force unionized are dropped and replaced with a variable and real per capita G.N.P. as per cent of trend. The latter is not significant while the former is significant and positive.

The equations used in these routines read:

1. $\Delta TL = a + b_1 \Delta I + b_2 \Delta U - b_3 \Delta CW + b_4 \text{PWL} + e$

2. $\Delta TL = a + b_1 \Delta I + b_2 \Delta U - b_3 \Delta CW + b_4 \Delta GNP + b_5 T + e$
Table 5.10: Regression Results for Determinants of Time Lost as a Percentage of Working Time\(^a\) 1921-75

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Coef.</th>
<th>S.E.</th>
<th>Coef. *</th>
<th>S.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-.119</td>
<td>-</td>
<td>-.159</td>
<td>-</td>
</tr>
<tr>
<td>Rate of Inflation(^a)</td>
<td>.013</td>
<td>.004(^c)</td>
<td>.013</td>
<td>.004(^c)</td>
</tr>
<tr>
<td>Unemployment rate(^a)</td>
<td>-.002</td>
<td>.005</td>
<td>-.002</td>
<td>.005</td>
</tr>
<tr>
<td>% Change in Wages(^a)</td>
<td>-.005</td>
<td>.002(^b)</td>
<td>-.006</td>
<td>.002(^c)</td>
</tr>
<tr>
<td>Dummy (0, pre 1945, 1, post 1944)</td>
<td>.01</td>
<td>.004(^b)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>% Workers Unionized(^a)</td>
<td>.01</td>
<td>.004(^b)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Real Per capita G.N.P. as % of Trend(^a)</td>
<td>-</td>
<td>-</td>
<td>.001</td>
<td>.001</td>
</tr>
<tr>
<td>Trend (1921 1)</td>
<td>-</td>
<td>-</td>
<td>.007</td>
<td>.002(^c)</td>
</tr>
</tbody>
</table>

Summary Statistics

| R\(^2\) | .87 | .88 |
| Durbin-Watson | 1.49 | 1.31 |
| S.E.E. | .04 | .04 |
| Mean of Dep. Variable | .16 | .16 |

a. Variable expressed as moving average over three years
b. Sig. at .05; c. Sig. at .01
B. Variations in Strike Activity Among Firms

1. Strike Frequency and the Firm

A very limited number of writers have undertaken firm level analysis (with the exception of case studies of which there are many) largely because of the very difficult task of data collection. A few students of industrial conflict have completed inter industry comparisons and this is often the closest approximation we have to firm level analysis. The results of some of these will be examined after looking at a few which employed data collected for the level of the firm.

Eisle (1974) was interested in the size of the plant and strike frequency. He controlled for type of technology and found a significant but modest relationship between strike frequency and size of plant. The bivariate correlation was a maximum of .58. The interesting fact is that for all three types of technology (batch process, assembly line and continuous process) the correlation is positive and significant to about 600 employees. The rate then drops consistently for all three (negative association with size and for the latter two types of technology is
positive and significant from 100 or over employees. Results are based on some 284 cases.

A rather more limited study by Snarr indicates a relationship between personal characteristics of workers and strike activity. In a study of one strike where 87 workers walked off the job and 23 remained, Snarr found that more of the strikers were married and had children, were less involved in religion and finally were more highly paid. Neither age, seniority, having a working spouse, home ownership, rural background nor education were significantly related to whether a worker chose to take strike action. It seems that those who had a long term interest in the community and a job were more likely to take strike action. This is consistent with the variable home ownership. While not significant (significant only at .2), it is in the same direction; a somewhat higher proportion of home owners opted for strike action than did not.

Finally, still dealing with the firm, an article by Shirom (1977) provides some evidence of the relationship between militancy and strike activity and further evidence of the relationship between personal and organizational characteristics of union officers and strike activity. While there is a positive
relationship (.32) between degree of approval of unauthorized strikes (militant attitude) and actual work stoppages, there is virtually no relationship between an attitude of desiring more for the workers and work stoppages. In short, the relationship between attitude and behavior is tenuous. One must examine organizational and personal characteristics rather than attitudinal ones. However, we are not much encouraged here either. With 295 cases, only 14% of the variance was explained with five variables. Percent of professional workers and age were negatively associated, while size of local union, the officer’s work hours and candidates in last election were positively associated with work stoppages.

Britt and Galle (1972, 1975) looked at size of industry and plant and degree of unionization for industries. Their results indicate a positive association between number of strikes and industry size, degree of unionization and union size (.39, .28 and .67 respectively). Unexplained by Britte and Galle is the negative correlation between plant size and strike frequency (-.37). Shorey (1975) also looks at plant and firm size as well as introducing a number of other variables; in addition he gives a more thorough rationale for linking plant size and firm size to strike activity. Finally,
strike activity is defined as strikes per employee but which controls for scale effects. The results of his equations are presented below.

Table 5.11: Regression Results for Determinants of Strikes Per Workers for 33 Industries, Britain, 1963-1967

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Coef.</th>
<th>&quot;t&quot;</th>
<th>Coef.</th>
<th>&quot;t&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-665</td>
<td>-681</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of Women</td>
<td>-2.2</td>
<td>7.2c</td>
<td>-2.2</td>
<td>7.6c</td>
</tr>
<tr>
<td>Proportion rec. piece rate</td>
<td>2.3</td>
<td>6.2c</td>
<td>2.5</td>
<td>7.6c</td>
</tr>
<tr>
<td>Change of capital stock</td>
<td>5.2</td>
<td>3.1b</td>
<td>6.0</td>
<td>5.0c</td>
</tr>
<tr>
<td>Change in productivity</td>
<td>-6.4</td>
<td>2.8b</td>
<td>-6.7</td>
<td>3.0c</td>
</tr>
<tr>
<td>Change in wages</td>
<td>115</td>
<td>6.9c</td>
<td>117</td>
<td>7.3c</td>
</tr>
<tr>
<td>Wage differentials across industries</td>
<td>1.6</td>
<td>6.5c</td>
<td>9.6</td>
<td>6.6c</td>
</tr>
<tr>
<td>Wage similarity across regions</td>
<td>-3.8</td>
<td>2.1b</td>
<td>-4.0</td>
<td>2.2b</td>
</tr>
<tr>
<td>Plant size</td>
<td>.12</td>
<td>.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm size</td>
<td>- .16</td>
<td>1.1</td>
<td>-.04</td>
<td>3.4c</td>
</tr>
</tbody>
</table>

R²: .87

Source: Adapted from Shorey 1976: 184, 185
b. Sig. at .05; c. Sig. at .01
Some of these results are highly suggestive but have severe limitations. Dealing with aggregate data for the industry, one averages across a very wide range so that there may be as much or more variation (especially in plant and firm size) within industries as between them. In addition, Shorey did not include a very important variable—degree of unionization. Since few non-unionized plants strike and many of these have very high proportions of females, the relationship between proportion of female workers and strike frequency may be spurious. That there is no clear cut relationship between unionization and female workers is illustrated in Table 5.12 below.

Many of the above analyses have empirical implication, if not theoretical ones, which can be tested with the data at hand. First is the relationship between plant size and strike frequency. Here strike frequency refers to whether there has been a strike in the bargaining unit within the last ten years. The relationship between plant size and strike activity is indeterminate at best. To a degree, the larger the work force the more likely there will be a strike for two reasons. First, in very small plants, workers may be reluctant to walk out if it appears they can be easily replaced or their work carried on for a limited time by management.
Table 5.12: Unionized Workers as a Percentage of Paid Workers by Major Industry Classification and Sex, 1971

<table>
<thead>
<tr>
<th>Industry</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture(^a)</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>Forestry(^a)</td>
<td>40</td>
<td>8</td>
</tr>
<tr>
<td>Fishing &amp; Trapping(^a)</td>
<td>45</td>
<td>22</td>
</tr>
<tr>
<td>Mining(^a)</td>
<td>41</td>
<td>21</td>
</tr>
<tr>
<td>Manufacturing(^a)</td>
<td>65</td>
<td>57</td>
</tr>
<tr>
<td>Construction(^a)</td>
<td>58</td>
<td>36</td>
</tr>
<tr>
<td>Transportation, Comm.(^b)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Storage and Utilities</td>
<td>62</td>
<td>52</td>
</tr>
<tr>
<td>Trade(^b)</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Finance(^b)</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Service(^b)</td>
<td>42</td>
<td>28</td>
</tr>
<tr>
<td>Public Administration</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: Adapted from Statistics Canada, Census of Canada 1971 and Statistics Canada, 1973

\(^a\) excludes managerial, clerical, sales and service employees

\(^b\) excludes managerial and clerical
In addition, in small plants the communication between worker and employer will be less difficult and thus fewer problems should arise that need to be solved by strike action (Shorey 1975. gives a very adequate rationale for this). On the other hand, as plant size increases, so does the difficulty of workers in communicating with each other and with union officials. In addition, the work force becomes more heterogeneous with some workers' needs being quite different from the needs of others. This is militated against by fracturing the work force into various unions, but there is a limited extent to which this is done. Some industrial unions embrace all workers while others do not. The steel workers are a good example of the latter. As indicated above, this is a complex variable and must be examined with care.

Firm size is less ambiguous. The larger the firm size, the more likely it will not be affected by erratic personalities in the industrial relations sector of the operation. Thus, one would predict a negative association with strike frequency.

A third variable to be examined is type of work. Where work is physically demanding or risky one would expect a higher frequency of strikes. Here workers
have a unifying cause that will be absent for other workers. Common cause encourages communication among workers and communication is essential for organizing workers to press demands and take strike action. Also, they are more likely to seek changes in the working environment; such demands are harder to cost and therefore, more likely to result in an inability to reach a settlement.

Whether the industry is essential or not or if the firm is vulnerable to loss of markets may also lead to greater strikes. In some industries, loss of markets may not be recovered and thus a firm would be less willing to take a strike.

Another variable to be considered is the number of females in the work force. Much has been written about the lack of militancy of women. But it can be argued instead that historically women are more likely to be second wage earners and are thus not as concerned about increasing their salaries as in maintaining their income. In addition, they tend to be in industries which are less physically demanding and dangerous and thus one might expect little independent effect.

Homogeneity of the work force is a seventh
factor to look at. Homogeneity is measured two ways—the proportion of males to females and the wage differential—each of which will give some indication of occupational differentials. Where homogeneity is low, interests will be more varied and communication more difficult. This should lead to a lack of consensus and thus to a lower strike rate.

Finally, one can also examine the relationship between high wages and strike frequency. Highly paid employees can better withstand a strike in the short run as savings should be higher than for non-skilled workers and, because they are usually more highly skilled, they have less to fear in being replaced by management or temporary workers. That is, they can effect a "monopoly" more easily. On the other hand, the higher one is paid, the higher the absolute cost.

Empirically, the results are somewhat encouraging. Two equations are employed:

1. \( S = a - b_1 \text{MED} + b_2 \text{WD} + b_3 \text{NW} + b_4 \text{TW} + e \)

2. \( S = a - b_1 \text{WD} + b_2 \text{TW} + b_3 \text{AW} + b_4 \text{SB} + e \)

In the first equation using the data based on firms of 25 employees or more, barely 25% of the variance is explained and only the wage differential and type of work are significant. However, for the firms of 500 employees or more, about 41% of the
variance is explained but in this case only the variable type of work is significant. It is instructive that season in which bargaining ceases has no effect on whether a strike occurred. The results are presented below.

Table 5.13: Regression Results for Determinant of whether a strike occurred for Selected Firms, Canada 1971-74

<table>
<thead>
<tr>
<th></th>
<th>Firms of 25 or more workers</th>
<th>Firms or 500 or more workers 1974</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>S.E.B.</td>
</tr>
<tr>
<td>Constant</td>
<td>.44</td>
<td>- .04</td>
</tr>
<tr>
<td>Male/Female differential</td>
<td>-.09</td>
<td>.5</td>
</tr>
<tr>
<td>Wage differential</td>
<td>.34</td>
<td>.09(^b)</td>
</tr>
<tr>
<td>Number of workers</td>
<td>-.001</td>
<td>.03</td>
</tr>
<tr>
<td>Type of work(^a)</td>
<td>.32</td>
<td>.08(^b)</td>
</tr>
<tr>
<td>Wages (logged)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Season bargaining</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concluded(^a)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Summary Statistics

\( R^2 \)

<table>
<thead>
<tr>
<th>Firms of 25 or more workers</th>
<th>.25</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firms or 500 or more workers 1974</td>
<td>.41</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S.E.E.</th>
<th>.42</th>
</tr>
</thead>
<tbody>
<tr>
<td>.39</td>
<td></td>
</tr>
</tbody>
</table>

a. Dummy variable (Physically hard or dangerous 1, other 0)
b. Significant at .01, c. Oct. - March 0, April - Sept 1)
2. Strike Duration and the Firm

Our focus now shifts to the length of strikes and the level of the firm. There are five principal variables that will be examined to explain why some firms appear to have much longer strikes than others.

But before attempting a limited explanation of strike duration, it is worthwhile to point out that the modal strike is one day and the median less than eight days. Just as noted above, the average strike is not long in duration. In some ways we can think of the distribution of strikes in terms of duration as bimodal. There are short strikes and long strikes.

Five conditions are examined which are hypothesized to have a bearing on strike duration. First are the issues over which a strike is taken. Some issues are negotiable in the sense that a compromise can be reached. This is especially true of wages and wage related issues (not to be confused with economic or money related issues as most issues are in a sense money related). However, reaching a compromise on the one hand takes time and on the other can be waited out as each side gradually alters its position, management increasing its offer and workers decreasing their demands. Other issues, such as union security or
jurisdictional disputes are perhaps not as crucial to union positions and are either accepted or rejected. They are difficult for either side to cost out and for that reason neither management nor labour may be willing to take a costly strike to determine the point. In a word, strikes will be shorter if no wage issue is involved.

A second variable is the proportion of females. This variable was treated as a dummy variable, those plants with females against those with none. Females very often work at occupations that can be taken up temporarily by supervisory personnel or they can afford to stay out longer because they are earning a second income. These factors may contribute to longer strikes in plants which employ females.

Thirdly, the more serious the dispute, the more lengthy the strike is likely to be. A serious dispute is more likely to have involved conciliation than the less serious ones where either conciliation was not offered or a quick strike was sufficient to settle it. In addition, a lengthy conciliation period may produce greater frustration and perhaps anticipation than if conciliation services had not been used.

This is closely allied to whether a strike was
official or unofficial, a fourth variable. An unofficial strike is often called to settle an issue involving a control grievance on the prerogatives of management as opposed to disputes concerning wages or hours of work. (Staple, 1977). The issue is either settled or rejected, or management finally agrees to consider the issue pending the return of workers. An outstanding grievance, for example, might promote a quick walkout which is not officially supported or voted on by the union and occurs frequently during the term of a collective agreement.

Fifthly, a dummy variable is added to represent strikes which occurred during the second World War. During the war, strikes were prohibited in essential industries. Strikes in these industries would be predictably short as workers would not wish to risk recrimination.

These five variables explain only 30% of the variance which, though small, is perhaps as much as one could expect given the complexity of the problem and the host of variables and factors which can affect the length of a strike at the level of the firm. As apparent in Table 5.13 all variables are significantly related to strike duration. The equation used was:

\[ \Delta SD = a + b_1 \Delta PEW + b_2 C + b_3 SS + b_4 WI + b_5 WYS + e \]
Table 5.14: Regression Results for Determinants of Strike Duration, Canada, 1941-1973

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Coef.</th>
<th>S.E.E.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.32</td>
<td></td>
</tr>
<tr>
<td>Proportion of Female Workers</td>
<td>0.10</td>
<td>0.05b</td>
</tr>
<tr>
<td>Conciliation (Used 1, Not used 0)</td>
<td>0.10</td>
<td>0.03a</td>
</tr>
<tr>
<td>Type of Strike (Official 1, Unofficial 0)</td>
<td>0.34</td>
<td>0.05a</td>
</tr>
<tr>
<td>Wage Issue (Present 1, Absent 0)</td>
<td>0.19</td>
<td>0.05a</td>
</tr>
<tr>
<td>War Years (1940-45 0, Other 1)</td>
<td>0.15</td>
<td>0.06a</td>
</tr>
</tbody>
</table>

Summary Statistics

- $R^2 = 0.31$
- $S.E.E. = 0.41$

- a. Sig. at .05; b. Sig at .01

Summary and Conclusions

In this chapter a number of the principal hypotheses to have been supported.

First, strike activity is likely to be greater when economic and structural conditions are such that there
is more likely to be a gap between what workers demand and management is prepared to offer. Real G.N.P. per capita, and inflation are two variables which are positively associated with strike frequency. Type of work or industry also has a significant effect on strike frequency. This lends support to the thesis that where working conditions are difficult there will be greater social cohesion among workers and this will lead to a higher propensity to strike.

In terms of strike duration, while the overall explanation was not high, when conciliation was used strikes tended to be longer in duration just as they were in cases when wage issues were involved and the strike was official as opposed to unofficial. The conciliation procedure is a cornerstone of the industrial relations system in Canada, yet it appears to have little effect on reducing the number of strikes and where a strike occurs it tends to be somewhat longer in duration.

Despite these results, there are a number of disturbing inconsistencies in the results. For annual data the unemployment rate is positively associated with strike frequency, whereas for quarterly time series data, it is either negatively associated or not associated at all. One might conclude that, to the extent that it has
a direct effect on strike activity, it does so as a general indicator of economic conditions and not because there is any concern for finding jobs during an anticipated strike period.

In addition, much is made of the effect of seasonal factors on strike fluctuations. This has not been borne out at all when we examine firm level data where we know the season in which bargaining has terminated. There is no relationship between seasons and whether a strike will occur. The observed relationship for quarterly data appears to be spurious and is perhaps a proxy for a factor not taken into account.

The most important conclusion to be drawn is that for both the time series data and the firm level data there is a great deal of unexplained variance both for strike frequency and especially strike duration. As noted earlier, in Canada strikes are longer than they are for most countries and there is considerable variation over time and among firms. However, no single variable or combination of variables explains a very large proportion of the variance. There are two possible explanations for this. First, it is known that the data is not well refined. Until a detailed survey is
undertaken of a sufficiently large number of firms (preferably a longitudinal study), one must be content with the rather crude measures that have been employed here. A second explanation is that there are such a host of factors that can affect strike activity, especially at the level of the firm, that any refined empirical analysis will not be sufficient. In short, the factors, in the final analysis, may be unique to each firm.

To some extent both of these conclusions may be warranted. But there is sufficient empirical support for the thesis that structural and economic conditions do offer at least a partial explanation of the variability in strike activity over time and among firms.
SUMMARY AND CONCLUSION

Introduction

Strike, the word in the English language carries connotations of aggressiveness, violence, pre-emptory or unilateral action and perhaps even unlawfulness or immorality. In other languages the chosen term is either more specific as in the French, grève, or as general as the word strike but without the same connotations that suggest interaction and not just action, conflictos del trabajo in Spanish, for example. Perhaps this sums up and reflects some of the reactions one gets in the English speaking world to the question of strikes and what brings them on. One irate writer's view was expressed as follows:

The strike is the most insidious and least productive weapon in Labor's quiver. The strike is counter productive. Labor and management owe it to themselves and to the public to abandon the hidebound adversary positions to arrive at more enlightened methods of settling industrial disputes (MacAdam 1978:6).

While it was argued at the commencement of this study that in absolute terms industrial disputes resulting in a work stoppage do not warrant either the term or the reaction, the very substantial differences
between Canada and many other western industrial countries require an explanation. What follows is a brief summary of the findings of this study and a few conclusions about what can be drawn from the analysis.

Summary

Chapter One outlined a definition of social conflict and showed how it can be related to industrial conflict. A principal argument is that the relationship between capital and labour, management and worker is one of conflict because an essential element in this relationship is a set of incompatible interests, values or objectives. The main objective of workers is to improve working conditions and the financial rewards for labour. The aim of management is to maintain or increase profits. As long as there is a division in ownership or power with management holding or representing objectives different from those of the workers, the two groups will be incompatible and the relationship, by definition, one of conflict. In the Canadian situation in particular this conflict will not infrequently manifest itself as strike activity,
the principal subject of this investigation. The strike is normally the outcome of a rational decision making process, is non-violent, stems from an interdependent relationship and may vary in intensity.

The objective of Chapter Two was to describe the industrial relations system in Canada. The system in Canada developed using first the British and then, the American system as a model. Unlike Europe, labour organization and legislation were preceded by organization and confrontation in the workplace. This history of confrontation tends to discourage more efforts at adaptation and accommodation and stems to a considerable extent from the emphasis there has been on business unionism as opposed to a unionism based on a social movement philosophy. With the founding of the C.C.F. and N.D.P. there has been an attempt to inculcate such a philosophy in the labour movement and give it a political arm in sympathy with the British heritage, but this has been made more difficult by the fragmentation in the labour movement in Canada. This fragmentation includes the ties with international (American) unionism, the division between the Quebec
and English Canadian unions, the separation of the responsibility for labour into eleven jurisdictions and finally the split between craft and industrial unionism.

Above all, the legislation has encouraged problem solving at the local level and discouraged the establishment of a strong centralized labour movement. The Rand formula makes it easier for locals to survive even if they are not totally responsive to the needs of workers. Secondly, labour relations boards were given discretion over the size and composition of local unions and developed guidelines which tended to preclude large bargaining units at either an industry or regional level. This again places the emphasis on problem solving at a local level. Finally, a great deal of emphasis is placed on compulsory conciliation. It has been a cornerstone of labour legislation in Canada from the earliest days. Yet, it implies that disputes are largely caused by poor communication between parties and that a third, unbiased party, can provide a link for clear communication. This denies that disputes are based on conflicts of interest and that, even when there is poor communication, it may be
viewed in the best interest of one party or another.

The first chapter dealt with a definition of social conflict and its application to industrial conflict. The second gave an overview of the industrial relations system in Canada with a brief comparison to the European model. The third looked at the various explanations of strike activity itself. These explanations were summarized under four main headings.

First, a number of writers have attempted to account for variations in strike activity by linking it to differences in psychological make-up, aggressiveness, combativeness, passivity and the like. This places the burden of the explanation on the predisposition of workers rather than on any particular underlying causes in the workplace itself. This implies that either all workers have equally justifiable reasons for calling strike action and that only those with sufficient aggressive tendencies are likely to take such action, or that there are few cases where strike action is justifiable according to the circumstances and that those who strike are responding to
aggressive impulses and not according to a rationally considered plan. Neither view would seem to be particularly appropriate, especially given the vast differences in strike activity we observe among countries. One would have to argue that individuals in some countries are by nature more aggressive than those in other countries.

A second group of theorists argue that the greater the militancy, the greater the likelihood of strike activity. This is closely related to the previous argument except that militancy is generally attributed to some underlying causal factor, such as changes in expectations, plant or economic conditions. To this extent, one can as easily look for the causes of militancy as a condition for strike activity, or must argue that militancy may be a necessary but not sufficient condition for strike activity. However, there is rarely independent evidence readily available of this militancy apart from strike activity itself. For these reasons, while one may rightfully argue that an attribute of militancy may be an important factor in bringing about strike activity, it is not an
adequate theory for explaining it.

A similar criticism is leveled at the social cohesion model. Kerr and Seigel (1954) argue that the greater the social cohesion, the greater the militancy, and the greater the militancy, the greater the likelihood of strike activity. Workers who are isolated, or engage in physically demanding, dangerous or unpleasant work are likely to be more cohesive. But there is no direct measure of social cohesion. However, if one can assume that such conditions lead to social cohesion, then it should be less difficult (and therefore less costly) to organize such workers and this will lead to a higher probability of a strike. In this sense, the social cohesion model has some relationship to the bargaining model to be discussed below.

The third and fourth chapters are closely related and represent the thesis that strikes are an outgrowth of the bargaining relationship between management and workers, and are a rationally chosen method to reach a specific objective in response to particular economic
and structural conditions. The strike is only one mechanism for settling industrial disputes and has become institutionalized with its own rules and procedures. The mechanisms for settling disputes are themselves part of the institutional framework, such that the strike may appear to be a clearer option in some cases than in others. Nevertheless, under whatever conditions the strike is considered an appropriate response or mechanism for seeking an objective, the costs and benefits of the action are considered in advance.

Most of the empirical evidence was presented in Chapters Four and Five. Chapter Four dealt with a comparison of strike activity between Canada and nineteen other industrialized countries, largely with respect to the following four factors: bargaining level, industrial democracy, strike restraints and the involvement of a pro-labour party.

It was hypothesized that countries with industry or national level bargaining would experience less strike activity. First, there wasn't a marked difference in strike frequency or duration between
countries with industry or national level bargaining and those with local level bargaining. However, the differences were in the predicted direction and, in combination, the modest differences in strike frequency and days lost per worker result in a "time lost rate that is three times higher in countries where local level bargaining predominates. One can add as well that the system of bargaining in Australia (though it has a form of national level bargaining and for this reason was placed among the other countries with such a system) is quite different from that of any of the other countries and could justifiably have been placed among the countries with local level bargaining or excluded from the analysis for this factor. From this perspective, Australia clearly biases the results as it has the second highest frequency of strikes and the fourth highest time lost rate.

Especially considering the qualification vis à vis Australia, one can conclude that the evolution of
industry or national level bargaining should result in a lessening strike activity and time lost due to strikes.

Reviewing the second factor, as hypothesized on all three measures, strike activity is substantially lower in countries where there are voluntary and formal restraints on strikes. For example, strikes are four times greater in countries with fewer restraints. While one can conclude that an increase in restraints would serve to decrease strike activity, one must recall that in many cases the restraints are voluntary and the system of avoidance of strikes has developed over many years and in response to specific historical circumstances. This was true in Sweden where serious labour clashes in the early 1930's contributed not only to changes in the labour movement but also in the strengthening of the position of the labour party. Sweden has had a particularly long history at solving problems through lagom or compromise (Clark 1978). Likewise in Germany, the effects of an economy ravaged by two wars and a totalitarian regime have left it overly fearful of conflict and encourage it to make great efforts to
avoid conflict and seek compromise and cooperation (Dahrendorf 1967: Ch. 12).

The essential point, then, is not that strike restraints serve to limit strike activity (basically a tautological argument) but that strike restraints have been set in place in some countries and not in others. They are accepted and integrated into some industrial relations systems and not in others and this ultimately affects strike activity.

The third factor considered is industrial democracy. Countries with a system of industrial relations, where workers participate in major decision making, will have less division between management and workers and fewer issues over which there will be conflict - thus less strike activity. This is borne out. Countries with a fairly well developed system of industrial democracy or works councils tend to have less frequent strikes that are somewhat shorter; this results in a much lower time lost rate. Industrial democracy, like voluntary strike restraints, can be encouraged but is more likely to develop from the interaction between a labour movement with a social movement philosophy and a sympathetic management. The labour movements in Canada and the United States in
particular do not show as much interest in worker control or worker participation in decision making and are more oriented to business unionism than their European counterparts. Nevertheless, it would appear from the results of this study that the growth of industrial democracy will bring about a reduction in strike activity as it will eliminate many of the disputes over which strike action is traditionally taken.

In concluding this section, we examine again the effect of pro-labour parties on strike activity. As there are but four countries which do not have a relatively strong pro-labour party at the national level, such a comparison is somewhat limited. In addition, the relationship is ambiguous. A pro-labour party may prevent reprisals from being applied to workers and thus increase strike activity, or it may encourage legislation and settlements which prevent confrontation of this sort. The evidence indicates that in countries with a pro-labour party there are more strikes but they are shorter in length and there is less time lost. While one might tentatively conclude that the presence of a strong labour party is likely
to depress strike activity, the development of a labour party and its acceptance must necessarily come about independently of deliberate legislative action.

How do these variables combine to explain differences in strike activity among the various countries? In employing multiple regression analysis, it was shown that between 19% and 61% of the variance could be explained. Such variability does not leave one greatly encouraged but one must not place too great an emphasis on this stage of the analysis for several reasons. First, there are a very limited number of cases; only twenty cases were available for analysis. With such a limited number of cases, unusual values for one or two cases will significantly distort the results. This was pointed out above for the case of Australia. Secondly, there is wide variation in strike activity across countries which likewise reduces the likelihood of achieving a level of explanation that one might expect. Thirdly, a number of variables, including all of the independent variables had to be treated in binary form which, combined with the limited number of cases, reduces the probability of explaining a large portion of the variance. Finally
the data is not totally reliable and the measures available for analysis are not the most useful (see Appendix A).

In reviewing the specific dimensions of strike activity for the years selected, the variance explained for strike frequency and time lost was 54% and 49% respectively and in both cases only the variable strike restraints was significantly associated with strike activity. However, as predicted, all four variables were negatively associated with time lost. Strike restraints, bargaining level and industrial democracy were negatively associated with strike frequency. For the equation dealing with strike duration, three of the variables are significantly associated with days lost per worker (strike restraints, industrial democracy and labour party). The variance explained for 1973 is 51%. Bargaining level was not significant but was in the predicted direction.

Despite these qualifications then, there seems sufficient evidence, both empirical and theoretical, to indicate that changes in one or a combination of the four factors examined here will have an effect, and in some cases a dramatic effect, on strike activity.
The final chapter examined strike activity in Canada. The principal argument of the thesis is that a strike presupposes that an impasse in negotiations has been reached between management and workers. This impasse results more frequently when conditions are such that it is difficult to determine what a reasonable settlement should be; under such circumstances a strike may occur if it appears to be less costly than accepting a particular offer. In examining frequency of strikes there is considerable support for the thesis. Certain economic conditions are related to strike frequency and a high percentage of the variance is explained. Inflation, GNP as a percentage of trend, change in wages and the like are significantly associated with strike frequency. On the other hand, while many writers have argued that the unemployment rate should be negatively associated with strike frequency, it has been argued on theoretical grounds that the relationship is at best ambiguous and the empirical evidence supports this. For quarterly data there was no significant association and for annual data it was positive and the opposite to what most theorists predicted. Likewise, for a number of years
the argument has been made that seasonal changes have an independent effect on strike activity. The firm level analysis does not confirm this assertion; when one controls for the month in which bargaining ceases, there is no relationship between season and strike activity.

For the firm level analysis, the level of explanation was not very high (25-41%) but for firms of 25 or more employees and firms of 500 or more employees the type of work engaged in was significantly associated with whether a strike had occurred in a particular period. More specifically, workers involved in primary production, construction or heavy manufacturing were more likely to engage in strike activity than workers in other types of industry or work. This supports the thesis that workers in these industries may be more cohesive and thus more easily organized. Organization is an essential component to strike action. There is an alternative explanation, however. The skilled trades and industrial workers associated with primary resource industries, construction and heavy manufacturing have had the
longest tradition of union organization (with the exception of the printers' guild perhaps). If one were to control for the length of time workers have been organized, generally, within a particular occupation or industry, the explanation might be equally strong, but remain in principle the same. Industries or occupations with a long history of organization are better able to provide personnel, information and ideas for organizing workers in general and conducting strike activity in particular.¹

The results for strike duration are somewhat less encouraging. One cannot conclude that there is a significant association between economic variables and strike duration. This is due to two factors. The length of strike is not as dependent on an explicit decision to strike. In short, it is far easier to weigh the pros and cons of taking strike action than it is to determine whether or not to remain on strike for a specified period of time. Once a decision has been made to go on strike, there is in a sense (after the first few days) either a decision to give in on the part of one party or the other, or a "decision" to wait it out regardless of time.
Secondly, it is evident that the cycle associated with strike duration is much longer than the usual fluctuation in the business cycle. There appears to be an initial cycle of about 20 years with two ten year cycles.

Despite these qualifications, there is one consistency, however, across the time series and cross-sectional analysis. The wage rate is significantly related to strike duration in both analyses which indicates that it is the importance of wages and the settling of the wage issue that brings about protracted strikes. In Canada, it appears the wage issue comes to the fore as a primary factor in duration of strikes. There is also a link between the analysis of international comparison and the firm level analysis. The restraints placed on strikes during the war depressed strike duration. In the international comparison, it was shown that strike restraints in general, depressed strike duration as well.

In addition to these factors, firms with higher proportions of females suffered the longest strikes as did firms hit with official, as opposed to unofficial, strikes.
Time lost, which is a composite of the number of strikes, number of workers and days lost, validates some of the results discussed above. In one equation, the rate of inflation, changes in wages, changes in post war legislation and proportion of unionized workers are all significantly related to time lost. In a second equation, time trend is substituted for post war legislation and per cent workers unionized and is significant. In neither equation is the unemployment rate significantly associated with time lost. In both equations about 87% of the variance is explained.

Conclusion

There are essentially two points of departure for a conclusion to this study. If one looks at the difference between Canada and many continental European countries one might conclude that the adoption of a system similar to that of Germany, Norway and Sweden would or could bring a substantial reduction in strike activity. On the other hand one could concentrate on
the factors which seem to affect the fluctuation in strike activity in Canada apart from the characteristics of the industrial relations system itself.

Changing the industrial relations system to reflect developments in continental Europe would require an increase in national or industry level bargaining, the evolution of industrial democracy and additional voluntary and enforced restraints on strikes and possibly greater support for a pro-labour party. Presumably, the adoption of these factors would reduce the duration of strikes, which alone, even if strike frequency remained constant, would also significantly reduce the amount of time lost due to strikes. But changes in these factors would also bring a reduction in strike frequency as well, according to the evidence presented above.

But who can encourage and promote these changes? Labour must be chiefly responsible for developing a social movement philosophy within its ranks, if not encouraging support for a labour party. Management and labour together must work for the establishment of industrial democracy and voluntary strike restraints. While the government can encourage the development of industrial democracy and strike restraints, it has
more control over the level at which bargaining takes place and is now attempting to influence the size of the bargaining units with recent legislation (Kit 1978:8). From the literature, it appears that the basic wage is the issue which is most often settled at the national or industry level. From the Canadian data there is some evidence that it is over the wage issue that one gets the longest strikes. Hence, if there were an increase in higher level bargaining where the wage issue primarily was settled, one might expect a reduction in strike duration and thus a lowering of time lost due to strikes.

The primary objection to this approach is that it relies too much, as Malles (1978) points out, on trying to model the industrial relations system in Canada after that of the European countries and there are a number of hindrances to doing so. There is great resistance to tripartism (Citizen 1978:13), just as there is a reluctance to engage in industry level bargaining (Canadian Press 1978). In addition the labour movement is so fragmented by geographic, political, ethnic and traditional barriers that these alone would take a great deal more than good will and determination to overcome. Some would not just
require a constitutional amendment but would require provinces to give up one of the few powers they were granted at confederation.

Rejecting the European model does not preclude the development of informal ties and agreements that would bring together diverse interests and groups. Nor does it preclude taking an alternative approach which excludes such mechanisms as national level bargaining, works councils and voluntary restraints against strikes.

This alternative would include examining the present context of strike activity in Canada and responding to this complex set of circumstances. Strikes are more evident in some industries compared to others. Does this suggest that different procedures should be established according to the particular type of work or industry? There are at present special regulations guiding the construction industry and perhaps the logic needs to be extended to other industries as well.

Construction revolves around discrete jobs which often involve several employers or sub-contractors.
This makes contract negotiations, wage settlements and the whole process of industrial relations very difficult and complex. There has been a move in recent years to establish no strike pacts for the duration of a contract or project for all contractors. Though illegal at the time, this was considered for the James Bay project (Johnson and Blair 1978:42); such a procedure was successfully undertaken for the Manitoba Hydro project. In the latter case, the burden for negotiations and wage settlement was thrust on those who remained working in the construction business in the south.

In general, since strike frequency, time lost and to some extent strike duration are affected by economic conditions, a mechanism must be found to soften the effects. One has seen the introduction of the COLA clause but it is too early yet to determine the results. Secondly, wage and price controls, coming from the other direction of imposed results, may well have limited strikes; labour was made to realize, after a number of costly confrontations, that the AIB regulations could not be over-ruled in this way. Strike activity has dropped to one-third the
1976 level. During the same period the strike rate did not vary appreciably in the U.S. and it was not under anti-inflation legislation (U.S. Bureau of Labor Statistics 1977:117).

To some extent this strategy for averting costly strikes has been followed in setting up the Public Service Staff Relations Act which offers two methods of dispute settlement both of which involve third party intervention. Unions, before beginning negotiations, must declare whether they will take the arbitration or conciliation/strike route if an impasse has been reached. From an analysis of this process, two tentative conclusions can be drawn, among others (Anderson and Kochan 1977). For the groups which chose the arbitration route, in round one 83% settled by negotiation while only 5% went to arbitration. In round four, only 23% settled by negotiation and 53% went to arbitration. Although the authors conclude there was a kind of narcotic effect (bargaining units become hooked on third party intervention), another conclusion is that it is cheaper, once you have chosen this route, to let an arbitrator determine the outcome, which presumably provides a more satisfactory
solution for both parties concerned. Arbitrators have been either splitting the difference or, in recent years, following AIB regulations. On the other hand, there has been some increase in the number going the conciliation/strike route. Of all the bargaining units, in the first three rounds (that is, in different years) about 80% of the units chose arbitration and 20% the strike route. In the 1975 round, only 42% chose the arbitration route and 58% the strike route. In addition, a much smaller proportion of the units that opted for the conciliation/strike route reached the final impasse involving a strike. Nevertheless, there was a lower proportion of settlements at the negotiation stage for those who took the strike route. In addition, the authors' conclusion that there is a trend toward the conciliation/strike route or impasse if the arbitration route is chosen is drawn from the evidence of the fourth round only; however, there were 49 cases in each of the first three rounds and only 31 in the final round. In taking all four rounds together, it is equally evident that the bargaining units that chose the arbitration route settled the larger proportion of their cases in initial negotiations, while those that chose the strike route settled
at an intermediate stage of conciliation, mediation or post conciliation bargaining. And any intermediate procedure is due in some measure to an impasse or at least a temporary impasse. The following table summarizes this interpretation.

Table 6.1: Settlement Procedure and Settlement Route Chosen for Four Bargaining Rounds, 1968-1975a

<table>
<thead>
<tr>
<th>Settlement Procedure</th>
<th>Settlement Route Chosen</th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Arbitration</td>
<td>Conciliation/Strike</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Initial Negotiations</td>
<td>78</td>
<td>59</td>
<td>9</td>
</tr>
<tr>
<td>Intermediate Stage</td>
<td>20</td>
<td>15</td>
<td>26</td>
</tr>
<tr>
<td>Impasse (Arbitration/Strike)</td>
<td>35</td>
<td>26</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>133</td>
<td>100</td>
<td>45</td>
</tr>
</tbody>
</table>

a. Source: Derived from Anderson and Kochan 1977:290

While this procedure (providing alternative routes for dispute settlement) may not have reduced the number of bargaining units which have reached an
impasse in negotiations, it has not resulted in a large number of strikes (10 of a potential 178); this is well below the national average. But then, the public service has never been especially strike prone. Would this type of regulation be appropriate in the private sector? Technically, a bargaining unit in the private sector can request arbitration if both parties are willing; this route is not often chosen. And in Australia, arbitration is the standard procedure and protest strikes over slow negotiations and anticipated settlements are rampant.

What are the alternatives for Canada? There is much evidence that the strike mechanism is well institutionalized and few signs that it is withering away. However, if efforts are made to adopt, in modified form, some elements of the industrial relations system of continental Europe and to seek methods to deal with the specific differences that result in variations in strike activity from one time period to another and among types of industries or work situations, the strike may well be replaced by other methods of dispute settlement, largely because the issues over which disputes arise will have ceased to exist.
1. The present writer at a preliminary stage in the research undertook an intensive case study of a strike that had taken place in Flin Flon, Manitoba between a council of unions and the Hudson Bay Mining and Smelting Company. One of the conclusions that can be drawn is that the strike was extremely well planned and forecasted. The workers had backed off a strike at the previous round of negotiations because they did not feel well enough organized. For the next round, anticipating an equally intransigent management, they chose leaders including outside labour organizers who had the experience and determination to organize and conduct a strike if necessary.
APPENDIX A

THE DATA

Introduction

This appendix describes in some detail the various data sets used in the analysis and many of the problems associated with using these data for a study of strike activity. The four main data sets discussed below include: 475 strikes drawn at random from strike files, 240 firms drawn from collective agreement files, time series data and international data.

Strike Files

Labour Canada, since 1901 has undertaken to collect certain information on all labour disputes that have led to strike action in Canada. Various methods are used to keep these files up to date. Currently, the local manpower offices are given the task of notifying the Department of Labour about any strike within their jurisdictions and acquiring the details about principal issues, number of workers involved and the number of days duration. To get this information both the union and management are asked to complete a brief questionnaire which is returned to the Department of Labour; this information is recorded on a file card. In addition to these sources, the Department of Labour uses a press service to get additional details and
to become informed about strikes overlooked by manpower offices. Since manpower offices are not located in all towns this is an essential step. Each month the gross statistics are reported in the *Labour Gazette* and at the end of the year an annual report is published — *Strikes and Lockouts in Canada*.

There are several problems with this data set. Like any time series that are collected, they are kept up for historical reasons as much as they are for theoretical reasons or to confirm some hypothesis. They are collected in a near theoretical vacuum.

For example, one of the most important aspects of strikes is the issue over which the strike is taken. Because this is the most difficult aspect of a strike to capture it is the most neglected. Yet, it is or may be the singly most important aspect. To demonstrate that information is collected for other than theoretical reasons, recently the section responsible for collecting the data was asked how many of the strikes over the last two years were lockouts as opposed to strikes. This information had not been kept and each file had to be searched to see if newspaper clippings or ad hoc notes had indicated whether the stoppage was a strike or lockout. From that point on, the data gatherers have been recording, when known, whether the
stoppage is a lockout or strike. But what relevance does this information have and can a clear distinction be made between the two? If an employer refuses to bargain, bringing on a certain strike, can it be suggested that the employer is a passive agent being struck without having taken any action? In this case inactivity would appear to be activity.

An equally important problem with this data set is that little information about the company, separate from the strike statistics, is collected. Strikes do not occur in a vacuum and more information is required besides the company name, type of industry and workers involved. For example, did all workers go out? Are all workers represented by a single union? What is the previous strike record? How long has the company operated? How much experience do the bargaining principals have?

When the officials learn of a strike, a file is opened and a sequence number assigned. The files are kept for several years and then turned over to the archives. The files are then organized by jurisdiction and within jurisdiction by industry. To draw the sample for this study every tenth case was chosen after a random start. This insured that ipso facto each jurisdiction (federal and the ten provinces) and each industry were fairly and proportionately represented. From this list of approximately
1,000 cases the sample was reduced to 475 cases by selecting every third case from Quebec, Ontario and B.C., one of two from the Atlantic Region and all cases from the Prairies. Once this list was established, the original files were drawn from the archives and Labour Canada files and the pertinent information recorded. The information sheet used for this purpose appears in Appendix B. By going back to the strike files, it was possible to include additional information such as whether the strike was official or unofficial, whether violence was used, the size of the work force, whether the plant was closed down and the place used to resolve the dispute, in addition to the strike.

Contract Files

In addition to the strike files, Labour Canada maintains a file including the collective agreement on each company in Canada with 25 employees or more which has a union contract. For the industries of 500 employees or more, a record of contract negotiations, the method of dispute settlement and settlement clauses are recorded. These are published in a monthly report (Collective Bargaining Review) which is available from Labour Canada. The contracts are kept largely for reference purposes. Other than for the firms of 500 employees or more, nothing is regularly done with these files.
If all firms in Canada are considered as the total population of firms, then these two sets of files constitute sub-populations. The latter includes the former. Because additional information is available for those firms with 500 employees or more, two separate samples were drawn.

From the set of files of firms of 25 employees or more, every sixtieth case was drawn beginning from a random start. The contract files are ordered by industry which insured that a representative sample of industries was chosen. In all, 240 cases were chosen and the contracts of these files read and information recorded on the type of industry, location, number of workers and contract clauses including pay and fringe benefits. After this information was recorded, the cases were cross checked with the strike files to determine if a strike had occurred within the last 10 years and if so, the particulars of the strike. This was a fairly onerous task considering that the files are not cross-referenced. One is obliged to check all appropriate industries given a particular jurisdiction.

A second sample was chosen from the 1974 issues of Collective Bargaining Review. First, all firms which had experienced a strike, some 53, were selected and this was matched by a random sample of an equal number of firms which did not experience a strike in reaching a collective
agreement that year. More details were then drawn from the strike files in the case of those companies which had been struck and the contract files for all firms for such factors as the number of months in conciliation and the like. Consequently, the sample totals 106 cases.

Time Series Data

In *Strikes and Lockouts in Canada*, an annual report of Labour Canada, strike statistics are reported for each year since 1901. The following are given each year: number of strikes beginning, number of strikes in progress, total mandays lost, number of workers involved. Also, with this data additional series can be constructed including, median duration, median size, percentage of strikes falling during the term of agreement, first contract, and during negotiations. In addition, some of these data are also recorded for various industry breakdowns and provinces.

While data on strikes is fairly complete there is, on the one hand, practically no information on other factors which may indicate industrial discontent such as absenteeism, turnover rates and the like. Even more important are the factors which relate to the cause of the strike. What is the principal cause, if it can be identified? What was the differential between the initial union demand and the management offer?
The second set of time series data available for analysis of industrial conflict is Labour Organizations in Canada. This annual publication gives the total number of workers per union, number of local unions, and number of paid workers in the labour force, and a breakdown between national and international unions. It does not tell us the number of contracts under negotiation each year. (This information is available for industries of 500 employees or more for recent years, but this accounts for only a minority of industries.)

Finally, time series data are available from the Canadian Statistical Review on the consumer price index, unemployment rate, national income, G.N.P. and industrial profits. These data are especially important considering they must be used directly and in some cases in place of those which are not directly available.

International Data

The final set of data is derived from international statistics on labour disputes. The primary source is the International Yearbook of Labour Statistics. This source is augmented with the year books of the various countries selected for analysis, journal articles, national accounts records and in some cases personal communications.
It is in the international context that the problems of the various dimensions of strike activity are especially acute and so are dealt with in more detail here. Each measure of strike activity is dealt with in turn.

Composite Measures

Two composite measures are employed in examining strike activity. They are mandays lost per thousand workers and time lost as a percentage of total estimated working time. For many comparisons, the latter is preferable because it gives some impression of the direct costs of strikes whereas the former does not. However, a number of problems are associated with each measure. In general, the choice of measures will depend upon the purpose of the comparison and this choice must be made in the context of the difficulties associated with each.

First, countries such as Canada, Italy and Japan do not report the number of workers who are not party to the conflict but who are affected by the work stoppage. In other words, both these figures may underestimate the total time loss and therefore call into question a comparison with countries which do include all workers indirectly involved. These differences can be quite significant as is suggested by a comparison of the experience in Australia,
and the United Kingdom. For the UK, workers indirectly involved from 1963-1973 averaged 18% of the total number involved (UK Dept. of Employment Gazette 1973, p. 49) while Australian workers indirectly involved averaged only 3% of the total number involved (Australia Yearbook 1973, p. 273). Preliminary research indicates that for Canada, the proportion of workers indirectly involved more closely resembles the UK experience.

However, time lost may not accurately reflect the direct costs of strikes if losses are mitigated by other factors. It is assumed that time lost to strikes is not redeemable, but it is not necessarily true that output calculated at the normal rate is lost forever. First, it is possible to build up inventories before and after a strike or negotiating period. This is especially true if strikes are short and many strikes are very short. If inventories must be made up with overtime work, the increased wages will be partly offset by the savings in fringe benefits the company does not have to pay. Needless to say, any extra costs in wages due to strikes or the threat of strikes would have to be charged to the collective bargaining process.

Secondly, where goods cannot be stockpiled and the company does not have a monopoly, the goods or services might be available elsewhere. In many cases the alternative
sources may be more expensive especially in the fields of transportation and communication. In the case of a transportation strike, some savings might also accrue if users of the service take to walking, cycling or car pools.

Thirdly, consumers can postpone their buying, as they apparently did during the G.M. strike in 1971. According to Serrin (1971) car buyers were accustomed to waiting for the G.M. line in order to do comparative buying. For this reason the loss to G.M. was minimized as it was able to increase production after the strike.

Finally, a long term loss to the society may be incurred if the buyer is an international customer who can purchase the product elsewhere. Countries more dependent than others on the export market may be more conscious of this. Canada is facing some problems in this regard with respect to grain, paper products and in one case, buses. A Manitoba firm lost a contract due to a work stoppage. Also, if wages are driven up as the result of strikes, products might be priced out of the market and customers lost for this reason. But it is as difficult to establish the effects of strikes on wages as it is to demonstrate the costs of strikes per se.

In short, the costs of strikes are very difficult to quantify. Hameed and Lomas (1975) attempted to deal with this problem by using input-output analysis but had to
restrict themselves to certain sectors of the economy and assumed that companies did not build up inventories as negotiations approached or strikes threatened - a rather questionable assumption. Besides, it is likely that the factors which determine the costs of strikes vary from one country to another. In other words, time lost to strikes will not necessarily represent the same loss to one country as another though the use of this statistic for comparative purposes does make this assumption.

Even if we assume the long term economic costs to a society are minimal, this does not suggest that the social costs, the costs and inconvenience to individuals, is not great. Where time loss is greatest there is probably greater short term, if not long term, costs to individuals including those indirectly affected by strikes. Transportation strikes always cause inconvenience if not hardship. Disruptions in mail service increase costs for small businesses and caused a considerable loss of wages for the strikers during the 1975 mail strike in Canada. Strikes in small communities often create ill feelings which simmer for years and striking teachers produce resentment among pupils and parents. Variations in time lost will reflect differences in these effects, but there are other more direct measures such as strike duration and strike frequency which better indicate how serious these effects might be. These will be dealt with below.
The second problem in using an aggregate figure for comparative purposes is in determining how to standardize it. The usual technique is to scale the strike figure by relating it to the labour force but if, as is the case in Canada, most strikes are taken by unionized workers, there is a strong case for scaling only by the unionized labour force. This is the rationale for excluding agricultural workers in many such computations. In other words, comparisons dealing with the population at risk and not the population as a whole will produce different results. Controlling for unionized workers would drive the Canadian figures up in comparison to countries like Japan and Sweden where the unionization ratio is much higher. This assumes, however, that the unionization pattern is similar in all countries, and in all countries only unionized workers are predisposed to strike. Neither may be correct. In some countries you may get a segment of nearly all firms being unionized or in others total unionization of some firms. In short, the rate of unionization may be the same but the pattern of membership different. In the final analysis the choice of scale variable depends on the purposes of the comparison and what countries are being compared. As a rough estimate of time lost in percentage terms the appropriate choice here appears to be the entire labour force.
The third problem associated with an overall measure is that it does not reveal the various dimensions of strike activity—frequency, duration and size. Variations in each of these dimensions affect the composite statistic and each dimension has problems associated with it.

Frequency of Strikes

Two measures are used which indicate the extent to which strike action is employed to settle industrial disputes: strikes per thousand workers and percentage of workers on strike. Both can be thought of as measures of strike frequency, but neither measure is totally reliable for comparative purposes as will be shown.

To begin with, strikes per thousand workers is not the most useful measure of strike frequency. Strikes per agreement or strikes per local union might be more useful or, as Fisher (1973:71) suggests, frequency might be reported as strikes per thousand employees or strikes per thousand enterprises. Since it is the enterprise or employer that is struck and, most often, the local union which strikes, these would me more useful. However, with current methods of reporting, strikes per thousand workers and percentage of strikers are the only standardized measures of frequency that can be used at the present time.
Apart from this problem, not all countries use the same method of defining strikes. Japan, for instance, does not count strikes lasting less than four hours even though very short strikes are the usual case in this country. In Sweden, unofficial strikes are not reported to central authorities and so go unrecorded in the official statistics (Ingham 1974:28). In addition, the structure of bargaining can also affect the tabulations of the number of strikes. Where there is industry-level bargaining, a single strike may be reported which involves a considerable number of firms as was the case in Switzerland in 1963 when a single strike involved 70 firms (Switzerland Annuaire Statistique 1974:411). In Canada, however, even when there is industry-level bargaining, strikes by various locals will most often be reported as separate strikes as was the case with the elevator construction workers dispute in 1972/73 (Labour Canada 1973:499).

In addition, frequency of strikes is reduced by failure to report political strikes, lockouts and strikes of short duration. The number of strikes in Japan would nearly triple if strikes of short duration were included as they are for many countries. In Britain and Italy, for example, political strikes are not reported but one would not expect such strikes to add appreciably to the total, except perhaps where a general strike was involved in which case some correction would have to be made.
Under present reporting techniques one might have to conclude that frequency of strikes is not a very useful statistic for cross national comparisons. However, there is such a wide variation among countries that even allowing for a high margin of error the differences would still be substantial. Nevertheless, the statistic must be used with caution.

Proportion of workers on strike as a measure of strike frequency depends on correctly identifying those who are on strike. If strikes are under reported, so too will be the number of workers. Like time lost, where workers indirectly involved are included the frequency rate will be somewhat over estimated. On the whole it may be more stable than strikes per 100 workers. The correlation between the two measures is about 0.78.

Duration and Size

Similar problems are encountered in measuring the duration and size of strikes. First, in both cases, the distributions are extremely skewed so that the mean greatly exceeds the median. For example, in Canada the mean strike from 1964-1973 involved only 121 workers. The figures for Japan and the U.S.A. are similar. For 1972, the median
strike in Japan involved 122 workers while the mean number was 680 (Yearbook of Japan 1974, p. 77). Because of even greater skewness in the Japanese data, what appears to be a country with large strikes turns out to be one with strikes most of which are of the same order of magnitude as those in Canada and the United States. In addition, where the number of strikes tends to be "under" reported, size will increase with a given number of strikes and vice versa.

Furthermore, duration must be measured by days lost per striker rather than days lost per strike. Most countries do not report distributions for days lost. Days lost per strike is a fair proxy for average length of strike but it does not correlate perfectly in those cases where comparison is possible. For Canada the correlation between days lost per striker and median length of strike is approximately 0.5.

Also, in countries where short strikes are less frequently reported, an estimate of duration of strikes will be biased upward.

Beyond the individual dimensions of strike activity there is a more general set of problems. First, some countries such as Norway and Switzerland have so little strike activity that comparing strike activity in these countries with strike activity in countries like Canada and Italy makes very little sense. To characterize Switzerland
as having strikes of long duration, or being small in size when there is in some years but a single strike is not useful. Where there are such wide differences among countries, it may be enough to note that there are differences and begin the search for an explanation.

A more important problem at this level is the reliability of the data. Data collection techniques change over time as does the diligence with which they are collected. In addition, one cannot be sure that various governments attach equal importance to collecting accurate information on strike activity since reports of high strike activity quickly become political issues.

One can also question how valid strike activity is as an independent measure of industrial unrest. Slowdowns and work-to-rule may be just as disruptive and occur more frequently in countries with lower strike rates. Slowdowns have been decreasing in Japan as strikes increase but still represent a significant proportion of total disputes. In 1965 slowdowns totalled 638 while in 1972 they numbered only 90 (Yearbook of Japan 1974:77). There is also some evidence to indicate there may be a trade off between absenteeism and strike activity (Hyman 1972:55), though the evidence is contradictory. Bean (1975) gives evidence indicating that those manufacturing industries in Britain which are most
strike prone are also most prone to other activities indicating industrial unrest, but there is no evidence that this is true for all countries. As a result, by only comparing strike activity across countries, one may be drawing a distorted picture of industrial protest. This discussion indicates that what is required is a theory of industrial unrest of which strike activity would be one component. Employees, whether unionized or non-unionized, have alternative methods of influencing the wage-employment policy of the firm through their ability to impose costs of disagreeing on the firm. The strike is the most publicized method of imposing costs of disagreement but slowdowns and absenteeism through their negative impact on productivity also impose these costs on the firm. It is possible that, international differences in the industrial relations system lead employees in some countries to strike more often even if the underlying conflict levels are the same. This is an additional factor complicating a comparative approach.

As a result of the problems associated with the individual dimensions of strike activity, there is great pressure to use the aggregate figure as the most reliable. However, it has been shown that the aggregate is simply the product of the individual dimensions and the errors may be cumulative instead of offsetting so that the aggregate can be the most distorted figure. In addition, the aggregate
figure may mask the essential differences between two countries or groups of countries. For example, Canada and Italy both have considerably above average time loss rates, but Canada has fewer strikers per thousand workers and they appear to involve, on the average, fewer workers than Italy, but each strike lasts considerably longer. The biggest single factor differentiating Canada from other countries is duration. In this sense, Canada is also the opposite to Australia which has a much higher frequency of strikes but a lower amount of time lost per strike. In searching for an explanation, then, one may have to determine why the overall time lost is higher or lower. A country with many short strikes will call for a different explanation and perhaps will have different public policy concerns than a country such as Canada which has relatively fewer strikes of longer duration.

What solutions can be offered for the problems that plague the statistics on strike activity? One possible solution is to encourage the international standardization of data collection but, even if successful, this does not make the analysis of the existing data any easier. A second approach is to proceed with the analysis, making allowances where possible and adding precautionary notes where not.
APPENDIX B

The Industrial Relations System

Twenty Countries in Brief

Sweden, Norway and Denmark all have very similar systems of industrial relations. All three countries have large centralized labour and employer organizations and bargain nationally or industry wide (Malles 1973: 77ff). In addition, these three countries have initiated a system of workers' councils (Jenkins 1973: 246ff) based on non-statutory agreement between labour and management (Malles 1973: 167) though Denmark has added a two level system including co-determination which is on a par with the German system (Malles 1973: 169-171). With respect to a labour party, all three countries have a strong pro-labour party and the labour organizations have a close affiliation with them. In Denmark, unique among European countries, the relationship is statutory (Malles 1973: 27). Finally, in all three countries, as well, there is a prohibition against strikes during the term of a collective agreement. The peace obligation is taken seriously and in some cases the agreements have
been extended by law to avoid placing the union in a position to strike.

There are some similarities between Finland and the other Scandinavian countries. For about ten years bargaining has commenced at the national level where a basic income agreement has been reached (Plantienen 1976; Bank of Finland, April 1976). Finland does make provisions for the development of works councils but their rights are very limited; this has not encouraged the growth of industrial democracy in Finland. In addition, there are few restrictions on strikes. During the term of a collective agreement unions cannot support strikes, though the strikes per se are not illegal. One of Finland's greatest problems is the fragmentation of the political loyalties rather than labour loyalties. At one period six months elapsed before a cabinet could be assembled as there are more than five political parties with substantial numbers of seats (Reuter 1975: 13). This hampers the effectiveness of a political system which nonetheless has two major parties with support from the working class and which have pro-labour
sympathies. These include the social democrats and the communist party - the parties currently with the most seats in Parliament (AIESEC 1972: 69).

Belgium and the Netherlands share similar approaches to industrial relations. In both countries the labour movement is split between the confessional unions and secular unions but there has been a great deal of cooperation since the 1960's on national bargaining with employer associations. Industrial democracy in the two countries though not well developed is more advanced than in other countries; there is statutory provision for works councils which hold an advisory role at the plant or firm level. In Belgium and the Netherlands contracts do not carry the legal peace obligation that is true of the Scandinavian countries, for example. As in other European countries there is a strong association between the labour organization and political parties which emphasize a planned economy and the interests of labour.

In contrast to Belgium and the Netherlands, France and Italy have not achieved the unity in the labour movement. However, like the Netherlands and Belgium there is no statutory peace obligation during the life
of an agreement. In both France and Italy there is a strong pro-labour party as well as strong communist parties. However, because labour is not well organized nationally the coordination between labour and the labour parties is somewhat lacking (Bouvard 1973).

Only limited information is available on Spain. As far as one can ascertain, the repressive nature of the Franco regime had not permitted the development of a strong centralized labour organization with national or industry level bargaining power. As well, there is little semblance of industrial democracy and strike activity was largely suppressed. The post-Franco regime is too young to have developed a well coordinated pro-labour party.

New Zealand passed a new industrial relations act in 1973 (New Zealand Bureau of Statistics 1974) which removes many of the legal restrictions on strikes. However, once an award is made, an agreement is considered binding and strikes are not then permitted. There are some 360 unions in this small country and, while it is moving toward more national and regional level bargaining most bargaining takes place between local district unions and an employer. Employers tend to be
better organized than the unions. In New Zealand, like Australia there is little evidence of the development of industrial democracy but it has a strong pro-labour party active in pursuing labour's goals.

Austria and Germany are perhaps most alike. The philosophy of co-determination was developed in Germany and adopted shortly thereafter by Austria. Workers are elected to works councils which have the right to co-determine decisions on the management and development of the industry. In the coal and iron industries workers are placed on the boards of directors. In both countries national level bargaining is the rule (Malles 1973: 78 & 90). Also there are statutory limitations on strikes while agreements are in effect (Schregle 1974). Germany and Austria it seems take the greatest effort to avoid disputes which lead to strikes, perhaps (according to Dährendorf 1968: Ch. 12) an unhealthy effort. Germany and Austria both have strong pro-labour parties which cooperate with labour in writing legislation and managing the economy.

In Switzerland, industry level bargaining has been in effect for some time and there is a very strong statutory and moral commitment to avoid strikes. In the
metal and watch industry both industry and union have established a large trust fund so that if one party precipitates a strike its contribution is forfeited (Schregle 1974: 12). There is little evidence of the development of industrial democracy in Switzerland but there is a pro-labour party, the Social Democrats. It is the third largest party and has the support of the largest trade union federation and its 437,000 members (Steiner 1974: Ch.II).

**Australia** has a system of national level bargaining by virtue of the fact that disputes are settled by what has come to be considered compulsory arbitration. Arbitration usually takes place in one industry in a given year or contract period and other industries normally work out an agreement in keeping with their status among industries. In many ways it is not akin to the national or industry level bargaining found in many countries and is thus unique among the countries considered here. Australia, like Canada, has split jurisdiction over labour relations. In Australia there are six states plus the federal government. This makes it somewhat difficult to classify the country as a whole but most states and the federal government seem to place a number of re-
strictions on legal strikes. On the other hand, there is little enforcement of laws against illegal strikes. Hoffman (1973: 58) states that "Since 1960, unions have been fined more than $300,000 of which very little has been collected." She also states that nearly all workers, since they have chosen the arbitration method of dispute settlement, have abandoned the legal use of the strike. As is well known, Australia has a very strong labour party which was recently removed from power. Finally, there is little evidence of the development of industrial democracy in this country.

Israel has developed a system of national level bargaining (Hoffman 1973) and has the rudiments of industrial democracy stemming from the tradition of the Kibbutzim (Jenkins 1973). However, industrial democracy is not well developed on a national scale as it is still in an experimental phase (Hunnius 1973). There is no evidence that strikes are prohibited and Israel has a very strong labour party which until recently held power.

The industrial relations system in Japan is somewhat different from that of the other 19 countries in this comparison. In Japan, there is a greater assurance of job security and firm loyalty. This undoubtedly
affects management worker relations. However, it can be compared on the basis of the four characteristics with the other countries. Firm level bargaining is the norm (Mitsufuji and Hagisawa 1972) and a great deal of emphasis is placed on joint decision making with employees. In Japan a great deal more time is taken in arriving at decisions so that fewer problems will arise and less time will be spent in carrying them out (Jenkins, 1973: 303). In addition, there is a very strong commitment to solving workers' problems, a commitment similar to that of countries such as Germany and Switzerland. Finally, Japan prohibits certain types of strikes (Hoffman 1973) and has a socialist pro-labour party which is a close second to the leading political party and draws most of its support from trade union members (Ishida 1971: 69).

National level bargaining, industrial democracy and informal and legal restraints against strikes are all absent in Britain and the Republic of Ireland (Hoffman 1973: Roberts & Rothwell 1972). There is some industry level bargaining and there are some union management committees where some attempt is made at joint decision making. However, one difference between the Republic of Ireland and Britain is that Britain has a strong labour
party which is currently in power. On the other hand, the labour party in Ireland is very weak and has never received more than 17% of the popular vote — rather similar to the situation in Canada.

The discussion of specific countries ends with Canada and the United States. Partly because of size, but more because of the historical development of the industrial relations system, local level bargaining is predominant in these countries. There has been some movement in a few industries to national level bargaining but in Canada this is hampered because the responsibility for labour relations lies primarily with the provinces. With respect to industrial democracy there are management/union advisory committees but they have little or no power; as an alternative some firms have moved to worker ownership (Pitts 1978) but for the most part workers do not participate in decision making at the plant or firm level. Thirdly, while Canadian and American legislation prohibits strikes during the term of a collective agreement and in some sections of the economy (public service in the U.S.) there is little enforcement. Employers do not normally register complaints when strikes occur while a contract is being
negotiated or an agreement is in effect. Unlike most other countries, there has not been an effective national labour party in either country. The C.C.P/N.D.P. has been active in Canada since the thirties but has never been very strong at the national level. At the provincial level four provinces have very strong New Democratic Parties but in the others it is virtually non-existent. In the United States the Democrats have been traditionally more sympathetic to labour but do not constitute a labour party.

Table 4.1 in Chapter Four gives a summary of this discussion.
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