

REPLACEMENT WORKER LEGISLATION: A LONGITUDINAL

ANALYSIS OF QUEBEC'S ANTI-SCAB LAW

by

Kelly Christine Cardwell

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REPLACEMENT WORKER LEGISLATION: A LONGITUDINAL
ANALYSIS OF QUEBEC'S ANTI-SCAB LAW

Author:

(signature)

KELLY CARDWELL

(name)

MARCH 31st, 1995

(date)

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APPROVAL

Name: Kelly Christine Cardwell Gibbs

Degree: Master of Business Administration

Title of Thesis: Replacement Worker Legislation: A
Longitudinal Analysis of Quebec's
Anti-Scab Law

Examining Committee:

Chair: Mark Wexler

Stephen Havlovic
Senior Supervisor

John Richards

Allan Seager
Department of History
Simon Fraser University

ABSTRACT

Businesses are being compelled to reduce costs in order to survive in an increasingly competitive and technologically advanced environment. This Darwinian, post-modern climate has forced labourers to fight equally as hard in order to secure a job, a future, and a living. This thesis will examine one feature of labour - management relations which has brought this fight for economic survival to a head: the issue of replacement workers. Specifically, this thesis analyzes how the institution of legislation prohibiting companies from hiring replacement workers affects strike activity.

This thesis looks at a number of issues involved with replacing striking workers during labour disputes, including an examination of the replacement worker legislation in both Canada and the United States. Other issues most common to the literature on replacement workers include: collective bargaining and power; the strike; strike violence; potential detriment to organized labour; temporary vs. permanent replacement; barriers to hiring replacements; the effect of the legislation on strike duration; and the effect of the legislation on strike incidence.

An empirical analysis is conducted in order to determine whether the Quebec anti-scab legislation (Bill 45) affected the number and duration of strikes in that province following its institution in 1978. The results of the empirical analysis indicate that the legislation had no significant impact on strike incidence nor strike duration.

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CHAPTER I

INTRODUCTION

This thesis examines how the institution of legislation prohibiting replacement workers during labour disputes affects strike activity and strike violence. More specifically, it seeks to determine whether such legislation decreases the number of strikes, the duration of strikes, and the amount of violence which occurs during strikes. The issues which emerge in the controversial debate over the replacement worker dilemma are examined both quantitatively and qualitatively. Quantitatively, an empirical analysis is conducted using data obtained from the province of Quebec between January 1960 and November 1993 in relation to strike incidence and strike duration. Qualitatively, the paper explores a variety of arguments for and against legislation which prohibits the employer from hiring replacements. Of particular importance to the qualitative portion of this paper is an examination of violence in labour disputes and how replacement worker legislation assuages these situations.

This paper looks at the historical development and present position of both Canada and the United States on this issue. It is significant to keep in mind that the controversy in the two countries involves different quandaries. The Canadian debate focuses on temporary replacements¹ versus no replacements, whereas in the United

¹ Temporary replacements, for the purpose of this thesis, are assumed to be persons hired for no longer than the duration of the

States, the nucleus of the paradigm pertains to temporary versus permanent replacements.

There has been an abundance of research performed on strikes. According to Keeran et al. (1989-1990), since the development of Hick's strike theory in 1932, no other aspect of industrial relations has received as much research attention as have strikes. Kaufman (1992), in his discussion of strike research in the 1980s, notes "One of the boom areas of industrial relations research in the 1980s was the subject of strikes. Even as the number of strikes in the United States fell to the lowest level in the post-World War II period, the volume of articles and books published on the subject was double that of the previous decade" (pp. 77). Due to the complexity involved in the dynamics of a labour dispute, strikes and strike behaviour are intriguing and appealing areas of labour relations study. It is the difficult job of the researcher to consider the wide multitude of variables that mould together to create each individual strike (e.g., economic, political, social, organizational), and assiduously postulate a broad historical outline behind strike activity.

It is reasonable to assume that labour legislation plays a consequential role in constraining or assisting both labour and management's pursuit of their respective interests or concerns (Frank et al., 1982). This thesis attempts to determine whether the introduction of a piece of legislation had a significant impact on strike activity. This is an important aspect of industrial relations since the adoption of certain laws may create an alternative mechanism for the state to keep strike activity under more effective control

strike. Permanent replacements are those persons hired during a labour dispute who will continue to work at the struck company following the conclusion of the labour dispute.

(Gunderson et al., 1990). Specifically, the adoption of anti-scab legislation may provide the state with a mechanism to control strike activity in a particular way (e.g., decrease the number of stoppages, decrease the amount of violence involved in labour disputes) depending on the goals of government.

Studies which examine the effect of policy variables are limited. According to Gunderson et al. (1990), "In general these studies [regarding legislative effects on strikes] do not tend to find consistent effects of these general legislative initiatives, with the exception of wage-price controls, which tend to reduce strike activity, and the availability of unemployment insurance to striking workers, which tends to increase strike activity. More importantly, none of these studies (with the exception of those concerned with transfer payments) focused its attention on the impact policy variables, and none included a wide array of labour relations policy variables designed specifically to affect strike activity" (pp. 513). Considering the increased use of replacement workers over the past decade in the United States, Kaufman (1992) notes the limited number of studies on this issue².

Replacing striking workers, which significantly reduces the potency of the strike as the traditional union response to an impasse in negotiations, while not necessarily a new phenomenon, has gained momentum in the United States since the early 1980's. From Kaufman's (1992) qualitative review of strikes in the United States in the 1980s,

² While the number of studies examining strikes has been significant, Kaufman contends that one of the weaknesses with the overall content of these studies is the failure of researchers to focus on emerging issues like replacement workers.

one of the main themes or events he found among the most frequently mentioned strikes in the annual index of the Wall Street Journal was the widespread use of striker replacements, a tactic allowing many companies to defeat a strike or "bust" the union. Many authors (e.g., Kochan & Katz, 1988; Mezo, 1990; "Striker Replacement Legislation", 1991; Roukis & Farid, 1993) attribute this increase to President Ronald Reagan's actions in the Professional Air Traffic Controllers' Union (PATCO) strike where the President permanently replaced twelve thousand air traffic controllers. Although this strike concerned employees in the public sector who were on strike illegally, Reagan's actions served as a hard line precedent for management to follow in the American private sector as well.

Roukis & Farid (1993) suggest a number of alternative plausible explanations for the increased use of replacement workers in the United States, beginning with the increase in mergers and acquisitions in the 1980s that resulted in an oversupply of labour which management needed to reduce in order to cut costs and maintain efficiency. Second, they note that increased deregulation, global competition, technological advancement, and slow economic growth have forced companies to lower costs in order to survive in a fiercely Darwinian environment. Third, there has been a decrease in the economic and political force of organized labour, and thus unions have not had the strength to protect their members from being replaced during strikes. Lastly, they remark that crossing the picket line is not seen as morally reprehensible as it was in the past, for it is understood that a livelihood must be made.

Arguments For and Against Replacement Worker legislation:

The increased use of replacement workers has had a catalytic effect on the controversy surrounding the whole replacement worker issue. Both opponents and proponents have made numerous contentions regarding the impact of replacement workers during labour disputes. The validity of these arguments is dealt with further in this study.

Opponents of Replacement Workers

There are rational arguments on both sides of the replacement worker dilemma. The fundamental arguments put forth by those opposing replacement workers are: (1) the right to strike is not real if exercising this right means potentially losing one's job; (2) both Canada and the U.S. encourage collective bargaining as a means of arriving at a fair wage, however a fair wage cannot be achieved if the power is skewed too far in favour of management; (3) allowing replacements discourages union membership and is therefore detrimental to unions in general; and, (4) the existence of replacement workers incites greater violence and unrest.

The Right to Strike?

The following quotes are two of the many negative impressions of strikebreakers and replacement workers:

He is pronounced a menaced to the `cause', a `traitor', `knave', a `rat', a `blackleg', a `knob', a `fink' or a `scab' - something to be cast off and expelled (Hiller, 1969).

We have taken a long look at it. It walks like a scab, it smells like a scab, it huddles with the bosses like a scab. You've guessed it. A replacement worker ain't nothing but a Lousy Scab! ("The Replacement Ain't Nothing

But A Lousy Scab", 1989, pp. 15).

Cockburn (1991) claims that while it is perfectly legal to strike in the United States, it is simply illegal to win one. He explains that exercising one's democratic right to strike potentially leads to the employers hiring of replacement workers and thus the possible loss of the strikers' jobs. The right to strike is virtually moot if the potential exists that workers could lose their jobs by simply exercising that right (Cockburn, 1991). American labour legislation (Labor-Management Relations Act) allows workers the right to strike, but offers no protection for individuals exercising this right. The difference between being permanently replaced and terminated for exercising an individual's legal right to strike is merely semantic (Cornwell, 1990).

In the United States, a striker may be terminated as long as the motive behind the termination emerges from legitimate business reasons and not from a determination to undermine the union (Roukis & Farid, 1993). This is what makes the law contentious since assessing a company's motives is rarely clear and at times motives may overlap. For example, the goal of a company may not necessarily be to undermine the union, but it may be doing so in the interest of maximizing profit. Other companies could in fact use this legal ambiguity to undermine the union and subsequently cite legitimate business reasons in justifying their actions.

One example, among many, of U.S. strikes involving replacement workers occurred in Jay, Maine and demonstrates how replacement workers limit or restrict the effectiveness of the strike as a weapon. In June 1987, The United Paperwork International Union struck the International Paper Company. Of the twelve hundred

union members in the plant who participated in the strike, only forty have gone back to work. Eight hundred replacement workers have been hired and trained, all with promises of permanent jobs. The company continues to operate at near capacity and, for all intents and purposes, has broken the strike (Satchell & Gordon, 1987). It seems, at least in this particular case, that the traditional weapon of labour - the strike - ended up in the arsenal of management.

Collective Bargaining

A second argument, brought about by opponents, concerns the institution of collective bargaining and the effect of the legislation on the distribution of power. Both Canada and the U.S. maintain a collective bargaining system as a means of arriving at a fair price for a unionized employee's service. According to Mezo (1990), labour and management are only able to partake in meaningful collective bargaining if both parties have a certain degree of leverage over the other, which is generally economic in nature. Allowing management to hire replacements during a strike, weakens the effect of the strike as a weapon, and thus decreases the amount of labour's leverage over management. According to Weiler (1984), the employer is insulated from the costs or economic hardships of enduring a strike which may lead to an inequitable collective agreement, while the strikers fear losing their jobs to permanent replacements³. Basically,

³ This is not necessarily true since the firm continues to face the cost of hiring and training replacement workers. However, replacements do weaken the use of the strike as a weapon.

management has little incentive to negotiate 'fair' agreements if labour is unable to exert some degree of economic pressure over the company; therefore, legislation limiting labour's equality in collective bargaining disrupts one of the major aspects of the Canadian and American industrial relations systems.

Danger to the Survival of Organized Labour

The third contention frequently cited is the potential ill-effects replacement worker legislation has on organized labour. According to Mezo (1990), allowing employers to hire replacement workers during a strike is an attempt by corporate America to break the unions. The same situation holds for Canadian employers who use replacement workers during a strike (Carr, 1988). Also, if a company hires an adequate number of permanent replacements, the union risks decertification and, hence, management is indirectly given control as to whether or not the organization is unionized, and prevents labour from choosing a union as its bargaining representative (Denton, 1991). In a case involving the United Rubber Workers Union, the union won a representative election, but could not negotiate a collective agreement. The following year, the union called a strike, and with replacements voting, a certification election was held and the union was defeated two hundred eighty-eight votes to five ("Replacement of Workers During Strikes," 1966).

The mere fact that employers are able to permanently replace strikers is discouraging of union membership and/or union activities (Weiler, 1984; Cornwell, 1990). The basic premise behind the union as labour's bargaining representative is

strength in numbers. Concerted action by a group of employees theoretically holds more weight than an individual or individuals separately fighting for a common cause (e.g., better wages, a safe workplace, better working conditions, security). However, replacement workers limit the union's bargaining power and worse, mere participation in concerted activities puts union workers job security at risk.

Another argument against replacement workers in regards to the potential harm to organized labour is that it is the weakest unions⁴ that are the most affected by replacements (Cornwell, 1990). Strong unions, whose strength is determined by high skill levels in the membership, experience less risk of having their members permanently replaced because employers have a more difficult time finding qualified replacements. Also, these employers often have a strong interest in maintaining some level of amicable relations. Therefore, it is the industrial-type unions that are more easily replaced and thus require the most protection under law in order to uphold the balance of power (Cornwell, 1990). Ironically, organizations with weak unions have greater access to temporary replacements since the strength of a labour union is largely dependent on the skill level of its members (Gillespie, 1972). This appears rather confusing. The main point is, however, that the unions most in need of protection under the law are those which are presently the most exposed or vulnerable. The nature of the skill required to perform the tasks of these workers is low and thus replacement is not a difficult task either

⁴ Cornwell (1990) discusses union strength in terms of the size and skill level of its members. The greater the skill required to perform the work and the larger the membership, the stronger the union.

temporarily or permanently. For this reason, the necessity of offering secure permanent work to a replacement is moot and unnecessary.

Violence

The final argument brought forth by opponents of replacement workers concerns the violence associated with their presence at the picket line. The mere existence of replacements often incites physical conflict on the picket-line. England (1983) argues that replacement workers lead to increased picketing activity and picket-line violence.

The following quotation is one example of many which demonstrates the violence and anger which emerge in strikes where replacements are used:

Having failed in their efforts to stop operations, the strikers attempted to restrain those who continued at work. They declared that they would starve the pits of any and every form of labour, from the manager down. Intimidating letters were sent to those who refused to join the strike. One of these reads: `This is a warning to you that if you do not cease work at once and throw in your lot with us, we will stone the house and loot all that you have. (Hiller, 1969, pp. 6-7)

Estreicher (1987) found that "...much of the labor violence that has occurred in our labor history is a product of, or response to, the hiring of replacement workers" (pp. 287). According to Gillespie (1972), the existence of permanent replacements raises the stakes in labour-management negotiations, and thus reinforces friction between the two. Gillespie's point should also be applicable to temporary replacements since they too weaken the efficacy of the strike as a weapon.

Proponents of Replacement Workers

Some of the arguments brought about by those in favour of replacement workers are summarized as follows: (1) free collective bargaining necessitates management's right to maintain operations during a strike and thus banning replacements skews the distribution of power too far in favour of labour; (2) the public and the economy must be protected from the ill-effects of strikes; (3) a lack of symmetry of information exists between labour and management, therefore labour should not be given too much power (for both the company's well-being and the protection of the employees); and, (4) replacement workers allow the company to upgrade the staff by retaining the better replacements thus leading overall to a more efficient workforce.

Free Collective Bargaining and the Issue of Power

Under the free collective bargaining perspective, if workers are given the freedom to strike, companies should be given the right to attempt to continue the production and distribution of its goods. According to Estreicher (1987), the company's right to maintain operations during the strike is fundamental to the 'free' collective bargaining system.

Strikes and lockouts are a means of resolving economic disputes where the parties are unable to come to agreement. This process provides an educational service of sorts for the parties, imparting information about how strongly particular positions are being held and more importantly, about their relative bargaining power. The employer's attempt to withstand the strike provides an important market check on union demands. (Estreicher, 1987, pp. 287)

The power issue is a widely documented and accepted argument among proponents. The basic premise behind this argument is that banning replacement workers would shift the power too far towards labour, "...to the extent that the union's resultant power may be overwhelming,

the implicit fear is of inflationary wage settlements and 'inefficient' working practices" (England, 1983, pp. 278). Labour would have the ultimate control since they would be able to virtually shut down management's operations during the renegotiation of new collective agreements. During periods when demand for the company's products is low and union demands are high, this lack of power for management may mean the bankruptcy of many businesses (Sinek, 1992).

The Big Three automobile manufacturers (i.e., Ford, General Motors and Chrysler) stated prior to the introduction of the 1990 amendments to Ontario's Labour Act that provisions prohibiting all types of replacement workers during labour disputes would cause greater disruption in the workplace and scare away investment in the province, thus eliminating jobs. The automakers view the legislation as tipping the balance too far in favour of labour at a time when companies need to bring down costs in order to survive in an extremely competitive business environment (Sinek, 1992).

The Effect of Strikes on Third Parties

The second argument deals with the fact that it is not only a struck company and its employees who are affected by a strike. A strike may, for example, directly or indirectly affect the surrounding communities or the competition (e.g., increased business or secondary picketing). Also, if the company is one unit (a strategic one) of a larger conglomerate, undue hardship may be imposed on the remaining unions or the shut down of the company may have a negative impact on the economy (Weiler, 1980; England, 1983).

Many negative aspects may be potentially experienced by a company which is prevented from continuing operations during a strike: elimination of income streams, lost customers (both

temporarily and permanently) and a deterioration of competitive advantage (Kohl & Stephens, 1986). This can have serious long term effects on the future well-being of the employees.

When British Columbia modified its labour legislation in 1992 to ban replacement workers, the business community criticized it as a slide to the "left" for B.C. labour. Some business officials saw the changes as a detriment to the province's economic recovery (The Vancouver Sun, Oct. 28, 1992). According to John Robson of The Fraser Institute, "I don't see that [the legislation] as fair play. I see it as a violation of the employers' and the replacement workers' right to bargain freely" (The Vancouver Sun, Oct. 28, 1992).

Simply because the legal right to hire replacements exists does not necessarily imply that this method of fighting strikes will be used. Management has significant incentives not to hire replacements - they have to pay the cost of hiring and training new employees. Employers have a great number of practical constraints which must be considered before deciding to use replacements, while having a large number of alternatives available to them apart from the replacement strategy (Gillespie, 1972). Obtaining an adequate number of workers to fill jobs left vacant by striking workers is one of the principal obstacles employers face in hiring replacement workers (Gramm, 1991). Employers may also encounter legal and geographical constraints, potential violence and damages to company property (Gillespie, 1972).

Symmetry of Information

As mentioned earlier, another argument concerns the asymmetry of information between the parties. This argument is based on labour's lack of knowledge or trust towards management's position. Labour could seriously damage the company simply by not knowing or understanding

management's position. It may be argued that labour is more concerned with 'bread and butter' issues as opposed to more global issues. It is highly plausible that labour is not fully aware of the conditions under which management established its demands. Management is partly responsible for this since they sometimes engage in exaggeration in order to secure a more favourable collective agreement. According to Fisher & Williams (1989), "...the adversarial nature of collective bargaining promotes a highly competitive, win-lose approach in which an improvement by one side is regarded as a loss by the other. This can result in low trust, secrecy, mental inflexibility by negotiators, threats and settlements only under crisis conditions, such as an impending work stoppage" (pp. 186).

Similarly, Crovitz (1991) proposes that banning replacements would force management to succumb to labour's every whim. Labour is primarily concerned with the present. Therefore, if the company is making a profit now, labour expects a larger portion of such profit. However, the future health of the business is an extremely important variable which is frequently overlooked by labour. Throughout the 1970s, many businesses developed labour policies which were costly and resulted in products that were not competitive relative to prices charged by foreign or non-union competitors (Kohl & Stephens, 1986). According to Who Killed the Unions (1991), labour woes are largely self-inflicted and labour's demand for wage settlements has driven up American labour costs and subsequently driven down the competitiveness of their products compared with countries like Japan and South Korea.

In any case, this lack of symmetry of information between the two parties may cause sizable problems for the company if the strike destroys its viability. It may not be in labour's best interest to strike, but they may do so without taking into account the long term effects on the

prosperity of the company and hence, of the company's ability to maintain present employment.

Advantages of Using Replacement Worker Strategy

According to proponents, replacement workers may potentially provide management with a number of advantages apart from allowing the company to continue operations during a strike. The availability of the replacement worker option would provide the employer with an opportunity to upgrade the work force by enabling them to look at future potential employees. Management would be given the opportunity to negotiate new contracts with replacements who perform extremely well on the job (Kohl & Stephens, 1986). Management would have the opportunity to negotiate an agreement with the union that would allow it to retain the best, or at least the better replacements, thus rendering a more efficient labour force overall.

Summary

These are some of the arguments which have been proposed in favour of or against the use of replacement workers during labour disputes. The validity and practicality of these positions are examined in greater depth further on in this paper. Some of the contentions are strong and some are weak. In any case, they do require further consideration.

This thesis reviews strikebreaking literature in both Canada and the United States. It explores the heated debate as well as the legislation in the two countries. This paper will first examine the genesis of the replacement worker dilemma - the strikebreaking industry. This chapter examines the profitability of professional strikebreaking agencies hired by companies to 'protect' and help management maintain operations. The violence caused and incurred by these

agencies is also given substantial consideration. This chapter also examines the legislation in both the United States and Canada. The legal systems overseeing industrial relations in these two countries are quite distinct, and a thorough examination of the present standing on the replacement worker issue is necessary for the development of the relevant issues.

The third chapter contains an investigation of the various arguments which have emerged in the literature. This chapter focuses on eight issues which surface in the arguments brought about by proponents and opponents of replacement workers: (1) the collective bargaining relationship and resulting power struggle; (2) the integrity of the strike as a weapon; (3) strike violence; (4) potential detriment to organized labour; (5) temporary v. permanent replacements; (6) barriers to hiring replacements; (7) the effect of anti-replacement worker legislation on strike duration; and (8) the effect of anti-replacement worker legislation on strike incidence.

The fourth chapter contains a discussion of the research hypotheses, as well as a review of the methodology involved in testing the hypotheses. Also, this chapter includes a description of the samples used in the analysis, an overview of the statistical procedures used, and the reasons these particular procedures were chosen.

Chapter V contains the results of the data analysis and chapter VI contains a discussion of these results. This section not only contemplates the practical meaning of the results, but also looks at alternative explanations. The final chapter examines the limitations of the study and considers relevant areas requiring further research.

CHAPTER II

The United States and Canada

This chapter examines the status of anti-replacement worker legislation in the United States and Canada. The underlying motivation behind relevant legislation will be examined in each of the two countries, along with a discussion of the legal cases which played a crucial role in the interpretation of the law. Before beginning the discussion of the United States, a historical perspective of the replacement worker issue is examined - professional strikebreakers. This thesis focuses primarily on casual replacements meaning replacements who are hired individually by the struck company and who do not make a living replacing striking workers. However, it is useful to first discuss professional strikebreakers who base their living on replacing striking workers (Cornwell, 1990).

The Strikebreaking Industry

Professional strikebreaking in North America dates back to the nineteenth century. The provision of security, replacement workers and the transportation of goods and personnel across the picket line are some of the common services provided by a professional strikebreaking agency (Waldie, Brennan and Associates, 1982). Other activities might include wiretapping, physical intimidation, attempts to convince strikers to cross over picket lines (Zwelling, 1972), and the provision of spies to circulate among the picketers (Martorana, 1981).

Violence and strikebreaking appear to go hand in hand: "The very hiring of strikebreakers

itself was often the cause of violence particularly when replacements were professional strikebreakers with little or no technical job skills who simply wished to prolong the strike for their own financial benefit" (Martorana, 1981, pp. 536). According to labour's interpretation of historical data published by the Canadian Task Force on Labour Relations in 1966, "In every violent strike [labour historian Stuart] Jamieson was able to document, however, strikebreakers appear in each, doubtlessly as the catalyst for disorder" (Zwelling, 1972, pp. 6). There are many historical examples of violence occurring in situations where management uses the services of professional strikebreakers. A legendary example in North American labour history transpired at Andrew Carnegie's steel company in 1892 in Homestead, Pennsylvania. Three hundred professional strikebreakers (Pinkerton detectives) were hired to break the strike which resulted in the dissolution of the union, eighty-three wounded and thirty-five dead (Zwelling, 1972). Another example occurred during a strike at John D. Rockefeller, Jr.'s Colorado Fuel and Iron Company in 1914 where nineteen people were killed by private company guards, including thirteen women and children. Canada, too, is not without its share of violence and tragedy where companies used the services of professional strikebreakers⁵. In Kapuskasing, Ontario in 1963, a strike at a lumber and sawmill plant resulted in three dead and nine wounded (Zwelling, 1972).

Pearl F. Bergoff, a notorious American professional strikebreaker, claimed his agency had handled 172 strikes. Zwelling's (1972) report contained the following statistics (see Table 1) regarding Bergoff's work during the late nineteenth century.

⁵ This is not to imply that the "strikebreaking industry" was responsible for the violence and tragedy that occurred during labour disputes.

Table 1

Strikers killed by strikebreakers	17
Strikebreakers killed by strikers	6
Men, women & children killed by strikebreaker-driven trolley cars	21
Bystanders killed by strikebreakers	1
Strikebreakers killed at work	3
Strikebreakers killed by strikebreakers in the barracks	4
Strikebreakers killed in Bergoff's New York Office	2
Total	54

(Zwelling, 1972, pp. 5)

There is a fundamental problem with the whole concept of professional strikebreakers: they require industrial conflict in order to remain profitable. Since the professional strikebreakers profit from a strike, it is in their best interest to perpetuate conflict between labour and management. Professional strikebreakers purposely prolong strikes - the more time they are needed, the more money they stand to make (Waldie, Brennan & Associates, 1982; Zwelling, 1972; Martorana, 1981). They are in the advantageous position of creating their own market. If they are able to magnify the situation and convince management of their aggrandizement, the contract will be worth all the more. Strikebreaking agencies allegedly market their services by promoting the notion that strikes are necessarily violent and thus pose a threat to the company (Waldie, Brennan & Associates, 1982).

Breaking a strike incurs a cost to all of the parties involved, with the exception of the

strikebreaking industry. Between 1914 and 1924, Pearl L. Bergoff earned a salary of \$100,000. - apparently more than the President of the United States - and \$200,000 to \$400,000 a year in dividends and bonuses as well. By 1925, Mr. Bergoff had accumulated four million dollars (Levinson, 1935).

The costs for the strikers are not always easily measured since not all costs are tangible. They potentially stand to lose their lives, money, food and medical care; marriages may be destroyed and the community may assume irreparable damages. The companies involved with these agencies incurred enormous costs. The Philadelphia Rapid Transit Company experienced a sixty-five day strike in 1910, during which they lost approximately \$2.4 million including lost fares and \$840,000 in strikebreaking fees paid out to an agency. Ironically, the workers had demanded an increase in wages totalling \$350,000 over one year! Similarly, the Interborough Rapid Transit Company lost \$2.02 million dollars during a strike in 1916, including such expenses as: \$7,254 for wire mesh for cars; \$462 for revolvers and ammunition, \$5,544 for rope; \$2,211 for padlocks and keys; \$204,406 for hiring Bergoff & Waddell (professional strikebreakers); \$1,012,386 for the purposes of providing incentives for workers who refused to join the strike (Levinson, 1935).

Strikebreaking laws are "...those statutes that, in varying forms and degrees, regulate the hiring, transporting, recruiting or supplying of workers to replace employees engaged in a strike or subjected to a lockout" (Martorana, 1981). In a study conducted by Zwelling (1972) during the early 1970s concerning the strikebreaking profession in Ontario, it was determined that Canada's legislation prohibiting professional strikebreakers was by far the most 'tolerated' in any country of importance in the world. In other words, Canada's legal regulation of strikebreaking

agencies was minimal compared to most other industrialized nations. Canada, "...is the only country of importance where there are no restrictions on the intervention for profit of private, third parties in labour-management relations. Nowhere else in the world is professional strikebreaking tolerated but in Canada. Even in the United States of America, where the professional strikebreaking racket began and flourished to a multi-million-dollar business, it has now almost vanished" (Zwelling, 1972, pp. 4).

Waldie, Brennan & Associates (1982) found that anti-professional strikebreaking legislation in the U.S. is more sophisticated than that in Canada. In the United States, a majority of states have laws which explicitly prohibit the use of professional strikebreakers. Eighty-six percent of the states have legislation regarding the prohibition of professional strikebreaking organizations making it an offense for an individual to act as a professional strikebreaker (Waldie, Brennan & Associates, 1982). However, American legislation does acknowledge management's right to maintain operations using replacements, both temporary and permanent. In Canada, British Columbia, Alberta, Manitoba, Ontario and Quebec specifically prohibit the use of **professional** replacements ("Industrial Relations Legislation in Canada," 1993-94). For example, section seventy-three of Ontario's Labour Relations Act (R.S.O. 1990) reads:

No person, employer or employers' organization, or person acting on their behalf may retain the services of a professional strikebreaker, and no one may act as such. A 'professional strikebreaker' is defined as a person not involved in a dispute whose primary object, in the Board's opinion, is to interfere with, obstruct, prevent, restrain, or disrupt the exercise of any right under the Act in anticipation of, or during, a legal strike or lockout. ("Industrial Relations Legislation in Canada, 1993-94)

According to Waldie, Brennan and Associates (1982), this lack of legislation regulating

the security industry has had far-reaching implications for Canada⁶. First and foremost is the growth of the security industry which feeds off labour-management unrest. Their research on the professional strikebreaking industries in Ontario indicates that the number of agencies grew by sixty-eight percent and the number of personnel by ninety-two percent between 1971 and 1981 (pp. 8). Another monumental problem with the security industry is the agents who self-imposed the determination that they are law enforcement even though most of them are neither trained in this area nor are they held publicly accountable for their actions (Waldie, Brennan and Associates, 1982).

The preceding discussion provides a clear view of the length to which management will go in order to either break the strike, break the union or simply maintain operations. "While evangelizing for law and order and respect for property rights, managements have invited into their boardrooms criminals and hoodlums who detest the working classes and do not hesitate to trample their civil rights in pursuit of power and profits" (Zwelling, 1972, pp. 158).

LEGISLATION IN THE U.S.

In general, compared with its Canadian counterpart, American labour legislation allows management greater flexibility in replacing striking workers⁷. The controversy in the United

⁶ Waldie, Brennan and Associates conducted their study in the 1970s and early 1980s and are thus commenting on laws existing at that time. Ontario's present legislation, for example, specifically prohibits professional strikebreakers.

⁷ Canadian labour legislation makes no distinction between temporary and permanent replacements ("Labour Legislation in Canada," 1993-94).

States is equally strong, if not stronger than in Canada. In both Canada and the U.S., case law appears to support the employers in their quest to maintain operations during work stoppages (Cornwell, 1990), however, the controversy in the two countries centres on different issues. The Canadian issue involves whether struck companies should be allowed to hire temporary replacements or no replacements at all, whereas in the United States, the issue is whether companies should be able to hire permanent or temporary replacements.

The philosophy behind labour relations in the U.S. is focused on promoting the economy and thus on avoiding interruptions to it. Private sector industrial relations in the United States is federally regulated; state laws can be preempted by federal laws if it is determined to be in the best interests of the nation (Cornwell, 1990). According to Sales (1984), a major goal of U.S. labour legislation is to "...create an equitable balance between employers and employees in the utilization of tactics of economic pressure" (pp. 861). The major weapon for labour is the strike, and the major weapon for management is the right to hire replacements during a strike and maintain operations (Weiler, 1980).

American labour law, according to Crovitz (1991), neither encourages nor discourages strikes. Instead it assures a balance of legal power in the hopes that both parties will rely on the bargaining process rather than the courts. The laws make the risk associated with striking high for both parties so that a majority of the time, a compromise would be the most appropriate and cost-efficient route for both parties.

The history of American labour legislation begins with the Clayton Act, enacted in 1914. This Act established the foundation for the legality of labour organizations (Staton, 1994). This Act, however, was ineffective in terms of protecting workers' rights in terms of freedom to

organize, "The Supreme Court decisions interpreting the acts [Sherman Antitrust Act, 1890 and the Clayton Act, 1914] were uniformly unfavourable to unions and restrictive of their activities until 1940" (Chamberlain & Kuhn, 1986, pp. 291). The next large piece of legislation was the Anti Injunction Act of 1932, also known as the Norris-LaGuardia Act. This Act maintained the legality of labour organizations and prohibited the Federal courts from becoming involved with peaceful union activity (Staton, 1994). It also prohibited the courts from enforcing 'yellow-dog contracts'⁸ ("Federal Labor Laws," 1991).

The most crucial piece of labour legislation was the 1935 National Labor Relations Act (NLRA) or the Wagner Act. The Act, "...guaranteed covered workers the right to organize and join labour movements, to choose representatives and bargain collectively and to strike" ("Federal Labor Laws," 1991, pp. 262 - emphasis added). The NLRA contained a list of unfair labour practices which were explicitly prohibited by employers. The Act was considered a 'pro-labour' piece of legislation, perhaps because it failed to include a reciprocal list of unfair labour practices for labour (Staton, 1994). The Act led to an increase in American unionism, from 3.6 million in 1935 to 10.2 million in 1941 ("Federal Labor Laws," 1991).

The NLRA also included provisions for the creation of the National Labor Relations Board (NLRB). The NLRB was made responsible for foreseeing the development and implementation of the country's national labour policy, in addition to determining the certification of unions ("Federal Labor Laws," 1991).

⁸ Yellow-dog contract: an agreement or contract where workers promise not to join a union or promise to quit a union of which they are presently a member ("Striker Replacement Legislation," 1991).

In 1947, the Labor Management Relations Act (LMRA), also known as the Taft-Hartley Act, was enacted. Basically, this piece of legislation was a revision to the NLRA. One of the key amendments included in the LMRA was a list of unfair labour practices for labour: for example, "Coercion of an employee in his choice of persons to represent him in discussions with unions; barring a worker from employment because he had been denied union membership for any reason except non-payment of dues; levying too excessive union initiation fees; authorization of suits against unions for violation of their economic contracts; secondary boycotts" ("Federal Labor Laws," 1991, pp. 263).

The Labor-Management Reporting and Disclosure Act (also known as the Landrum-Griffin Act) was enacted in 1959. The intent of which was to "...control internal union affairs and to protect the right of individual union members against their union organization" (Staton, 1994, pp. 27). One of the ways in which the Act controlled union affairs was by requiring financial disclosure by unions and by introducing list guidelines for trusteeships and elections (Kochan & Katz, 1988). It also included further provisions regarding unfair labour practices ("Federal Labor Laws," 1991), for example, hot cargo agreements⁹ were made illegal (Chamberlain & Kuhn, 1986).

American labour legislation makes a distinction between economic strikes and strikes over unfair labour practices¹⁰ (Cornwell, 1990). The principal difference between the two

⁹ Hot cargo meaning goods produced by a company operating during a strike ("Striker Replacement Legislation," 1991).

¹⁰ Cornwell (1990) defines economic strikes as those used by workers in order to obtain economic gains (i.e., wages, benefits and working conditions). She defines unfair labour practice

concerns the reinstatement of striking workers. Strikers involved in an economic strike have less legal protection compared with strikers in an unfair labour practice dispute. Strikers involved in a dispute over economic issues may be permanently replaced (Gillespie, 1972). At the conclusion of such a dispute, the strikers must submit an unconditional request for reinstatement. They then have the legal right to be reinstated for jobs which they are qualified for as positions open up (Estreicher, 1987). "Economic strikers are given equal standing with others applying for vacant positions, but are given no priority to the return of their jobs" (Staton, 1994, pp. 28). The strikers may refuse a position which is offered to them without losing employment status, however, employees may voluntarily give up their reinstatement rights by obtaining equivalent employment elsewhere (Roukis and Farid, 1993). The situation described above is quite different for strikers involved in a dispute over unfair labour practices; where employers are prohibited from permanently replacing striking workers. At the conclusion of such a strike, all strikers must be reinstated (Staton, 1994).

Economic and unfair labour practice strikers also differ in their reinstatement rights in cases where it has been determined the striker committed misconduct during a stoppage. In an economic strike, strikers may be subject to dismissal, whereas in an unfair labour practice dispute, the gravity of the misconduct is weighted against the gravity of the unfair labour practice before a decision is rendered regarding dismissal (Erickson, 1980). The two different types of strikes also differ in terms of voting privileges. Permanent replacements in an economic strike are eligible to vote in union elections, whereas temporary replacements in an unfair labour

strikes as stemming from an unfair labour practice(s) on the part of the employer.

practice dispute are not eligible to vote. Also, economic strikers who have not been reinstated are prohibited from voting in elections after one year from the inception of the strike (Estreicher, 1987). As we shall see later, these voting rules can have a devastating impact on the power or even survival of unions involved in economic strikes.

Mackay

One of the most important cases regarding replacement workers in American history, is the NLRB v. Mackay Radio & Telegraph Co. (1938)¹¹. This case established the legality of hiring permanent replacements during strikes (Weiler, 1984). Two basic premises emerge from the Mackay doctrine: the first is that businesses should be allowed to maintain operations during a strike; the second is that businesses need to be able to offer permanency in order to maintain production during a strike (Roukis & Farid, 1993).

In 1938, after negotiations for a new contract broke down between the American Radio Telegraphists Association and Mackay, the employees went out on strike. Management maintained operations throughout the strike by filling in vacant positions with employees from other offices, eleven of which were offered permanent positions. The strikers, upon realizing that the strike was destined to fail and conscious of the possibility they might lose their jobs to replacement workers, informed management of their intention to call off the strike (Estreicher, 1987).

A problem arose when management informed the strikers that not all of the positions were available to be filled by the strikers because management wanted to honour its promise of

¹¹ From here on simply Mackay.

job security to the replacement workers. In the end all but five of the workers were reinstated. The company reasoned that there were no available positions to fill for these five workers who not so coincidentally were union leaders (Cornwell, 1990). The union subsequently filed a complaint with the NLRB alleging that the company refused to reinstate the workers because, "...they had joined and assisted the labor organization and had engaged in concerted activities with other employees for the purpose of collective bargaining and other mutual aid and protection" (Schupp, 1990, pp. 313).

In its ruling, the Supreme Court determined that the company did, in fact, discriminate against the workers because of their union status and thus committed an unfair labour practice (Kilgour, 1990). The judgment was also made *in dicta* that it was not an unfair labour practice on the company's part to hire replacements in order to maintain operations (Sales, 1984). In other words, the company was not required to discharge replacements in favour of returning striking workers at the conclusion of a strike.

Mackay did not specifically pertain to the permanent replacement issue; rather, it concerned a controversy regarding which strikers should be reinstated to the vacant positions. The Supreme Court ruled in the Board's favour on this point, but it also stated, "...that an employer had the right to fill the places left vacant by strikers in order to protect and continue his business, and the employer was not bound to discharge those replacements when strikers elected to resume their jobs" ("The Right to Strike," 1991, pp. 264). More than half a century later, this classic obiter dictum ruling still carries weight (Estreicher, 1987).

Mackay has received considerable criticism over the years. According to Sales (1984), Mackay is contrary to the fundamental principles of the NLRA, which guarantees employees the

right to strike. Allowing these employees to be permanently replaced for exercising this right is inconsistent. The premise behind this argument is that the difference between being permanently replaced and being terminated for striking is merely semantic.

The second criticism put forth by Sales (1984) deals with the assumption that businesses require the ability to offer permanency in order to maintain operations. Estreicher (1987) affirms this position in stating that a basic problem with the Mackay doctrine is that the court indiscriminately assumed that an employer's right to continue operations during a strike, according to the free collective bargaining system, implies that the employer should be able to engage permanent replacements.

Gillespie (1972) submits that one of the reasons behind Mackay's survival over the years is that there has been nothing to disprove the assumption that management needs to offer replacements permanent as opposed to temporary employment during a labour dispute. Of course, this would be a difficult assumption to analyze since the ease or difficulty of finding employees to work temporarily would depend on the circumstances associated in each situation (e.g., the type of work, the state of the labour market, the skill level required to perform the work). According to Gillespie (1972), the existence of numerous alternative employer tactics provides justification that management does not need the right of permanent replacement in order to maintain operations.

According to Estreicher (1987), there are three important limitations on the Mackay decision: First is the employer's obligation to recall all qualified strikers before hiring new employees to fill vacancies; second, employers are restricted in the measures they may take in the interest of maintaining operations (e.g., they are prohibited from hiring replacement workers,

either temporary or permanent, at more than the highest dollar offer made in negotiations with the union); third, the Mackay privileges are restricted to strike situations (it is less clear in lockout situations).

The Mackay doctrine raises a further complication with regard to economic strikes and strikes over unfair labour practices. The difference between these two types of disputes is not always clear, and hence, a strike may shift, unbeknownst to the parties involved, from an economic strike to an unfair labour practice strike half way through a dispute (Cornwell, 1990). The rights of both labour and management are not always apparent, and both parties may misinterpret the situation causing further burden. For example, the employees may strike over an unfair labour practice, which the NLRB may then rule as economic. Subsequently, the workers find that they have been permanently replaced (Gillespie, 1972).

Erie Resistor

Another important case in U.S. labour history concerned the lengths to which management could go in exercising its right to maintain operations during a strike. In 1959, Erie Corp. and local 613 of the International Union of Electrical Radio and Machine Workers reached an impasse in the negotiation of their new contract. The union subsequently called a strike in which 478 employees participated, while the company, intending to maintain operations throughout the strike, hired replacement workers. An explicit agreement was made with the replacement workers whereby they would not be laid off nor would they be discharged at the conclusion of the strike. In an attempt to reinforce this agreement, the company granted super-

seniority¹² to the replacements as well. As a result, the crossovers and replacement workers were offered 20 years super-seniority (Estreicher, 1987).

Although the union offered concessions in return for the retraction of the super-seniority plan, management remained firm in maintaining this plan. The union eventually gave in, and a new agreement was reached where all issues, with the exception of the super-seniority conflict, were resolved (Schupp, 1990). The dispute made its way to the Supreme Court which found that the super-seniority plan "...does discourage union membership and whatever the claimed overriding justification may be, it carries with it unavoidable consequences which the employer not only foresaw but which he must have intended" (Schupp, 1990, pp. 314-315).

Not only did strikers fear being replaced, they also feared losing their jobs after being reinstated because under the new scheme they had less seniority than replacements (e.g., due to a downswing in the industry where employees had to be laid off in order for the company to reduce costs or demand was low). The strikers also risked losing benefits which were associated with seniority (e.g., time off). Super-seniority not only causes problems in the present, but also in the future, since it affects the relationship between employees long after the strike is over (Cornwell, 1990). The Erie Resistor case did not challenge the Mackay doctrine, but it did determine that companies faced with a strike situation, could not treat replacement workers more favourably than strikers.

Great Dane Trailers

¹² Super-seniority: "Pay and benefits offered to non-striking employees that is better than those offered to striking employees" ("Striker Replacement Legislation," 1991, pp. 260).

Great Dane Trailers (1967) is another significant case in U.S. labour history. In this circumstance, the company hired replacements for striking workers. The employer offered accrued vacation benefits to the replacements, crossovers and non-striking employees as outlined in the previous collective agreement but did not offer these benefits to strikers (Gillespie, 1972). In rendering its decision, the NLRB determined the employer violated the LMRA by discriminating against strikers and therefore discouraging strike activity (Cornwell, 1990). This case challenged one of the key assumptions contained in the Mackay doctrine, namely that employers need to offer permanent status to replacements to obtain an adequate number in order to maintain production. In Great Dane, a distinction is made between temporary and permanent replacements.

Under the Great Dane formula,

...if it can reasonably be concluded that the employer's discriminatory conduct was 'inherently destructive' of important employee rights, no proof of an antiunion motivation is needed and the Board can find an unfair labor practice even if the employer introduces evidence that the conduct was motivated by business considerations. Second, if the adverse effect of the discriminatory conduct on employee rights is 'comparatively slight' and antiunion motivation must be proved to sustain the charge if the employer has come forward with evidence of legitimate and substantial business justifications for the conduct. Thus in either situation, once it has been proved that the employer engaged in discriminatory conduct which could have adversely affected employee rights to some extent, the burden is upon the employer to establish that it was motivated by legitimate business objectives since proof of motivation is most accessible to him. (Gillespie, 1972, footnote pp. 783-784)

In other words, deciding the legality of hiring permanent replacements would be made on a case-by-case basis. Gillespie (1972) states that under the Great Dane formula, permanent

replacements would be viewed as 'inherently destructive', and temporary replacements would be permitted as long as the company could provide legitimate business justifications that these replacements would aid the business. According to Sales' (1984) review of the Great Dane case, the resulting formula would be infeasible and place undue hardship on struck companies since they would be compelled to first attempt to hire temporary replacements before offering permanency in order to avoid being labelled as motivated by anti-union objectives. Cornwell (1990) argues that Great Dane does not go far enough in altering the current standards on the replacement worker issue. She states that the inherent destructive nature of permanent replacements can be extended to include temporary replacements as well since temporary replacements, similar to permanent, insulate the company from the economic hardships of a strike and diminish the efficacy of the strike. In the end, this case still did not allay the legal importance or utility of the Mackay doctrine.

There were two Supreme Court decisions in the 1980s which revived the controversy surrounding the Mackay doctrine. The first was Belknap v. Hale where the court held that permanent replacement workers could enforce their status in State court against employers who displaced them in order to make room for the reinstatement of striking workers ("The Right To Strike," 1991). The second case involved Trans World Airlines, Inc. (TWA) which dealt with the seniority rights of strikers (Schupp, 1990).

Belknap v. Hale

Belknap v. Hale focused on the rights of replacement workers. The situation is complex in that replacement workers, similar to regular employees, have a right to be represented by the union, and the union, in turn, has the duty to fairly represent these employees. Other

complications arise when the union negotiates a back-to-work provision calling for the departure of replacement workers in favour of striking workers. The situation is compounded further by the rights of un-reinstated workers. The basic concern is whether or not the union has the right to negotiate away the rights of certain strikers in order to resolve the dispute and continue the bargaining relationship (Estreicher, 1987).

In 1983, the U.S. Supreme Court rendered a crucial decision in the case of Belknap, Inc. v. Hale, which resulted in the recognition of the rights of replacement workers. In February, 1978, the Teamsters called a strike against Belknap. In reaction to this announcement, management immediately offered non-striking employees an increase in salary and advertised explicitly for permanent replacements. The union responded by filing an unfair labour practice suit against the employer for offering higher wages to non-striking workers. Meanwhile, the firm hired replacements on the following basis: for specific jobs, to replace specific individuals, with the understanding that their jobs would not be eliminated following the settlement of the strike (Stephens & Kohl, 1986).

Labour and management reached a settlement whereby the charges would be dropped. The new contract included a provision which stated that all replacement employees would be let go in order to make room for the returning strikers (Stephens & Kohl, 1986). The replacement workers subsequently went to court arguing that the firm had promised them permanent employment. The Supreme Court ruled in favour of the replacement workers since management had in fact promised them permanent employment (Anderson, 1985). The significance of this decision is that if replacement workers are offered permanent employment and are later discharged to make room for returning workers as a result of successful negotiations, these

workers may initiate legal suits in state courts for breach of contract and misrepresentation (Anderson, 1985; Stephens & Kohl, 1986). Therefore, the LMRA does not permit an employer to discharge replacements as part of its settlement with a union if such termination 'breaches' promises made to the replacement worker.

The Belknap v. Hale case significantly enhanced the rights of replacement workers (Stephens & Kohl, 1986). The optimistic position regarding the effect of this decision is that no 'ethical' employer would hire permanent replacements if that employer intended to bargain in good faith. Hiring permanent replacements would force the company to negotiate an agreement which would entail keeping the replacements, making it more difficult for the company to negotiate a new contract, thus prolonging the predicament and increasing its cost. Therefore, the company, foreseeing this added cost, would not hire replacements and thus try harder to come to an agreement with labour before a strike occurred (Stephens & Kohl, 1986).

A more pessimistic and perhaps more realistic means of looking at this situation would be that if management did make the decision to hire replacements, they would be permanent. Management would not negotiate any back-to-work provisions for fear that they may be slapped with an unfair labour practice charge by released replacement workers (Stephens & Kohl, 1986). In other words, Belknap may have the effect of influencing companies to stick by their promise of permanency to replacement workers, possibly leading to a permanent impasse in negotiations with the union, the loss of employment for strikers and possibly the termination of representation by the union.

Stephens and Kohl (1986) conducted a case study examining five major strikes which occurred immediately following the Belknap decision in order to determine which of the

preceding scenarios held true. In each of the five disputes, replacements were hired and in four of the five, companies publicly announced the replacements would be permanent, thus encouraging union members to cross the picket line in order to avoid being permanently replaced. At least in these cases, Belknap did not unnerve employers from hiring replacements (see Table 2 for a summary of Stephens & Kohl's results).

Table 2

COMPANY/UNION	ISSUES	REPL. HIRED	PERM- ANENT	TEMP- ORARY	SETTLE- MENT	REPL. RETAINED
Phelps Dodge/ United Steelworkers	Wage freeze Elimin. of COLA & other benefits	Yes	Yes	No	No	Yes; union decer-tified
Nevada Resort Assoc./Culinary Workers, Musicians, Bartenders, etc.	Wage & benefits improvements guaranteed 40hr work-week	Yes	Yes	Yes	Yes	No; only after all union mems. recalled
Continental Airlines/Airline Pilots Assoc. & Union of Flight Attendants	Renunciation of contract Pay benefit cuts. Work rules changes Elimination of position	Yes	Yes	No	No	Yes; dispute still unresolved
Continental Airlines/Internat'l Assoc. of Machinists	Wage & benefit cuts Work rules changes Elimination of positions	Yes	Yes	No	No	Yes; dispute still unresolved
Greyhound Lines, Inc./Almgamated Transit Workers	Wage & Benefit reductions Work rules changes	Yes	Yes	No	No	No; only after all union mems. recalled

(Stephens & Kohl, 1986, 49)

TWA

The second decision occurred between TWA and the Independent Federation of Flight Attendants where the court held that members of a union which is on strike, who choose to cross the picket line and return to work, need not be discharged to make room for strikers with more seniority who wish to return to work once the strike is settled ("The Right to Strike," 1991).

In March 1984, the Independent Federation of Flight Attendants and TWA began negotiations for a new collective agreement. The old contract contained a complicated seniority bidding system which basically gave more privileges to the more senior staff members. The two parties could not agree on wages and working conditions, and thus talks broke down. However, the seniority bidding system was not an issue. After all mediums for agreement were exhausted, the union called a strike. The company's policy was to maintain operations during the strike¹³, and they hired replacement employees who were told that they would keep their jobs at the conclusion of the strike (Schupp, 1990).

After a certain lapse of time, when the union recognized that the strike was not functioning effectively as a weapon, they presented TWA with an unconditional offer to return to work on behalf of the approximately 5000 full-term strikers. The union made a demand that all crossovers and employees who decided not to strike should be displaced in favour of more senior full-term strikers. This demand was subsequently rejected by TWA (Schupp, 1990).

A mere 197 strikers were initially reinstated (four percent of full term strikers). Over the next year, more than 1,100 full-term strikers (twenty-two percent) were recalled - still a small

¹³ The other TWA unions (e.g. Pilots) did not respect the flight attendants picket lines which made this strategy viable.

proportion of the total number of strikers. The main obstacle was the union's demand that the crossovers be displaced, which the union justified claiming that junior employees who chose not to strike or abandoned the strike should be displaced by more senior employees. The union felt that the pre-strike promises TWA made regarding permanent replacement, in a sense, compelled senior workers to either abandon the strike or influenced them not to strike at all in order to maintain their seniority. It also encouraged many junior workers to abandon the strike and thus obtain better positions which were vacated by more senior workers (Schupp, 1990).

The court reaffirmed its position in the Erie Resistor case. However, the situation with TWA differed from Erie Resistor in that once striking flight attendants had been reinstated, they maintained priority over more junior employees as if the strike never took place (Schupp, 1990). These cases highlight the concerns which strikers must carefully examine prior to exercising their right to strike in the United States.

Pattern Makers

The Pattern Makers' League of North America v. NLRB case demonstrated another constraint on the strike as a weapon for labour. This case dealt with the issue of non-strikers and union discipline. In 1985, the Supreme Court ruled that "...a union's constitutional prohibition against union members resigning their union membership during a strike in order to return to work violates section 8(b)(1)(A) of the Labour Management Relations Act (LMRA)" (Campbell, 1988, pp. 689). The decision was significant in that unions lost a valuable economic tool in deterring strikebreaking.

Prior to this decision, unions were permitted to impose fines on members who crossed over the picket line, but only if they had not lawfully resigned their membership before returning

to work. After the decision, union members were sanctioned to resign their membership during a strike, cross the picket line, and then rejoin the union once the strike was over (Campbell, 1988). This is an issue which is gaining attention elsewhere in the world as well¹⁴.

Presumption

The concept of presumption is an important feature of industrial relations in the United States. Presumption deals with the NLRB's assumption regarding the interpretation of labour's attitude towards the union. If the employer assumes that the striker replacements do not support the striking union, management may assume in good faith that the union does not enjoy majority support and therefore, can refuse to negotiate with the union. The resulting refusal to recognize the union by management has approximately the same effect as formal decertification (Leroy, 1992). This issue has emerged into a large controversy in the U.S. because it is up to the NLRB to determine whether the replacements are assumed to support the union or not. The anti-union presumption views crossovers and replacements as not supporting the union. Strikers want their jobs back at the end of a strike, and replacement workers want to keep their jobs; therefore, the two groups are diametrically opposed. The replacements impede the strikers' efforts to achieve what they desire and weaken the strike as a weapon (Sales, 1984). The pro-union presumption sees crossovers and replacements as being motivated by financial reasons to work during a strike and thus as supporting the union throughout the strike (Leroy, 1992).

¹⁴ For example see Gennard et al., 1989 - regarding a controversial change in the 1988 Employment Act in England which entailed a provision protecting union members from being disciplined by the union for continuing to work during a strike.

During the first year a union is certified by the NLRB as the bargaining agent for a group of employees, an unchallengeable assumption is in force that the union has majority support. After one year, the union is still assumed to have majority support, only then can it be challenged by management. Only circumstantial evidence is required to establish good faith doubt and quantitative proof to justify actual non-majority status (Denton, 1991).

Conclusion

Although labour had been repelled by the Mackay decision, it did not seek any serious remedial legislation since management appeared reluctant to use replacement workers in order to avoid conflict or because it appeared contrary to the goals of the NLRA (Estreicher, 1987). According to Staton (1994), it was only in the early 1980s with the tough action taken by President Reagan with the PATCO workers, that controversy around the Mackay doctrine began to emerge.

The U.S. Congress recently considered legislation that would prohibit firms from hiring permanent replacements for striking workers during a dispute. There was immense political controversy between business and labour surrounding the proposed bill (Miller, 1990; Cockburn, 1991). Supporters of the legislation argued that "...it is necessary to reverse the imbalance of power that has developed between labor and management in contract disputes - as evidenced by declining rates of unionization, decreasing strike activity, more modest contract settlements, and the increasing willingness of employers to hire permanent replacements" ("Replacement of Striking Workers," 1993, pp. 163). Opponents argued that "...the law as it stands represents a careful balance between the interests of employers and employees, and that it has been upheld repeatedly, and worked effectively, since 1938" ("Replacement of Striking Workers," 1993, pp.

163). President Clinton had publicly indicated that he would support such legislation. In the end the law was never passed. However, on March 8, 1995, President Clinton passed an Executive Order which bans the government from granting contracts to any companies who use permanent replacements¹⁵ (Nomani, 1995).

LABOUR LEGISLATION IN CANADA

Canada's industrial relations system is based on a system of 'free collective bargaining', as evidenced by the preamble of the Canadian Labour Code which states that Canadian labour legislation has been created in order to promote the common well-being of labour through the encouragement of free collective bargaining and the constructive settlement of disputes (Cornwell, 1990).

The underlying motivation for modern labour legislation in Canada is not quite as clear as that in the United States. This lack of understanding is largely the result of the question of jurisdiction. Canada's labour legislation is considerably more decentralized than in the United States. In the United States, national policy is paramount. While the individual States do maintain their own legislation, it may be overridden if it conflicts with the goals of the country's national policy (Sales, 1984; Cornwell, 1990).

In Canada, on the other hand, labour legislation is split between Federal and Provincial jurisdictions, with the provinces having jurisdiction over most workers. Federal legislation

¹⁵ This Order applies exclusively to contracts over \$100,000.

covers: industries of an interprovincial or international character (e.g., railways and trucking); all extra-provincial shipping and related services (e.g., long shoring); air transport, aircraft and airports; radio and television broadcasting; banks; works that have been declared by Parliament to be for the general advantage of Canada or of two or more provinces (e.g., grain elevators); and, certain Federal Crown corporations ("Industrial Relations Legislation," 1993-94, pp. iii). Provincial labour legislation covers all remaining employees in the private sector. The provinces, therefore, enjoy primary jurisdiction over labour relations in Canada (Carter, 1989).

According to Cornwell (1990), one of the main differences between the two countries occurs in the area of reinstatement rights following a labour dispute. In Canada, the issue of reinstatement is more concise. Six of the eleven jurisdictions in Canada (Alberta, Manitoba, Ontario, Quebec, Prince Edward Island and British Columbia) carry some form of reinstatement protection in their respective labour codes.

In a majority of Canadian provinces, the rights of strikers are strongly protected. For example, the Ontario Labour Relations Act (R.S.O. 1980), Section 66 states:

No employer, employer's organization or person acting on behalf of an employer or an employer's organization (a) shall refuse to employ or continue to employ a person, or discriminate against a person in regard to employment or any term or condition of employment because the person was or is a member of a trade union or was or is exercising any other rights under this Act. (Cornwell, 1990, pp. 42)

Three provinces in Canada at the time of writing prohibited the use of all replacement workers - Quebec, Ontario and British Columbia. Nova Scotia, New Brunswick, Newfoundland and Saskatchewan's respective labour codes contain no specific reference to the treatment of replacements. The remaining provinces - Alberta, Manitoba, and Prince Edward Island - and two

territories prohibit **permanent** replacements ("Industrial Relations Legislation in Canada," 1993-94).

Until recently, Ontario's strikebreaking legislation lagged behind Quebec. In 1990 despite a large protest from its business community, Ontario went forward with changes in the province's labour laws which banned the hiring of replacement workers. According to Ontario's Labour Act:

An employer is prohibited from using the services of employees belonging to a bargaining unit that is on strike or is locked out. The following persons, whether paid or not cannot be used to perform the work mentioned above at a place of operations affected by a strike or lockout:

- (a) an employee or other person ordinarily working at another of the employer's places of operations;
- (b) managerial staff ordinarily working at a place of operations other than the one where the strike or lockout is taking place;
- (c) an employee or other person transferred after notice to bargain was given or, if there was no such notice, after the beginning of negotiations;
- (d) any person, other than an employee who is not in the bargaining unit or a person who exercises managerial functions or is employed in a confidential capacity in matters relating to labour relations, when such employee or person works at the place of operations, and agrees to perform replacement work; and
- (e) a person employed, engaged or supplied to the employer by another person or employer. s. 73.1(4),(6),(7),(8)

The Act further states that replacement workers may be used in special circumstances in order for the employer to prevent "...danger to life, health or safety, the destruction or serious

deterioration of machinery, equipment or premises, or severe environmental damage" ("Industrial Relations Legislation in Canada," 1993-94, pp. 45). This section of the Act contains provisions stating that union members be given priority over replacement positions if they are required before the company fills these positions.

The new labour legislation was instituted in order to "... promote harmonious relations (and) industrial peace' between employers and unions" (Sinek, 1992). The goal of the NDP was to urge labour and management to work together and to end the picket line violence that occurred when strikebreakers were used. Basically, the change in the legislation meant that in most circumstances, the use of temporary replacement workers would be illegal, but companies could still transfer production to other plants (Montreal Gazette, Jan. 5, 1992). The legislation prohibits the use of any replacement workers apart from management personnel to perform the work normally performed by striking workers (Sinek, 1992).

These changes to the Ontario Labour Relations Act, according to the Big Three Automakers, would cause more workplace disruption and would scare away jobs and investment (Sinek, 1992). Prior to the enactment of the Act, Russell Mills, president of Southam Newspaper Group, claimed that some Ontario newspapers would fold if the new labour legislation was passed. Mills claimed that the newspaper industry would have a great deal of difficulty surviving a strike, and he told a committee reviewing Bill 40 that the laws would tip the balance of power toward labour, "News is a perishable commodity. If you don't publish it today, its useful life is over and missed, it is no longer news tomorrow." (Globe & Mail, August 7, 1992). Mills gave the example of the Montreal Star which ceased operations for eight months, a situation which

proved to be a major factor in the eventual shut down of the paper.

The Ontario Labour Relations Board (OLRB) is satisfied with the anti-replacement provision. Although, the OLRB does not relish the fact that the provision continues to allow companies to transfer production to other plants, however, it feels it is a step in the right direction (The Montreal Gazette, Jan. 5, 1992).

In 1992 British Columbia introduced a new Labour Code which prohibits the use of replacement workers:

During a lockout or strike authorized by this Code an employer shall not use the services of a person, whether paid or not,

(A) who is hired or engaged after the earlier of the date on which the notice to commence collective bargaining is given and the date on which bargaining begins,

(B) who ordinarily works at another of the employer's places of operations,

(C) who is transferred to a place of operations in respect of which the strike or lockout is taking place, if he or she was transferred after the earlier of the date on which the notice to commence bargaining is given and the date on which bargaining begins, or,

(D) who is employed, engaged or supplied to the employer by another person, to perform

(E) the work of an employee in the bargaining unit that is on strike or locked out, or

(F) the work ordinarily done by a person who is performing the work of an employee in the bargaining unit that is on strike or locked out (B.C. Labour Code, 1992, Section 68).

Moe Sihota, then Labour Minister, indicated that this legislation would help to reduce picket line violence and encourage workers to negotiate a settlement with employees. He stated,

"The new labour code promotes fair play instead of brute force in labour relations." (The Vancouver Sun, Wed., Oct. 28, 1992).

The Alberta Labour Code allows employees the right to be reinstated even if the union is decertified. Upon conclusion of a strike or lockout, the employee must submit a written application to the employer. The employer must reinstate the employee, and the employee has the right to perform the same type of work. The Act suggests that strikers are given greater preference over replacement workers. In effect, all replacements are temporary ("Industrial Relations Legislation in Canada," 1993-94, pp. 11).

In Manitoba, striking employees do not have to make an application for reinstatement. They must be reinstated unless the company has a valid business reason not to reinstate them. Otherwise it is considered an unfair labour practice. Also, replacements cannot be hired for a period longer than the duration of a strike ("Industrial Relations Legislation in Canada," 1993-94, pp. 23). Therefore, this province, similar to Alberta, prohibits the use of *permanent* replacements. Although, one feature lacking from Manitoba's legislation is provisions dealing with strikers when the union is decertified (Cornwell, 1990).

Nova Scotia's Trade Union Act prohibits employers from discriminating against employees who exercise their legal right to strike. The employer is also prohibited from discriminating against a worker who refuses to perform the work of a striking employee. The Act contains no specific reference to replacements during labour disputes, similar to New Brunswick's Industrial Relations Act, Newfoundland's Labour Relations Act, and Saskatchewan's

Trade Union Act ("Industrial Relations Legislation in Canada," 1993-94).

Prince Edward Island's legislation explicitly states that all replacements are temporary. According to the Labour Act, strikers have a right to reinstatement as long as there is work available (e.g., a downswing in the economy or industry, for example, has forced the company to cut back on its labour force thus reducing the number of jobs available to returning striking workers). In this province, the union must negotiate a back-to-work clause at the conclusion of a strike and replacements must be dealt with accordingly ("Industrial Relations Legislation in Canada," 1993-94, pp. 49). This may lead to problems if there are more returning strikers than positions to fill (Cornwell, 1990). However, this is a risk workers face whether or not they elect to strike since the strike is not always the cause of a decline in business (e.g., seasonality of the work, technological advances leading to increased automation).

Private sector employees in the Yukon and Northwest Territories fall under federal legislation since these two sectors have not adopted labour laws governing industrial relations in the private sector. Federal law protects employees from being refused re-employment, discharged, discriminated against, intimidated, threatened or disciplined for participating in a legal strike. An employer is also prohibited from the same activities against an employee for refusing to take over the duties of a striking worker ("Industrial Relations Legislation in Canada," 1993-94, pp. 5). However, the Canada Labour Code does not contain any specific stipulations regarding replacement workers.

Quebec has the most progressive anti-strikebreaking laws in North America. Enacted as

a result of the bitter U.A.W. strike at United Aircraft (1973-74) in Longueuil among other violent disputes in the 1960s and 1970s, Quebec's legislation prohibits employers from using any member of the bargaining unit or any person employed by another employer, as a replacement worker (Carter, 1989). Quebec legislatively banned replacement workers on February 1, 1978. Bill 45 popularly known as the "anti-scab" law clause, was intended to reduce picket line violence and to prevent otherwise peaceful strikes from turning into violent ones (Gunderson et al., 1989). According to the relevant clause of Quebec's Code du travail:

It is unlawful for an employer:

(A) to use the services of a person to perform the function of salaried worker who is represented by a union which is on strike, or of a worker who has been lock-out if this person was hired between the day the negotiations commenced and the end of the strike or lock-out;

(B) to use, in an establishment where a strike has been called by an accredited union or where the workers have been locked out, the services of a worker who is a member of the negotiation unit which is on strike or has been locked out, unless:

- i. an agreement has been reached between the parties to allow this;
- ii. an order is given of services which must be maintained;
- iii. a decision to this effect has been rendered by the lieutenant-governor;

(C) to use, in another establishment, the services of a worker represented by an accredited union which has declared a strike or is being locked out;

(D) to use, in the establishment where a strike is taking place by an accredited union or where the members have been locked out, the services of workers that are employed by the company in a different establishment (translated from section 97a of Quebec's Code du Travail).

At the conclusion of a strike, strikers are entitled to reinstatement unless the company can

provide 'good and sufficient reason'. If there are any concerns about reinstatement, it is referred to an arbitrator. In other words, with all of the restrictions a company faces in using replacements, employees are very secure in exercising their right to strike in Quebec (Cornwell, 1990).

Economic conditions in the province of Quebec are not radically dissimilar from those in the rest of Canada. The unemployment rate for Quebec, for example, is higher than Canada's composite rate, but not as high as that of the Maritime provinces (Boivin, 1989). The main differences between Quebec and the other North American jurisdictions is cultural and this in turn explains its trail-blazing legislation in 1978.

CHAPTER III

Literature Review on Issues Relating to Replacement

Worker Legislation

A number of economic, legal and moral issues which emerge in the discussion of replacement workers. This section examines eight issues involved with replacement worker legislation: collective bargaining; the strike; picket line violence; potential detriment to organized labour; the use of temporary as opposed to permanent replacements; the barriers to hiring replacements; the effect of the legislation on strike duration; and the effect of the legislation on strike incidence.

Balance of Power and Collective Bargaining

Collective bargaining is an integral facet of the industrial relations systems in both Canada and the United States. The power distribution between labour and management, without a doubt, will be affected to some degree by the existence or absence of replacement worker legislation. The issue involved centres around how the rights of labour and management will be affected by a redistribution of power in the collective bargaining relationship. Power is a critical concern and directly affects the parties immediately involved - the company, the union leaders,

and the rank and file - and those indirectly involved - the public, the local economy, and the national economy. This dilemma brings about a number of questions which need to be dealt with. For example, what right, if any, does the state have to intervene in labour-management relations? What is free collective bargaining and what place does it have in North American industrial relations? These are two of the questions which will be explored in this section.

Power is a very elusive concept that is difficult to measure empirically. Because of this ambiguity, the balance of power in collective bargaining becomes tenuous and complex; one side's definition of power may not be consistent with that of the other. Kochan and Katz (1988) define bargaining power as the "...ability of one party to achieve its goals in bargaining in the presence of opposition by another party to the process" (pp. 53-54). From Chamberlain and Kuhn's discussion of power, a number of alternative definitions arise. One of these definitions emerges from John Commons, "'Bargaining power is the proprietary ability to withhold products or production pending the negotiations for transfer of ownership of wealth'" (pp. 172). These definitions, as much as they may alleviate some ambiguity, testify to the difficulty in pinpointing just what power is and what power does.

England (1983) argues that the issue of establishing a 'balance of power' is treated too simplistically. It is virtually impossible for the courts to render a decision regarding the establishment of a balance of power between labour and management. The power in any given situation is dependent on numerous factors: the size of the union; the type of work (skilled or unskilled, labour or capital intensive), degree of inter-dependence between the parties; psychological aspects (how confident one feels and how confident one is perceived to be); and/or

the degree of competitiveness within the industry (Anderson & Gundersen, 1989). According to Kochan and Katz (1988), the power distribution is a function of environmental, structural and organizational factors. Therefore, apart from the idea of power being so abstract, establishing a balance of power would require intervention into almost every strike.

Chamberlain and Kuhn (1986) hold a similar position:

Our analysis of bargaining power [in terms of the cost of agreeing or disagreeing] reveals the fallacy of attempting to equalize bargaining power by legislation. Bargaining power is dependent at least as much upon what each party is seeking as upon each party's coercive ability, and what the parties seek is largely beyond the control of legislation, except with respect to specific issues. Indeed, as we have seen, coercive power - the imposing of costs of disagreement - is only relative to the objective being sought." (pp. 197)

The major attraction of collective bargaining for employees is that it deals with the power of numbers. One person ceasing to work, for example, is not nearly as effective or significant as a collective withdrawal of services. Common sense indicates that a collective threat is far more potent (Fisher & Williams, 1989). This does not mean, however, that collective bargaining and strikes necessarily go hand in hand. As a matter of fact, the majority of collective bargaining situations do not end with strikes (Chamberlain & Kuhn, 1986).

Collective bargaining has been criticized for its adversarial nature. Labour perpetually vies for improved wages and working conditions, and these goals, at times, conflict with those of management which are to have an efficient, flexible, and productive work force in order to

maximize profits and remain strong in an exceedingly competitive environment. Therefore, one perspective of collective bargaining is that it is a win-lose situation where one side's gain is the other's loss (Fisher & Williams, 1989). England (1983) maintains that the basic interest of workers is security (e.g., protecting their jobs, control over their work environment, fair wages and decent working conditions), and management's basic interest is efficiency (e.g., controlling the work force, controlling wages, amending jobs - all in order to achieve maximum efficiency and profit).

An argument frequently noted by opponents of anti-replacement worker legislation is that free collective bargaining implies if labour has the right to use the strike as a means for influencing management to accept its position, a right should exist for management to attempt to maintain operations (Weiler, 1980). Kochan and Katz (1988) define free collective bargaining as "...the right to negotiate a labour agreement without interference from the government or any other outside force" (pp. 232). The argument of free collective bargaining is largely based on an individual's right to further his/her rights collectively. Kochan and Katz (1988) provide a compelling discussion of the issue. They justify free collective bargaining from a number of different perspectives. In a political sense, collective bargaining is based on the premise that "...the right to form unions and carry out strikes is an essential component of political democracy" (pp. 232). The philosophical standpoint is based on the concept that, "Without the power to affect the course of events, a person or a group lacks the responsibility to reach decisions. Power is the source of responsibility. Without the right to strike, unions will lack the foundation for voluntary negotiation and agreement. If a free labor agreement - free collective

bargaining in a free enterprise system - is in the public interest, so is the right to strike, which makes the free labor agreement possible" (pp. 233).

From an industrial relations perspective, free collective bargaining acknowledges the inherent conflict in labour-management relations. According to Kochan and Katz (1988), it is during the negotiation process where labour and management are able to pursue openly their goals and interests and where they have the opportunity to confront the goals and interests of the other side: "The existence of the right to strike, or the right to pursue one's claim through some strike alternative, serves as an expression of the normative premise that employees and employers have a legitimate right to pursue their goals in collective bargaining and to express their conflict of interests openly" (pp. 233).

To what degree should the government have the right to intervene in the collective bargaining process is debatable. One argument is that this intervention removes the 'free' from free collective bargaining. If the government interferes (at least beyond what is mutually considered reasonable), then can the process be considered truly free - especially if government legislation continually favours the desires of only one side? In practice both labour and management have tended to be ambivalent towards the amount of freedom in collective bargaining, each side opting in and out when proposed legislation helped or hindered its prospects. Such ambivalence has invariably led to more and more legislation which serves once again to limit the freedom of 'free' collective bargaining (Carter, 1989).

The other side of the argument concerns the fact that collective bargaining has become an

established institution in labour-management relations.

In order to guarantee for society these benefits from collective bargaining, the state has to ensure that the preconditions for the effective operation of the institution are present. Those preconditions are trade union organization, mutual recognition and enforcement of agreements. In particular, the state has had to ensure some freedom to strike, for true collective bargaining, the essence of which is bilateral job regulation, cannot exist unless the parties can ultimately compel each other to reach agreement. Pluralists must, therefore, accept strikes as legitimate - conflict is necessary to resolve conflict, disorder to promote order. The point of balance will often depend on each side's willingness to utilize its full weapons and on the moral strength of its demands. (England, 1983, pp. 228-229)

The bulk of the criticism towards state intervention in public sector collective bargaining has come in the area of back-to-work legislation and not regarding replacement workers (Sack & Lee, 1989). According to Sack and Lee (1989), there has been an increasing number of ad hoc interventions by governments in Canadian labour disputes; a suitable example of the possible outcome of such an intervention occurred where, "Quebec's Essential Services Act, dubbed the 'sledgehammer bill' when it was passed in 1986, provides, not only for substantial fines, but also the loss of one year of seniority for each day of an illegal strike by employees. Such draconian measures, which clearly interfere with freedom of association, threaten to become permanent fixtures of the labour relations scene" (pp. 203). Sack and Lee (1989) propose however, that this intervention has been somewhat accepted in order to protect the rights of workers to organize and assert their interests collectively, "Indeed, few would argue against the notion that the State should establish a labour relations system that results in the substantive improvement of workers'

economic conditions in their daily lives. It should protect workers from arbitrariness by management, and enhance workers' ability to participate in industrial self-government" (pp. 214).

This statement, in general, is quite appropriate in that labour does require legal protection from certain adverse actions by management. However, one point which is virtually ignored is the corresponding protection of management. Management is entitled to the same consideration in terms of protection from arbitrary actions by labour. This statement may conjure up a great deal of controversy from labour, but companies cannot be expected to formulate and execute long-term plans and goals if labour arbitrarily exerts pressure through illegal strikes and similar actions.

I believe the key aspect of Sack and Lee's statement is 'industrial self-government'. Without question, labour needs to have a certain degree of control over its environment, but not without a corresponding increase in responsibility over the actions of the organization in a larger perspective. Of course, a discussion of labour - management cooperation and self-determination are well beyond the scope of this thesis.

The Strike¹⁶

In general, a strike is a complex event which affects many different people both directly and indirectly. Employers are faced with economic costs from both loss in production and lost

¹⁶ The discussion of strikes, unlike the general discussion of labour legislation, is explicitly grounded in a private sector paradigm.

revenue. Strikers also face economic injury, as well as psychological and emotional conflict. Union leaders face a conflict over appeasing their members while not imposing too much economic injury on the company so as to risk its future economic survival. Governments face political pressures from labour, business and the public, which are also affected by a strike; they face not having certain products or services, and they are also affected if the strike hurts the economy (England, 1983).

Strikes may serve a number of positive purposes: relieving emotions and pent-up frustrations, generating information, eliciting truth-telling, establishing reputations and solving intra-organizational problems (Gunderson et al., 1986). Strikes are a necessary part of collective bargaining (Weiler, 1980); they are labour's principal weapon for persuading management to compromise and reach agreement in negotiations (Kochan & Katz, 1988). Chamberlain and Kuhn (1986) describe strikes as a means for both parties to impose costs on each other. Strikes are described as a "...positive, constructive influence upon negotiators, pushing them toward compromise of initial expectations and into settlement" (Chamberlain & Kuhn, 1986, pp. 409). Granted, strikes and lockouts constrain the potential of a company and deplete the time, effort and money of both labour and management, nonetheless, they are necessary. Without the use of the strike as a potential weapon for labour, negotiations would be relatively useless. Labour would not have the power to persuade management. Weiler (1980) quite accurately states that collective bargaining would become collective 'begging' if labour would not have the right to collectively withdraw its services.

These positions accurately describe the importance of the strike as a weapon. Allowing

companies to permanently or temporarily replace striking workers without question reduces the effectiveness of the strike. This highlights a serious problem with allowing companies to hire replacement workers during strikes.

Violence

Strikebreakers evoke high levels of emotion for both management and labour. There are a number of important arguments brought about on both sides of the issue. Decreasing picket line violence, for example, is frequently cited as a primary reason for instituting the legislation (Craig, 1986; Gunderson et al., 1990). However, of the studies performed on the replacement worker issue, none have examined quantitatively whether the existence of such legislation significantly decreases violence on the picket line. The problem lies with the difficulty in obtaining data on strike violence. Nevertheless, the issue of strike violence is an important one and is discussed in detail.

The strike began with a destructive spree that caused \$750,000 in damages to the mill. Then came a firebombing, window smashing, tire slashing, rock tossing, a near riot on Labor Day, and threats and gun play against people who crossed the picket lines. Some workers now carry pistols, rifles, machetes, axes, knives or baseball bats. The warfare has split families, friends, even church congregations. (Satchell & Gordon, 1987, pp. 42)

The preceding quote describes a strike and its consequences at The International Paper Company in Jay, Maine in 1987. Taft and Ross (1969) indicate in their work on labour violence that the United States has the most violent labour history of any industrialized nation. Reynolds (1984), in his review of union violence cites a long and substantial history of violence associated

with labour disputes in the United States. In his work, Reynolds examines a study on strike violence performed by Armand Thieblot and Thomas Haggard which analyzed union violence between 1976 and 1981. The results of the study indicate an average of 371 violent strike incidents each year, "...49 deaths caused directly by labor violence; \$15.2 million in estimated damage to company plant and equipment; 2,732 instances of damage to automobiles; 133 cases of managers and non-strikers' homes being firebombed, shot at, or vandalized; hundreds of cases of sabotage and vandalism; and thousands of shots fired" (pp. 239-240).

The Canadian situation again, more complex, but Quebec, for example, had a long history of labour violence at the time of Bill 45 in 1978. A 1949 strike between the asbestos companies in Thetford Mines, Quebec and the Federation of Mining Employees and the Canadian and Catholic Confederation of Labour (CCCL) is legendary. The following quotations provide a vivid picture of the emotions and hostilities that emerge during labour disputes:

On March 14 a dynamite explosion destroyed part of the railroad track leading into CJM [Canadian Johns-Manville] property.

On March 16 a company jeep containing a driver and two company engineers was stopped by a group of strikers. They attempted to overturn the vehicle and, in the attempt, a man was struck by the side of the vehicle and injured both legs.

Two days later a group of men abducted a company official, Mr. Lionel Prize, from his home, severely beat him and left him badly injured on a country road.

A dynamite charge was exploded in the yard of the home of Albert Johnson, president of Johnson Mines, on March 27. The same day, a non-striker and two more CJM company officials were beaten (pp. 173).

Meanwhile, at the roadblocks, one of the first cars stopped was found to contain four provincial police officers in plain clothes.

After identifying themselves they were allowed to pass through the wedge of cars that barricaded the road, only to find their further passage blocked by a second barricade of trucks. Thus trapped, one of the police officers fired two revolver shots out the window of the car to warn off the menacing crowd of men that had begun to press in on them. It was a vain attempt, and the four officers were unceremoniously taken from the car, kicked and beaten into unconsciousness and left at the side of the road. Later in the morning eleven other police officers tried to pass the barricade. All met with similar treatment. By the end of the day twelve policemen were injured and in the custody of strikers in the basement of St. Aime's church. One of their cars had been overturned in a ditch, a second had been burned and a third stolen (cited in Isbester, 1974, pp. 181).

Picket-line violence has been cited numerous times as the principal reason behind instituting legislation prohibiting replacement workers (e.g., England, 1983; Craig, 1986). The relationship between picket-line violence and replacement workers is a strong and obvious one: replacement workers, whether temporary or permanent, constrain the strikers' means of achieving their goals. According to one perspective,

The real source of picket line violence is the confrontation that results when the parties pursue their respective rights. The point where picketing ceases to be rational persuasion and becomes intimidation is very unclear. It is equally indistinct where the picket line ceases to be an 'intellectual symbol' of a labor dispute, turning into an actual physical confrontation between 'warring' factions. The uncertain nature of a picket line is further exacerbated by the intense frustration, emotion, and often high levels of distrust and even hatred that may exist in the union management relationship (Latomell, 1993, pp. 37).

In their discussion of American labour violence, Taft and Ross (1969) claim that, "Frustration and desperation impelled pickets to react to strikebreakers with anger. Many violent outbreaks

followed efforts of strikers to restrain the entry of strikebreakers and raw materials into the struck plant" (pp. 382).

In 1968, the Honourable I.C. Rand chaired a Royal Commission Inquiry into labour disputes in the province of Ontario. His report contained a colourful passage regarding labour's propensity for violence.

It is not difficult to imagine the resentment that may be present in a picket-line. Under the goad of inflammable feelings, men and women, rightly or wrongly, may be pressing for what they believe is denied, fair dealing; the end or goals they are seeking may be in vain, unrealistic or even malicious; there may be accumulated irritations from clashes with immediate work supervision; sooner or later pent up emotions erupt leaving in their wake a trail of injury and damage (Rand, 1968, pp. 30-31).

Rand's report also contains a perspective or basis for management's frustration during strikes:

The resistance to having one's property confronted or encircled by a line of antagonistic people is from various causes: apprehension of danger, a sense of being 'hemmed in', anger in being deprived of ordinary enjoyment of property. It is an intrusion into the affairs of another with the purposed of causing as much economic injury as possible by an appeal to boycott; in extreme cases, a threatening intimidation that may easily be converted into physical violence (Rand, 1968, pp. 30).

Grant and Wallace (1991) conducted a study which examined why strikes turn violent.

The authors use the Resource-Mobilization Theory in examining how strike violence is related to features of the socio-political environment, the legislative environment, the skill mix of striking

workers and the strike strategies used by both management and labour. Of particular consequence to this paper is their examination of employee strategies during labour disputes. They hypothesized that an employer's decision to maintain any degree of production during a strike is likely to provoke violence:

Trying to maintain plant operations may involve nonstriking workers' crossing picket lines or the hiring of outside replacements for strikers. In either case, violent confrontations with strikers determined to keep the plant shut down are likely. Often, employers utilize police to escort nonstrikers across picket lines. The very presence of police is likely to aggravate a heated situation and lead to violence" (Grant & Wallace, 1991, pp. 1131).

The results of their empirical analysis confirmed their hypothesis that maintaining plant operations is a key determinant in the occurrence of strike violence.

This was the case at a violent strike on July 22, 1977 at the Robin Hood Flour Mill strike in Montreal, Quebec. The strike resulted in the arrest of four security guards and the injury of eight men. According to witnesses, the security guards or 'hired toughs' secured by the company for the strike, provoked strikers through the exchange of insults into coming through the company gate and spraying the guards with a fire hose. The guards, instead of going inside the building, opened fire on the demonstrators, seriously wounding two and injuring six more (The Montreal Star, July 23, 1977). According to the local newspaper, "Bitterness between striking workers and management at Robin Hood Multifoods Ltd. intensified four weeks ago when the Montreal flour mill began a recruitment campaign to replace strikers" (The Montreal Star, July

23, 1977, pp. A3).

A more recent example of the violence occurred during a strike in Yellowknife, Northwest Territories between Royal Oak Mines and the Canadian Association of Smelter and Allied Workers. One of the union members was recently on trial for the murder of three replacement workers and six crossovers who died instantly from a blast occurring 230 metres below the surface (The Vancouver Sun, February 15, 1994). Roger Warren was found guilty of nine counts of second-degree murder, all of which took place in September 1992 (The Province, January 27, 1995).

It is not difficult to imagine that legislation prohibiting replacement workers will likely decrease strike violence. However, it is important to note that it will not completely eliminate it. The potential for violence continues to exist in conflicts where replacement workers are not a factor. One such example concerned a complicated dispute between the Movement de la Liberation du Taxi and the Murray Hill bus and limousine company in Quebec in 1969. Involving issues surrounding access to the Dorval airport in Montreal, a pitched battle resulted in the death of two people and the injury of seven and damages totalling \$2,000,000 in one night (Frank, 1983).

Temporary vs. Permanent Replacements

Another issue, particularly pertinent to the discussion of the United States, concerns temporary and permanent replacements. Presently in the United States, federal legislation (a dominant aspect in U.S. industrial relations) encourages the use of permanent replacements over

that of temporary replacements in economic strikes in order to avoid charges of unfair labour practices (Cornwell, 1990). In other words, companies using replacement workers during economic strikes are encouraged to hire permanent as opposed to temporary replacement workers in order to avoid unfair labour practice suits by the replacement workers for breach of contract. This is an ironic aspect of U.S. labour relations since permanent replacements pose a greater potential threat to the rights of striking workers.

An intriguing question emerges in this dilemma: whether permanent as opposed to temporary replacements are the only means by which companies would be able to continue operations and protect their businesses. Implicit in this position is that companies are not able to obtain a sufficient number of replacements who would be willing to work with no promise of permanency (Gillespie, 1972).

Permanent replacements have been considered a legitimate business justification because they are seen as necessary for the company to protect and continue business operations. This raises a crucial issue which is whether Mackay could be justified if only temporary replacements were used. Also, is it feasible to place the onus on the company to prove that it is necessary to offer permanency in order to obtain an adequate number of people to accept jobs ("Replacement of Striking Workers", 1966)?

Barriers to Hiring Replacements

Even though labour legislation may theoretically permit employers to hire replacements, practically they may not always do so. The major barrier to hiring replacement workers (apart

from legislation of course) is having an adequate number of workers to fill the jobs left vacant by striking workers. There are four potential sources of labour available to management: (1) non-bargaining unit employees of the firm; (2) members of the striking bargaining unit who return to work (crossovers); (3) temporary replacements; and (4) permanent replacements (Gramm, 1991). Employers may not be able to attract a sufficient number of replacements who would be willing to face potential violence walking over the picket-line (Gillespie, 1972).

There may also be legal restrictions on recruiting replacement workers. In the United States, the U.S. Training and Employment Service is prohibited from referring personnel to employers involved in labour disputes. Many individual States have similar legislation (Gillespie, 1972). Companies are legally constrained from offering replacements more than the last dollar bid offered to workers, and they are not allowed to offer super-seniority (e.g., Erie Resistor) (Gillespie, 1972).

Numerous other factors constrain employers from hiring replacements (Gillespie, 1972). Firstly, the geographical location of the struck company may potentially restrict companies from locating an adequate number of employees. If the company is located in an isolated area, a struck company would have relatively more trouble or expense in finding and sometimes housing and feeding replacements. It might be possible to have them recruited from larger labour markets, but this would make it all the more expensive for the company to maintain operations. If a strike occurred in a metropolitan centre, on the other hand, the company would have a considerably easier task because of the relative size of the labour markets.

This ties into the second constraint: type of work. The level of skill required to perform the work is a key factor in the company's ability to obtain satisfactory replacements for the positions. The higher the degree of skill required, the harder it will be for the company to find replacements. Similarly, the size of the striking group is also a major barrier: the larger the number of strikers, the more difficult task of replacing them will be (Gillespie, 1972).

The third constraint deals with the ideologies and size of the community where the company is located. For example, if the community is union-oriented, chances are it will be hostile towards replacements. This was the situation in the Jay, Maine strike previously mentioned in this thesis, where violence and threats caused disruption in the community long after the strike was over (Satchell & Gordon, 1987).

Companies must also consider the violence which occurs when replacements are used. The potential for violence is two-tiered: on the one hand, potential replacements will be strongly discouraged from accepting employment knowing they may face severe repercussions from striking workers (and their families in many cases) if they attempt to cross the picket-line (Anderson, 1985). Nor does the company want a violent strike. Employers do not want their property damaged, which would raise their costs. Violence may also give the company negative publicity.

Employers, even if they do decide to hire replacements, must consider all of the costs involved. Apart from the costs associated with recruiting, hiring and training, the company must also incur the costs involved with the delay in production which takes place because hiring and

training take time as well (Anderson, 1985). There is also the learning curve to consider where production is more efficient in an organization with a long term, stable and experienced work force (GAO Report, 1991).

Gillespie (1972) sets out a number of other aspects which must be considered before a company decides to hire replacements. These include the size of the union strike fund; the degree of automation in the business; the tightness of the labour market; the presence of competitors; the seasonal nature of the work; the use of industry wide bargaining; membership in a larger conglomerate; and the wealth of the business. Gillespie (1972) also states that companies may find it more efficient to use managerial staff, non-union personnel or crossovers to maintain operations. Employers can also stockpile products, shift production to another plant, sub-contract out work, rely on strike insurance, or lock-out. In other words, there are a number of alternatives the company may take, apart from choosing to hire replacements.

Gramm (1991) conducted a mail survey study on different arguments relating to replacement worker legislation. This research is suggestive as opposed to conclusive since the study's sample sizes are small (n=32 and n=21). The study involved two samples, the first drawn from major U.S. strikes in progress between 1984 and 1988, covering 1000 or more workers, and the second drawn from the state of New York strikes in progress in the same period, covering six or more workers until January 1986 and twenty or more workers after January 1986.

The results of Gramm's (1991) survey indicate that not all companies which go on strike actually hire replacement workers. In Sample 1, five of the thirty-two (15.6%) responding firms

hired permanent replacements and two hired temporary replacements (total 21.8%). In Sample 2, five of the twenty-one responding managers reported hiring permanent replacements (23.8%) and two reported hiring temporary replacements (total 33.3%).

Similar results were found in a study by the United States' General Accounting Office (GAO Report, 1991). The GAO conducted a study examining strikes beginning in 1985 and 1989 drawn from the Federal Mediation and Conciliation Service database. Based on interviews with employers and union representatives, the GAO report estimated that employers hired permanent replacements in about seventeen percent of strikes in both 1985 and 1989 and only about four percent of strikers were actually permanently replaced.

Threat to Organized Labour

As mentioned previously in the arguments against replacement workers, there exists a strong possibility in strikes where companies replace striking workers that the union fails to survive. One of the key arguments of those opposed to permanent replacements is their detrimental effect on organized labour. This position is supported by Gillespie (1972), who describes permanent replacements as 'inherently destructive' because they may potentially lead to the removal of striking employees or to the decertification of the union. Allowing employers to permanently replace striking workers, gives management the power to undermine labour's right to representation through the manipulation of the election process (Weiler, 1984). Both Weiler (1984) and Gillespie (1972) propose that replacement workers are likely to be anti-union if only for the reason that the union may attempt to negotiate their displacement in favour of

strikers. If employers have the discretion to determine which replacements are permanent, they would be able to manipulate the election process by hiring a certain number of permanent replacements or by delaying negotiations long enough for the un-reinstated strikers to lose their voting privileges.

This was the situation in a 1983 strike between Phelps Dodge and the United Steelworkers. In this case, management had little difficulty attracting replacement workers willing to fill the jobs left vacant by strikers. Six months after the strike began, production was back up to capacity. The impasse was never resolved (management had no incentive to negotiate since production was back to normal) and the union was eventually decertified (Stephens & Kohl, 1986).

The empirical analysis conducted by Gramm (1991) discussed earlier included a measure of the union's survival rate depending on the strategies chosen by management when faced with a strike. Gramm (1991) found that there is in fact a threat to the union. The union is less likely to survive in situations where replacement workers were hired during a strike. In the first sample, in two of the five firms which reported hiring permanent replacements, the union did not survive. In contrast, when permanent replacements were not used, only one union out of twenty-seven did not survive. Similarly, in the second sample, two of the five unions in firms which reported hiring replacements ceased to exist at the conclusion of the strike. All of the unions survived in the remaining firms which did not use replacements in their strike strategies. Although this study is only suggestive, these results demonstrate a great deal about the ability of organized labour to withstand the threat of permanent replacements. While there may be numerous variables

involved (e.g., size of union and the skill of its members), it remains notable that two out of five strike situations involving permanent replacements in both samples resulted in the union failed to survive.

Replacement Worker Legislation Effect on Strike Incidence

Six empirical studies have made significant contributions to the issue of replacement worker legislation and strike incidence and duration - Gunderson, Kervin and Reid, 1986; Lacroix and Lesperance, 1988; Gunderson, Kervin and Reid, 1989; Gunderson and Melino, 1990; Gramm, 1991, and Schnell and Gramm, 1994. This section examines these studies in detail.

Gunderson et al. (1989) performed a study focusing on the effect of Canadian labour relations legislation¹⁷ on strike incidence (Gunderson et al., 1989 is an update and extension of Gunderson et al., 1986, on strike incidence). The sample for this study is made up of 2,437 private sector collective agreements involving bargaining units of 500 or more workers as well as a partial sample of bargaining units containing 200 to 500 employees between 1971 and 1983. The authors use a linear probability model (logit analysis) to test their hypotheses. They theorize that, in general, policy variables will lead to a decrease in the number of strikes if they "...reduce

¹⁷ Specifically, Gunderson et al. examined the effects of the following provisions: mandatory strike votes, compulsory dues check-off, conciliation boards, prohibition of replacement worker, employer initiated strike votes, the length of the cooling-off period following conciliation, and negotiated or automatic reopener.

the uncertainty, divergent expectations, or asymmetric information that give rise to strikes or if they reduce the cost of using strikes relative to other mechanisms to solve the basic differences that occur at the workplace" (pp. 782).

In their discussion of Quebec's "anti-scab" legislation, Gunderson et al. (1989) propose that the net effect of its enactment would be ambiguous since on the one hand, the legislation leads to an increase in the joint costs of using the strike as a weapon (i.e., due to a resulting increase in output loss where employers may have used replacement workers). On the other hand, the reduction in picket-line violence would lessen the joint cost.

The results of Gunderson et al.'s (1989) analysis indicate that the Quebec legislation was associated with a significant increase in the number of strikes. However, they do caution the construct validity of their results: "The results do not provide a clear-cut test of the theory because the labour relations policies have not been explicitly included in the theoretical models in the literature, and broad concepts such as joint costs and divergent expectations are subject to different interpretations" (Gunderson et al., 1989, pp. 790). The authors also note that although strike activity was found to have increased after the institution of the anti-scab legislation, the legislation may have led to a decrease in picket-line violence and may reduce the problems associated with returning to work for the strikers. In other words, determining whether the legislation is positive or negative overall depends on the priorities and goals of those governing labour legislation. If, for example, the overriding goal is to reduce picket line confrontation, the legislation would then be beneficial. If however, the principal goal is to reduce the interruptions to the economy, this legislation may not be appropriate.

Lacroix and Lesperance (1988) comment on three shortcomings of Gunderson et al.'s (1986) study. Firstly, Gunderson et al. (1986) fail to distinguish between two types of legislation: 1) those which do not alter the power distribution between labour and management but simply attempt to decrease the cost of evaluation by the parties; and 2) those that affect the distribution of power. Secondly, Lacroix and Lesperance claim that the evaluations made by Gunderson et al. regarding the effectiveness of the laws in reducing the costs of obtaining information by the parties is debatable. Lastly, in light of the two different types of laws in question, the model used by Gunderson et al. (joint cost¹⁸) is not as effective as the accident model. The accident model was originated by Siebert and Addison (1981) and later developed by Cousineau and Lacroix (1986). Lacroix and Lesperance's (1988) empirical analysis is based on this model.

In explaining the accident model, Siebert and Addison (1981) use road accidents as an analogy to strikes: "Strikes can be compared with road accidents in the sense that, although any single accident is unforeseen, the probability of having an accident is foreseen and is a consequence of rational choice" (pp. 392). The time parties spend negotiating is extremely consequential to this model in that if management and labour had no time constraints in negotiations, the probability of a strike would approximate zero (Lacroix and Lesperance, 1988). Taking the accident analogy one step further, although any particular accident is not predictable, certain environmental factors such as weather and road conditions make driving more difficult

¹⁸ Joint Cost: the higher the joint cost of a strike, the more motivated the parties will be to find some other means of achieving their goals (Kaufman, 1992).

and lead to a definite relationship in terms of overall accident frequency. In terms of strikes, any 'environmental' change that increases the number of issues to be dealt with at the bargaining table makes the process more complex and reduces the amount of time spent on any one issue is likely to increase the number of strikes (Kaufman, 1992).

According to Lacroix and Lesperance (1988), the legislation distributes more power to labour and thus a higher potential cost to management of enduring a strike. The authors developed an equation based on the accident model developed by Siebert and Addison (1981) to examine the effects of various pieces of legislation¹⁹. The sample used in this study was drawn from Labour Canada statistics on collective agreements involving 500 or more workers. The final sample consisted of 1,272 collective agreements from Quebec, Ontario and British Columbia between January 1, 1969 and December 31, 1981. The authors hypothesized that the legislation would result in a temporary increase in strike activity. The basis behind this hypothesis is the result of a temporary uncertainty regarding the importance of the increase in union power in negotiations. This hypothesis is consistent with the accident model in that the greater the uncertainty in negotiations, the greater the chance of a strike. However, Lacroix and Lesperance believe that the uncertainty will only be temporary, therefore the frequency of strikes will increase, but only temporarily. The results of their study confirmed this hypothesis, and according to the authors, demonstrated that it is possible with the help of an economic strike

¹⁹ Compulsory conciliation, secondary picketing, anti-replacement worker legislation, employer initiated strike votes, time limits on negotiations and notice are the variables included in this study.

model, to foresee the effects that new labour legislation has on strike activity.

Effect on Strike Duration

Gramm's (1991) study on political arguments relating to replacement worker legislation indicates that strike duration increases during strikes where replacement workers are used. Table 3 portrays a summary of the results of the mail survey.

Table 3

Strike Duration by the Employer's Replacement Strategy in days

(a) National Sample

Replacement Strategy	n	Mean	s	Min	Max
None	25	63.96	103.97	2	405
Temporary	2	72.00	22.63	56	88
Permanent	5	363.40	375.10	28	56

(b) New York Sample

Replacement Strategy	n	Mean	s	Min	Max
None	14	20.70	17.14	1	61
Temporary	2	8.50	7.78	3	14
Permanent	5	139.80	161.38	12	364

(Gramm, 1991, pp. 495)

These results indicate that hiring replacement workers during a strike is associated with an increase in strike duration.

Gunderson and Melino's (1990) study regarding replacement worker legislation and strike duration contained similar results. These authors based their empirical analysis on two theories of strikes: the first emphasizing the information-generating function of strikes (e.g., Hayes, 1986; Mauro, 1982), and the second focusing on the joint cost perspective of strikes (e.g., Reder & Neumann 1980; Siebert & Addison, 1981). Gunderson and Melino (1990) hypothesized that in general, policy variables would decrease the duration of strikes if the policy reduced the uncertainty by making information public or if it increased the joint cost to the parties of using the strike as a weapon as opposed to other available mechanisms.

Legislation prohibiting replacement workers was one of the explanatory variables in their study²⁰. The sample was derived from the Labour Canada work stoppages tape. It included 7,546 private-sector strikes beginning between January 1, 1967 and December 31, 1985 occurring during the re-negotiation of an existing collective agreement. Gunderson and Melino (1990) theorized that such legislation would increase the cost of striking for management because it would be more difficult for them to maintain operations during a strike. This difficulty would be generated by the loss of one potential strike strategy choice for management. In other words, management would have fewer options at its disposal to fight a dispute, and as a result, strike duration would decrease. Gunderson and Melino (1990) also mention Kennan and Wilson's (1988) position on the possibility that strike duration may in fact increase because the

²⁰ Compulsory conciliation or mediation, conciliation officer and a board, cooling-off period, mandatory strike vote, employer-initiated vote option, mandatory dues-check-off, negotiated or automatic reopener, and wage controls were the remaining provisions included in this study.

legislation would increase the union's uncertainty about the firm's position and would also increase the rents to be bargained over.

Gunderson and Melino (1990), using hazard-function estimates, found that the legislation was associated with a significant increase in strike duration, contrary to their hypothesis. They do, however, caution their results in stating that at the time of the analysis, only Quebec had such legislation, and that they may be picking up the effects of other aspects not controlled for in their analysis.

Lastly, Schnell and Gramm's (1994) study examines the empirical relationship between striker replacement strategies and the duration of disputes. Using the data collected by the United States' General Accounting Office (GAO) (GAO Report, 1991), the authors examined three different employer strike strategies: (a) firm neither announced intent to hire nor hired permanent replacements (64.57% of those sampled, n=780); (b) firm announced intent to hire, but did not hire permanent replacements (15.52%); or, (c) firm hired replacements after announcing the intent to hire replacements (19.9%). As can be seen in Table 4, the duration of disputes in each of these three categories increases as companies increase their reliance on the replacement worker strategy. Simply announcing that replacements will be hired is associated with a substantial increase in duration and hiring replacements is associated with an even greater increase²¹.

²¹ However, the authors note an alternative explanation for the increase in strike duration: "...the correlations between strike duration and the permanent replacement strategy variables may reflect a tendency on the part of employers expecting or

Table 4: Effect of Strike Strategy on Duration in days

<u>Employer's Permanent Replacement Strategy</u>	<u>Percent</u>	<u>Mean</u>	<u>S.D.</u>
Neither announced intent to hire nor hired permanent replacements	64.57	27.26	41.35
Announced intent to hire but did not hire permanent replacements	15.52	57.30	82.19
Announced intent to hire and did hire permanent replacements	19.90	84.23	83.95

(Schnell and Gramm, 1994, pp. 195)

actually experiencing long strikes to announce the intent to hire, or actually hire, permanent replacements" (203).

CHAPTER IV

HYPOTHESES AND METHODOLOGY

Hypotheses

Strike Incidence and Strike Duration:

There are a great deal of elements associated with replacement workers as evidenced in the previous chapters. One of these elements is the effect "anti-scab" legislation has on strike activity. Specifically, does enacting legislation which prohibits the use of replacement workers during strikes result in a decrease, increase or no effect at all on strike activity.

The enactment of legislation prohibiting replacement workers (temporary or permanent) should lead to a redistribution of power in the collective bargaining relationship. This in turn should impact on the parties' decision to strike or withstand a strike. The legislation should, in most cases, shift a greater amount of power in favour of labour²². The right to maintain

²² The degree to which the power struggle would be affected by the legislation depends on the strength of the union. As mentioned previously, strong unions (e.g., job skill requirements are high or specialized) are less affected by the replacement worker issue and thus will be less affected by legislation dealing with replacements.

operations for management is equivalent to the right to strike for labour in terms of bargaining weapons. Management's power, then, is diminished by the institution of replacement worker legislation. Therefore, the immediate conclusion is that the number of strikes would increase because labour, having a relative increase in their level of bargaining power, would be more willing to use the strike as a means of achieving its demands. Also, the strike would be more appealing to workers since the value of the strike in terms of bargaining power has increased considerably.

The joint cost perspective of strikes is based on the joint cost to both parties of using the strike (for whatever purpose - e.g., establishing reputations, solving intra-organizational problems) relative to other available mechanisms (e.g., continuous bargaining, joint committees) (Anderson & Gunderson, 1989). In the case of Quebec's anti-replacement legislation, the cost of striking for the workers would be decreased by the legislation in terms of job security (i.e., they would not have to worry about losing their jobs to replacements), and they would not have to worry about confrontation on the picket-line. The cost of enduring a strike for management would be increased by the anti-scab legislation since they would have lost a tool in fighting strikes. While the cost of striking has increased for management and decreased for labour, the 'joint' cost overall has increased. The decrease of the cost of striking for labour will to some degree be negated by the increase in the joint cost for management. However, the decrease in the joint cost for labour is more significant.

According to the 'accident' model of strike incidence, the greater the amount of uncertainty involved in negotiations between labour and management, the higher the probability

that a strike will ensue (Siebert & Addison, 1981). According to the 'accident' model perspective, there is a greater amount of uncertainty involved in the negotiation process regarding management's options or strike strategies since they would have lost an arrow from their quiver. Based on this model, Quebec's anti-replacement legislation should result in an increase in the number of strikes since both labour and management would be more uncertain how 'the other side' would adjust to the new 'rules of the game'. Labour should be more uncertain about how management would handle not being able to replace (or at least not being able to threaten to replace) striking workers, and management would be more uncertain about to what degree labour would use this new power. This increased uncertainty in negotiations should lead to an increase in the number of strikes.

The legislation does not change the fact that a strike causes numerous physical and emotional hardships to the workers and their families. It simply makes the strike more attractive in terms of holding more weight as a weapon against management. The period following the institution of the legislation should be a learning experience for both parties where each 'tests the waters' and determines how the other party will handle negotiations in the future. In other words, the period following the institution of the legislation will be a time of increased uncertainty. However, this increased uncertainty will decrease over time and with experience. Therefore, the increase in the number of strikes following the legislation will only be a temporary increase.

The effect of the legislation should have an abrupt as opposed to a gradual effect on strike activity. There is no reason the legislation would take time to effect the parties. It would be inconsistent with the theories used to determine that strike frequency would increase as a result

of the legislation. The increased uncertainty in negotiations following the enactment of the legislation should take place immediately, and therefore the increase in the number of strikes should take place immediately as well.

Therefore the hypotheses are summarized as follows:

H1: legislation prohibiting the use of replacement workers during strikes will lead to an abrupt, temporary increase in the number of strikes.

H2: Legislation prohibiting the use of replacement workers during strikes will lead to an abrupt, temporary increase in strike duration.

Methodology

The empirical analysis contained in this thesis is separated into two parts. The first examines the effect of replacement worker legislation on strike incidence. The second looks at the impact of the legislation on strike duration. The samples for both analyses consist of strike data drawn from the Province of Quebec's manufacturing sector between January 1960 and November 1993²³. The data was coded into monthly time series data based on the start dates of

²³ This data was secured from Labour Canada on three diskettes which contained information on the number of strikes, the number of workers involved, person-days-not worked, the union, start date,

strikes²⁴.

The rationale behind using Quebec data as the focus of this analysis lies in the fact that this Province had instituted the anti-scab legislation substantially earlier than any of the other provinces in Canada (i.e., Ontario, 1990 and British Columbia, 1992). Among North American jurisdictions, only in Quebec is it feasible to obtain any great number of both pre- and post-intervention data points. The reason for using the manufacturing industry is largely based on the accessibility and availability of this data.

The hypotheses (HI & HII) will be examined using an interrupted time series analysis with an Auto-regressive Integrated Moving-Average Model (ARIMA). This quasi-experimental design will assess whether or not the intervention (i.e., Quebec's anti-scab law, Bill 45) had an impact on strike activity. The procedure will also estimate the magnitude and form of the impact based on the apriori assumptions regarding the effect of the intervention. The ARIMA procedure is also capable of post-hoc testing for alternative models. The possible forms of impact include the following: an abrupt temporary impact; an abrupt permanent impact; a gradual temporary impact; or a gradual permanent impact.

Time series quasi-experiments have been used in numerous studies examining the impact

and the termination date.

²⁴ For example, 1 is the first month of the first year (January 1960), 15 is the third month of the second year (March 1961) and 251 is the eleventh month of the twenty-second year (November 1980).

of social interventions on the behaviours of individuals. In fact, according to McDowall et al. (1980), the time series quasi-experiment has been most widely used in assessing the impact of legal interventions. For example, it has been used to assess the introduction of new traffic laws (Campbell & Ross, 1968; Glass, 1968; Ross et al., 1970), the impact of laws instituted to control air pollution (Box & Tiao, 1975), and in assessing the effect of gun control laws (Deutsch & Alt, 1977; Zimring, 1975; Hay & Mcleary, 1979). The ARIMA model allows the researcher to estimate the serial correlation, remove it, and thus analyze a stationary time series. Kennedy (1992) describes the ARIMA procedure as a sophisticated method of extrapolation. He notes studies which indicate that this type of model out-performs econometric forecasting models. BMDP statistical software is used in this study. The BMDP program uses the Box-Jenkins ARIMA method in order to "...estimate the model parameters and perform diagnostic checking or residual analysis" (BMDP Manual vol. 1, 1992, pp. 467).

This method of analysing a time series is controversial, and therefore necessitates a discussion of why it was chosen over alternative methods. Strikes are among the most complex phenomena known to social science. There are an infinite number of intervening and moderating variables involved in the occurrence of strikes. The expected weather conditions, skill level of the work performed at the plant in question, the particular characteristics of the bargaining units, and the political party currently in power are merely some of the variables which may increase or decrease the likelihood of a strike. Individually controlling for all of those variables is beyond the scope of this paper. Ordinary Least Squares (OLS) regression was not a feasible choice since this method assumes that the error terms at different time points are

not correlated (Ostrom, 1990). The problem is that a large majority of social science time series data violates this assumption and may result in seriously overstating the statistical significance of the impact (McDowall et al., 1980). Also, with linear regression it would be difficult to obtain data on the numerous independent variables which need to be controlled for in order to prevent them from confounding the analysis.

The ARIMA model accounts for three types of noise which must be considered in analysing any time series; trend (an average increase or decrease over time); seasonality (seasonal fluctuations which occur every period); and random error (the remaining fluctuation about some mean level once the effects of trend and seasonality have been removed). Trend and seasonality are common errors in social science research. The ARIMA model controls for these three variances, thus allowing the researcher to assess the impact of an intervention (McDowall et al., 1980). ARIMA modelling is fairly easy to understand. The basis of the observed time series is a sequence of random shocks. There are four assumptions regarding the behaviour of these shocks: 1) zero mean; 2) constant Variance; 3) independence; and 4) normal distribution. The ARIMA model consists of these random shocks and three structural parameters, denoted p , d , and q , where p represents the auto-regressive relationship, q the number of moving average structures in the model and d the number of times the series was differenced to obtain stationarity. The random shocks are considered the input to an ARIMA (p,d,q) model. They flow through a sequence of filters or black boxes and exit the process as the time series observations (McDowall et al., 1980).

Identification is the process of assessing the structural parameters for each of the three

filters for the time series. These parameters are estimated by examining a time series plot. The most important function of this examination is the determination of stationarity. If the time series is judged to be non-stationary (i.e., due to seasonality, drift or trend), differencing may be able to render it stationary. McDowall et al. define trend as "...motion in a specific direction" (pp. 19) or more specifically as "...any systematic change in the level of a time series process" (pp. 19). Trend in the data indicates that the process is not stationary. Plots of the auto-correlations and partial auto-correlations are used to determine the auto-regressive and moving average parameters and to confirm the differencing order estimated from the time series plot. Once these parameters have been estimated, the adequacy of the model is examined.

Once an adequate model is determined, the effect of the intervention is examined. Both hypotheses in this thesis require testing for an abrupt - temporary intervention effect. If these effects are not found to be significant, post-hoc analyses will be conducted to determine if the intervention had a gradual - permanent impact, an abrupt - permanent impact or a gradual - temporary impact. If none of these effects are found to be significant then it will be concluded that the intervention had no significant impact.

Chapter V

Results

Strike Incidence

The first variable analyzed measures strike incidence and is called FREQUENCY. There were a total of 404 months included in the analysis. The mean number of strikes for the time series is 7.6 per month with a standard deviation of 5.8, a median of 6.0 and a mode of 3.0. The minimum number of strikes during a month was 0 and the maximum was 40.

ARIMA modelling is a sequential process where each phase depends on the results obtained from the previous step. The procedure begins with a visual analysis of a time series plot using the raw data. The plot for FREQUENCY (see Figure 1) indicates the process follows initially an upward trend followed by a downward trend. In order to remove the trend and render the series stationary, the data must be differenced (transformed into a process that neither trends nor drifts). Figure 2 contains the auto-correlation function (ACF) of the differenced time series and this series appears stationary. The ACF shows the presence of serial correlation and the layout of the spikes indicates a moving average process (MA=1). Figure 3 contains the ACF of the process after the series was differenced and a first-order moving average parameter included in the model. The spikes in figure 3

FIGURE 1: Raw Data - Strike Incidence

FREQUENCY

1960 - 1993

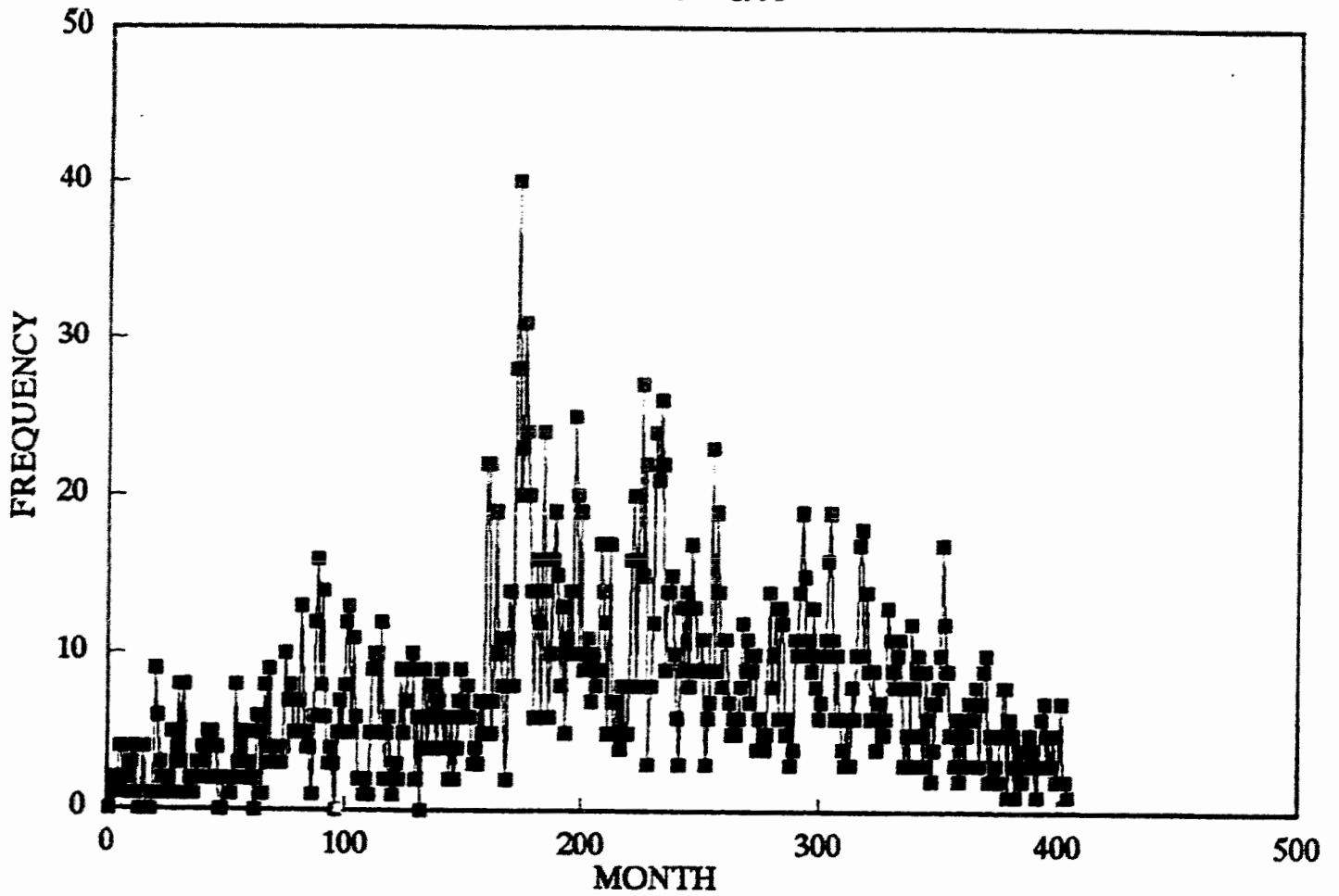
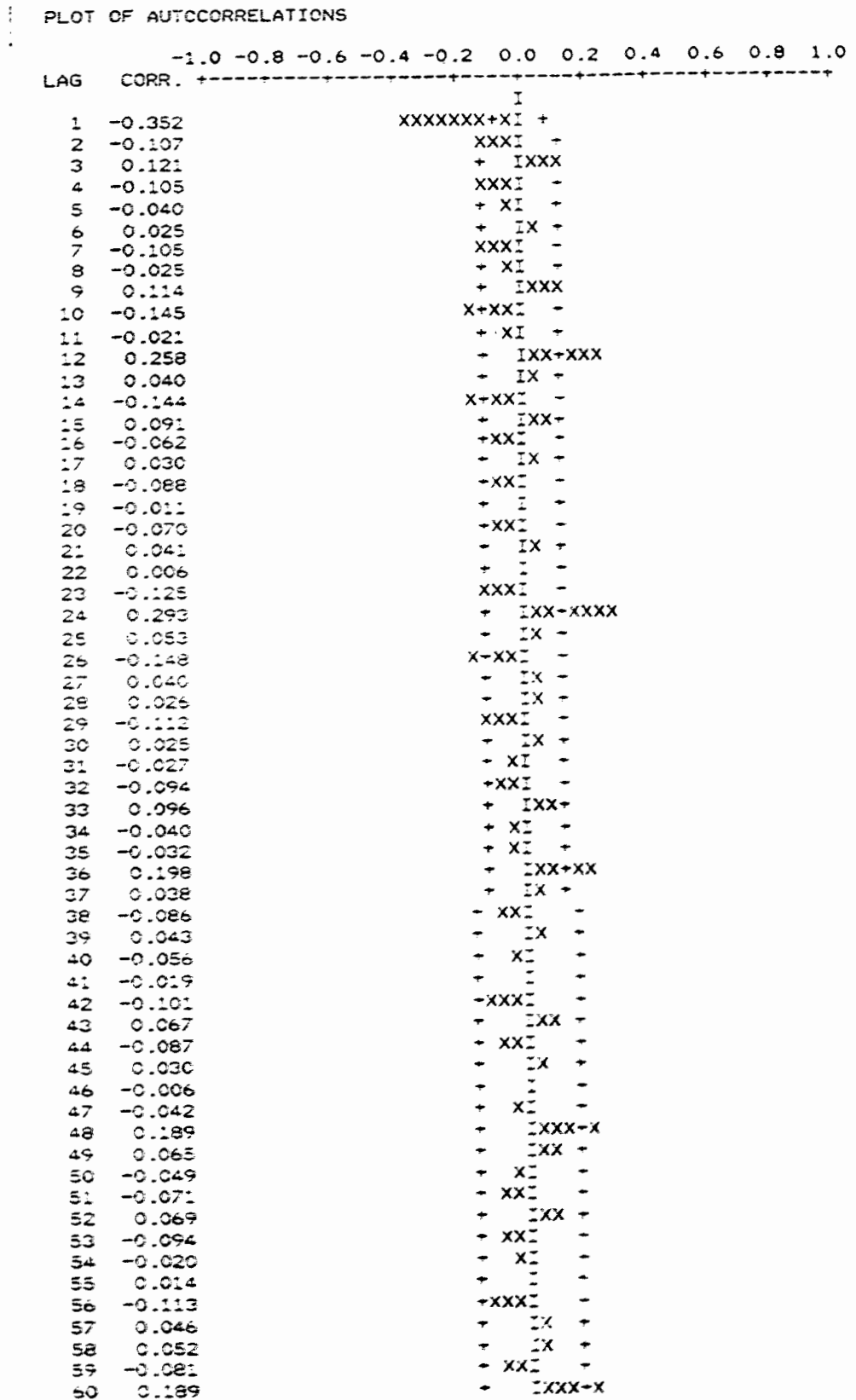


FIGURE 2: Autocorrelation Function - Differenced Series - Strike Incidence



at lag 12 resemble an auto-regressive structure and therefore an AR 12 is added to the model.

This procedure was continued until all of the serial correlation was removed²⁵ (i.e., the effects of seasonality and trend are controlled for). Figure 4 contains the ACF of the final model and based on the fact that all significant serial correlation has been removed (i.e., no significant spikes), this is the series which will be used to test for the intervention. Table 5 summarizes the parameter estimates of the final model for variable FREQUENCY, standard error and t-ratio values using the conditional least squares method. Consistent with the requirements of ARIMA modelling, the parameter estimates are stable, and all estimates are several standard error away from zero.

Table 5: Final Model Estimates For Strike Frequency

Parameter	Variable	Type	Order	Estimate	St.Error	T-Ratio
1	Freq	MA	1	0.6899	0.0373	18.48
2	Freq	AR	12	0.2483	0.0492	5.04
3	Freq	AR	18	-0.1219	0.0462	-2.64
4	Freq	AR	24	0.2804	0.0491	5.71

With the serial correlation removed from the data, the final model, an ARIMA (AR=12,18,24,DF=1,MA=1), was used to assess the impact of the intervention. This intervention occurred February 1, 1978 when the Quebec government passed a controversial

²⁵ Appendix A contains the autocorrelation and partial autocorrelation functions for each step of the process.

piece of legislation prohibiting companies from hiring replacements during strikes. Assessing the impact of the intervention involves examining the pre-intervention series and the post-intervention series. To do this, all data points in the pre-intervention series were coded 0 and all data points subsequent to the intervention were coded 1.

Contrary to the hypothesis, no significant effect was found with the apriori assumption that strike frequency would increase abruptly and temporarily following the intervention (see Table 6). The variable "NOLAW" is used to code whether an observation is pre- or post-intervention (i.e., NOLAW=0 for pre-intervention and NOLAW=1 for post-intervention). UP (known as the U Polynomial) reflects the change in the level of the post-intervention series and SP (known as the S Polynomial) represents the rate at which the series approaches its asymptotic post-intervention level; "small values of SP indicate rapid stabilization, while large values indicate that many observations will be necessary for the asymptotic level to be reached" (BMDP Manual, pp. 485).

In order for the model to be accepted, all model parameter estimates must lie within the bounds of system stationarity (between +1 and -1) and SP must lie within the bounds of system stability (between +1 and -1) which indicates that the post-intervention series is stationary about its mean, and all parameter estimates must have a significant T-Ratio. An examination of Table 6 reveals that while all estimates lie within the bounds of system stability, parameter 5 (the U polynomial) is not significant (t-ratio=-0.84), and therefore H1 must be rejected. According to the BMDP Manual, a common error in research is to accept a hypothesis where SP is significantly different from 0 but UP is not: "This leads to a nonsensical interpretation that the

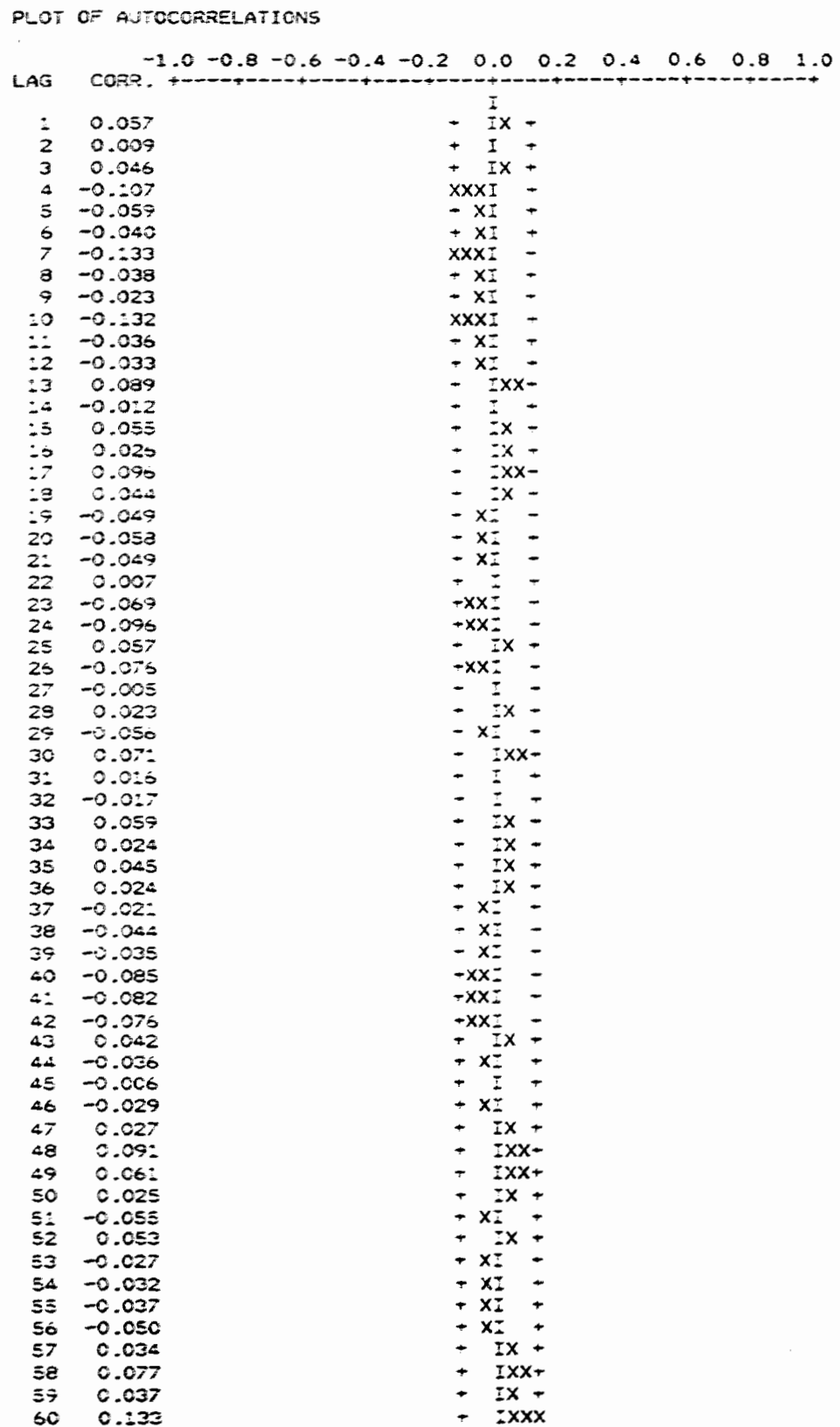
post-intervention series does not significantly differ in level from the pre-intervention series, and that it achieves that non-different level at a significant rate" (487).

Table 6: Intervention Estimates for a Sudden Temporary Effect

Parameter	Variable	Type	Order	Estimate	St.Error	T-Ratio
1	Freq	MA	1	0.6871	0.0376	18.27
2	Freq	AR	12	0.2513	0.0495	5.07
3	Freq	AR	18	-0.1156	0.0466	-2.48
4	Freq	AR	24	0.2809	0.0494	5.68
5	Nolaw	UP	0	-1.2350	1.4678	-0.84
6	Nolaw	SP	1	-0.9445	0.1008	-9.37

A subsequent analysis of the model for the other forms of intervention effect revealed the institution of this legislation had no significant impact on strike frequency. The estimates for each of remaining forms of impact failed to fit the effect

FIGURE 4: Autocorrelation Function - Final Model - Strike Incidence



because they were not significant (see Appendix B for a summary of the estimates and significance level for each form of intervention effect).

Duration

Strike duration (variable name WORKDAY) was coded in terms of the monthly average length of strikes²⁶. The mean duration of strikes was 35.5 days with a standard deviation of 30.9. The median and mode both were 31, the maximum number of days was 388 and the minimum was 0.

Similar to the analysis of strike incidence, the procedure begins with a visual trend analysis of the raw data (see Figure 5). While the plot appears fairly flat, it does exhibit signs of non-stationarity (a slight upward trend) and therefore should be differenced. The ACF for the differenced series can be found in Figure 6. With the series now stationary, the ACF and PACF are examined in order to determine the existence of moving average or auto-regressive structures. The plots of the differenced data indicate the presence of a moving average structure in the time series as evidenced by a single large spike at the first lag of the ACF and decaying spikes on the PACF. The process of

²⁶ The construction of variable WORKDAY was derived from FREQUENCY where the average duration of strikes for each of the 404 months in the analysis was calculated based on the average length of strikes beginning in a particular month.

FIGURE 5: Raw Data - Strike Duration

DURATION

1960 - 1993

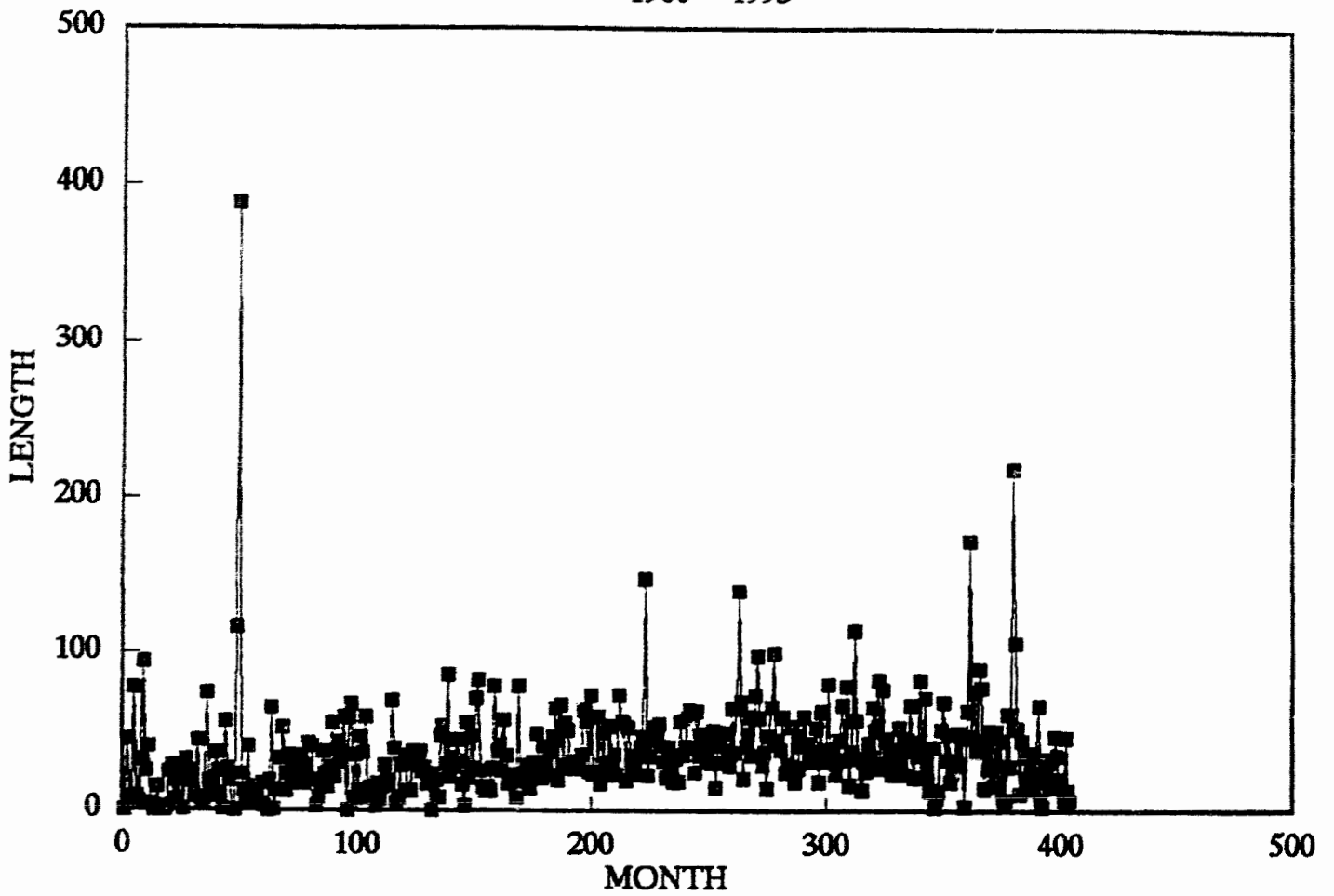
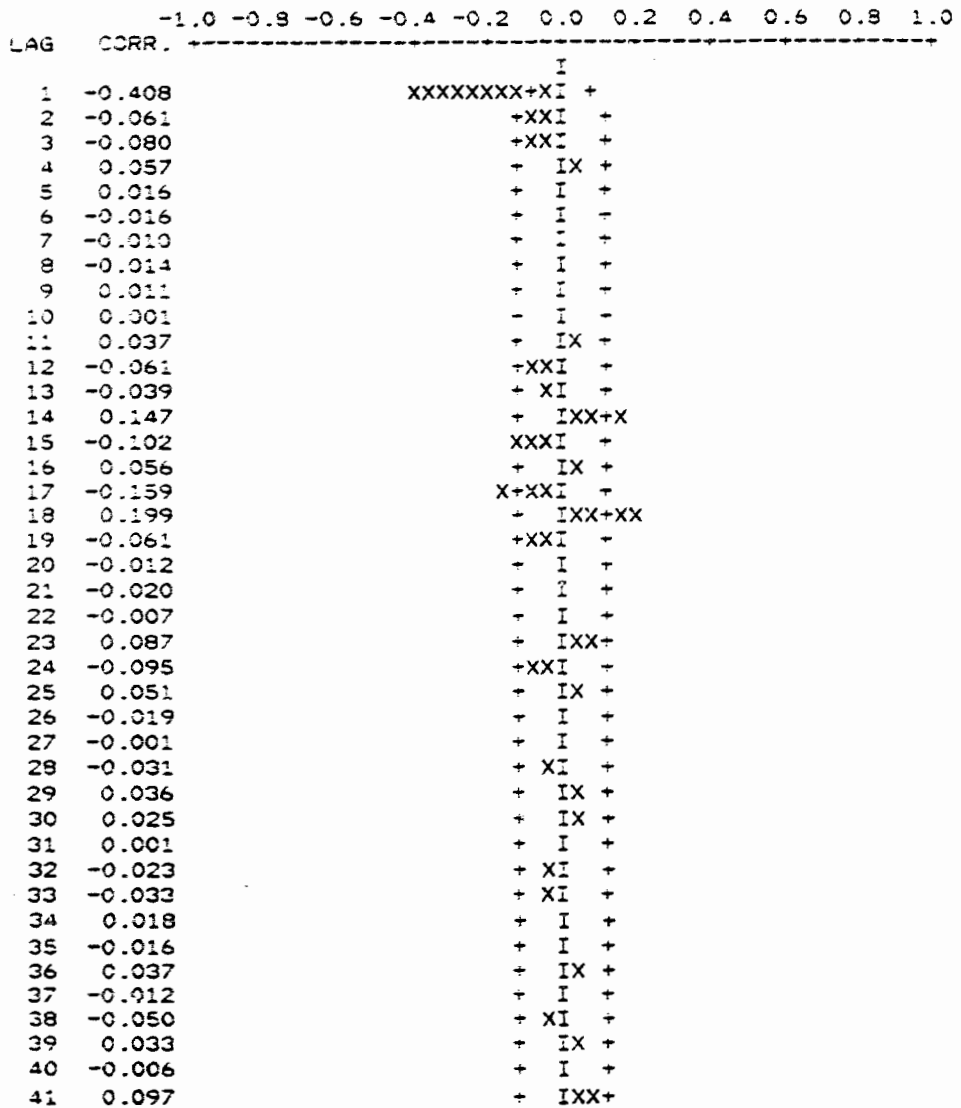


FIGURE 6: Autocorrelation Function - Series Differenced - Strike Duration

AUTOCORRELATIONS

1- 12	-.41	-.06	-.08	.06	.02	-.02	-.01	-.01	.01	0.0	.04	-.06
ST.E.	.05	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
13- 24	-.04	.15	-.10	.06	-.16	.20	-.06	-.01	-.02	-.01	.09	-.09
ST.E.	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
25- 36	.05	-.02	0.0	-.03	.04	.02	0.0	-.02	-.03	.02	-.02	.04
ST.E.	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
37- 48	-.01	-.05	.03	-.01	.10	-.08	-.03	.02	.08	-.09	-.06	.12
ST.E.	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.07	.07
49- 60	-.01	-.02	-.03	0.0	-.03	.09	-.03	-.05	.03	-.01	.01	.01
ST.E.	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07

PLOT OF AUTOCORRELATIONS



identifying moving average or auto-regressive structures from the ACFs and PACFs continues until all trend, seasonality, etc. are removed from the series²⁷. Table 7 includes the estimates for the final model, an ARIMA (AR=1,14,18,DF=1,MA=1) (see Figure 7 for ACF of final model). Figure 7 indicates that all significant correlations have been removed from the original time series and the resulting series is statistically adequate to assess the impact of the intervention. Table 7 indicates that all parameter estimates lie within the bounds of stationarity and all T-Ratios are significant thus satisfying the requirements of ARIMA modelling.

Table 7: Final Model - Duration: Parameter Estimates

Parameter	Variable	Type	Order	Estimate	St.Err.	T-Ratio
1	Workday	MA	1	0.9927	0.0004	2304.88
2	Workday	AR	1	0.1725	0.0485	3.56
3	Workday	AR	14	0.1115	0.0483	2.31
4	Workday	AR	18	0.1678	0.0483	3.48

²⁷ The ACFs and PACFs for each stage can be found in Appendix C.

FIGURE 7: Final Model - Strike Duration

PLOT OF AUTOCORRELATIONS

LAG	CORR.	
		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
		+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1	0.014	I
2	-0.010	+ I +
3	-0.051	+ I +
4	0.010	+XI +
5	0.021	+ I +
6	-0.004	+ IX +
7	-0.036	+ I +
8	-0.019	+ XI +
9	-0.005	+ I +
10	0.014	+ I +
11	0.024	+ IX +
12	-0.056	+ XI +
13	-0.009	+ I +
14	0.029	+ IX +
15	-0.055	+ XI +
16	0.013	+ I +
17	-0.075	+XXI +
18	0.012	+ I +
19	-0.023	+ XI +
20	-0.006	+ I +
21	-0.012	+ I +
22	0.000	+ I +
23	0.040	+ IX +
24	-0.060	+ XI +
25	0.012	+ I +
26	-0.021	+ XI +
27	-0.059	+ XI +
28	-0.021	+ XI +
29	0.041	+ IX +
30	0.011	+ I +
31	-0.006	+ I +
32	-0.074	+XXI +
33	-0.048	+ XI +
34	-0.024	+ XI +
35	-0.031	+ XI +
36	-0.006	+ I +
37	0.004	+ I +
38	-0.005	+ I +
39	0.024	+ IX +
40	0.044	+ IX +
41	0.037	+ IX +
42	-0.021	+ XI +
43	0.004	+ I +
44	0.060	+ IXX +
45	0.036	+ IX +
46	-0.021	+ XI +
47	-0.019	+ I +
48	0.106	+ IXXX +
49	0.065	+ IXX +
50	0.030	+ IX +
51	-0.013	+ I +
52	-0.006	+ I +
53	0.007	+ I +
54	0.089	+ IXX +
55	-0.015	+ I +
56	-0.033	+ XI +
57	0.017	+ I +
58	-0.005	+ I +
59	0.015	+ I +
60	0.026	+ IX +

This model was then used to test for a sudden and temporary intervention impact and Table 8 contains the parameter estimates for this form of impact. Contrary to Hypothesis 2, the introduction of the legislation is not associated with a significant, sudden, temporary impact. While the estimates do lie within the bounds of stationarity and system stability, the U polynomial is not significant (-1.31) and therefore H2 must be rejected.

Table 8: Intervention Estimates for Sudden, Temporary Impact

Parameter	Variable	Type	Order	Estimate	St.Err.	T-Ratio
1	Workday	MA	1	0.9984	0.0042	238.47
2	Workday	AR	1	0.2195	0.0413	5.32
3	Workday	AR	14	0.1483	0.0443	3.35
4	Workday	AR	18	0.1646	0.0487	3.38
5	Nolaw	UP	0	-17.11	13.0833	-1.31
6	Nolaw	SP	1	-0.9096	0.0989	-9.20

Subsequent runs testing for the other possible forms of intervention were rejected because in each case all of the parameter estimates were not significant (see Appendix D for the parameter estimates for each form of intervention). Therefore, the intervention analysis for duration, similar to frequency, was not significantly affected by the introduction of legislation prohibiting replacement workers during strikes.

CHAPTER VI

DISCUSSION AND CONCLUSION

The results of his study indicate that Quebec's enactment of legislation prohibiting replacement workers during labour disputes had no significant impact on the number or length of strikes. The plot of FREQUENCY (contained in Figure 1) indicates a number of large spikes prior to the actual introduction of the legislation. With this in mind, a qualitative search was made in order to determine if anything significant occurred during these time periods which might have resulted in a significant increase in the number of strikes.

The qualitative analysis focused on three different sources: the first is an annual publication distributed by the federal government regarding work stoppages in Canada; the second is another annual publication distributed by the ministry of industry and commerce within Quebec's provincial government with a focus on Quebec's economic situation; and finally, a search through print media. An examination of the raw data indicates a significant escalation in the number of strikes in May 1973. The year 1973 was one of rapid expansion for both the Canadian and Quebec economy. Quebec's economic situation was one of the best ever experienced up to this point in time in terms of production, revenue and employment. This expansion led to an unprecedented growth in employment. The manufacturing sector in Quebec benefitted strongly from the economic situation where capital expenditures; orders, shipments and inventories; and employment, wages and salaries all increased over the previous years ("The

Economic Situation in Quebec," 1973). This amelioration in the economy provided the perfect opportunity for workers to improve their standard of living and working conditions through work stoppages, which they may also have been forced to do considering a severe consequence of this expansionary period was a substantial increase in inflation and therefore prices. An examination of the major issues behind work stoppages during this time period reveals that workers went out on strike over wage-related issues ("Strikes and Lockouts in Canada," 1973).

The following year, 1974, Quebec's manufacturing sector registered an even higher escalation in the number of strikes. This pattern of strike frequency was similar to the rest of Canada. Canada, like most industrialized nations experienced heavy inflation in 1974, and this was Quebec's predominant problem as well. The manufacturing sector in Quebec was prosperous in 1974, demonstrated by an increase in the value of capital expenditures, the value of manufacturers' shipments, and employment. Unemployment in the province decreased for the second consecutive year ("The Economic Situation in Quebec," 1974). The combination of high inflation and a profitable industry provides a plausible explanation for the jump in the number of strikes. According to Kaufman's (1981) analysis of strikes in the American manufacturing sector during the same time period, "...the most important cause for the recent increase in strikes has been the disrupting influence of inflation on collective bargaining" (pp. 345). An examination of work stoppages in the manufacturing sector in Quebec revealed that the majority of stoppages centred around wages and the Cost of Living Allowance (COLA) ("Strikes and Lockouts in Canada," 1974). For example, on May Day in 1974, thirty thousand workers went on strike at factories, schools and hospitals across Quebec to protest inflation and to demand the reopening

of contracts in order to achieve cost of living bonuses and the indexing of all settlements to the cost of living (Block, 1974).

The end result remains that the apriori assumptions regarding the effect of Quebec's legislation did not hold as expected. The first aspect examined in order to explain why strike frequency did not react as expected was to review the premises behind the hypotheses. In terms of the joint cost perspective, while the cost of the strike decreased for labour, it increased for management and thus the overall effect was no significant effect. With all of the changes occurring in the business environment over the last decade and a half, for example increased global competition, companies may not be able to afford to lose an edge over the competition by enduring a strike. Therefore, management may be more willing to give in to labour's demands in order to avoid a strike that might result in irreparable damage to the company.

Another variable which is missing in the development of the hypotheses concerns the importance of the replacement worker strategy to companies in Quebec prior to the enactment of legislation. If companies did not rely heavily on replacing striking workers in order to maintain operations during strikes, legislation banning these replacements would not necessarily affect strike activity. Some companies may not have actually used replacement workers, but were able to use the threat of replacement workers in order to achieve a similar affect. This relates to the previous arguments regarding the increased uncertainty involved in negotiations as a result of the legislation. If replacements workers did not factor significantly into negotiations prior to the enactment of the legislation, the uncertainty involved in negotiations would not necessarily increase and may in fact have decreased following the legislation.

Finally, strikes are not pleasant for workers from a number of different perspectives (e.g., financial, emotional). Although, the legislation may have had the effect of distributing a greater amount of power towards labour, workers may not be willing to endure the negative aspects associated with striking. The economy has not been extraordinarily wonderful since the late 1970s and strikers may not be able to financially endure a strike.

Previous studies have indicated that strike incidence significantly increased following the institution of the legislation prohibiting replacement workers during labour disputes (e.g., Lacroix and Lesperance, 1988; Gunderson et al., 1989), yet this study concludes that the legislation had no significant impact. Also, the results of the present study were not consistent with the apriori assumptions surrounding the impact of the legislation. In effect, these two points are inter-related since the results of previous studies were given consideration in formulating H1. There are a number of explanations as to why the present study did not reach the same results as previous studies. One of these concerns the samples used in each of the studies. The present analysis focused on strikes in the manufacturing sector in Quebec. The sample used by Gunderson et al. (1989) involved 3,347 private sector contracts (not strikes) from all industries with the exception of the construction industry. Lacroix and Lesperance (1988) focused on 1,272 collective agreements in the manufacturing sector in Quebec, Ontario and British Columbia. The samples in each of these studies are therefore dissimilar. The present study is a macro-level study whereas both other studies are micro-level. This is a very important difference between the studies. Anderson and Gunderson (1989) note that the number of strikes was extremely high in the early 1970s due to inflation and that the number drastically decreased in 1977 and 1978 (the

precise time of the intervention) due to wage-control programs. Also, replacement worker legislation in both Lacroix and Lesperance (1988) and Gunderson et al. (1989) is merely one policy variable of many being examined.

The effect of the legislation on strike duration is subject to some of the same problems addressed in the preceding discussion on strike incidence since similar logic was used in developing Hypotheses 1 and 2. Similar to strike frequency, strike duration would not be affected to a significant degree if companies did not rely on the replacement strategy prior to the passing of Bill 45.

Also, in Quebec's situation, the legislation might have had the effect of decreasing the duration of strikes since management, having lost a method of fighting longer-term strikes would be more apt to accept labour's demands being that they would not have the resources or abilities to maintain plant operations for any extended period of time. Therefore, both this situation and that of increased uncertainty may have neutralized the effect of the intervention on strike duration.

Conclusion

Replacement workers bring about a myriad of complexities involving the collective right of workers to strike, the individual rights of employees who do not support the union or the strike, and the right of employers to maintain operations during a strike. The nature of economic

conditions has put companies in a vicarious position with rising inflation rates, increasing unemployment, dramatic increases in foreign competition and increasing government debt. These factors have played a decisive role in the increased use of replacement workers over the past decade (Roukis & Farid, 1993).

It is evident from the previous discussion and analysis that there are strong and valid arguments on both sides of this issue, the most seriously debated of which centres around the redistribution of power. The question is whether in the absence of such legislation, does management have any incentive to bargain in good faith. In a situation where management is legally permitted to replace striking workers, the strike still holds weight in terms of bringing management to accept labour's demands. The reason this is so is because replacing workers is not a timely or cost-effective approach. It requires a great deal of time and capital to recruit and train new workers. With these new workers, management loses production efficiency (i.e., through the learning curve). Also, the company may face substantial amount of negative publicity which could damage it financially and competitively. To the other extreme, the strike is too powerful or too potentially destructive if management is not given the opportunity to attempt to maintain production. Are workers banned from seeking employment elsewhere during a strike or lockout? A situation where management is legally banned from hiring replacements ignores management's right of property and right to operate its business.

It is important to understand that free collective bargaining necessitates the right of management to maintain production during a strike. However, neither side of this argument justifies the free collective bargaining position as a means for accepting or rejecting the

legislation since neither the Canadian nor the American industrial relations system is free from government intervention. In other words, neither country maintains a free collective bargaining system (or anywhere near a free market system for that matter). The fact that employees are not legally permitted to withdraw their services during the life of a collective agreement is likewise evidence that absolute free collective bargaining does not exist. Therefore, neither opponents nor proponents can use 'free' collective bargaining as a means of defending their respective positions.

The question then becomes: how much freedom should the institution of collective bargaining have? It is not a difficult position to accept that collective bargaining should not be left solely in the hands of labour and management. It is simply too important and affects too many individuals. The rights of management, labour and the public all must be considered.

Another key argument in this discussion concerns employee rights. If employees exercise their legal and moral right to strike, there is absolutely no justification for the loss of their jobs to permanent replacements. Being permanently replaced is a direct infringement of workers' rights whether the strike is economic in nature or over an unfair labour practice. This statement is not meant to imply that the rights of replacement workers are less significant than those of striking workers, rather, the impetus should be on management to make it absolutely clear to replacement workers that they will likely be replaced at the conclusion of the dispute in favour of strikers. Within these circumstances, both the rights of strikers and replacements are protected. Of course, this also makes the task of maintaining operations more difficult for the company which is justified since the essence of a strike is to 'persuade' management to accept the union's demands. In other words, the legitimacy of the strike as a weapon remains intact.

Labour's 'right to strike' is constrained by permanent replacements because the employees face the risk of not being able to return to their jobs. In this situation, with permanent replacements, an employee's freedom to strike compromises their right to employment. If an employee is permanently replaced for exercising a statutory freedom, obviously the right does not really exist.

Temporary replacements would be the most reasonable compromise to both labour and management. The workers would be guaranteed their jobs at the conclusion of the strike, and the union would not face the risk of being decertified. This would also conserve the resources of all parties involved since management and labour would not need to spend time bargaining for the reinstatement of strikers. The benefit to the company would be that it would be able to maintain some level of operation and thus protect the business and the relationship between management and labour would not be destroyed.

Temporary replacements do place a justified burden on employers. The burden is that management must weigh the costs of recruiting and training these workers knowing that they will be displaced by strikers at the conclusion of the strike. Employers may also have a more difficult task of finding individuals who would be willing to work on a temporary basis. The justification for this burden can be found in the theory of collective bargaining. Accepting the assumption that meaningful collective bargaining cannot achieve a fair negotiation of wages unless both parties have some degree of leverage over each other, it is justified that labour's weapon would remain the threat of a strike and management's the right to maintain operations throughout a strike using temporary replacements only.

The last factor which is important to consider in the issue of strike violence. Let us assume that evidence exists indicating replacement workers are in fact a key determinant in the occurrence of strike violence. Should this factor be sufficient to prohibit striking workers? In this situation, striking workers are virtually coercing law makers into prohibiting companies from maintaining operations in order to avoid or lessen strike violence. The legal right to picket does not include the right to assault, vandalize, intimidate or murder. The wrong should not always be associated with companies maintaining operations. The legal obligation of striking workers to abide by the law must be enforced as well.

The results of this study indicate that passing legislation which prohibits companies from using replacements during strikes does not significantly affect strike duration or strike frequency. The meaning of these results is quite clear. Governments cannot rely on passing the legislation in order to exert some degree of control over the number and length of strikes. Whether governments should maintain or institute replacement worker legislation ultimately depends on the goals of those formulating the laws governing industrial relations. If the overriding interest of the government is the safety and security of the workers, and the juxtaposition of replacement workers and strikers increases strike violence, then this research encourages the existence of such legislation.

CHAPTER VII

Limitations and Suggestions for Further Research

Strikes are extremely complex and there are, in any given situation, numerous factors, such as the prevailing economic conditions, the time of the year, community characteristics, internal dynamics of the union and the organization, the nature of the relationship between union and management, the estimated cost of the strike, which may contribute to the likelihood of a strike. While the ARIMA procedure controls for most of these variables, there may be some not controlled for and these may confound the analysis.

One of the foremost limitations of this study is the generalizability of the interpretation. Quebec was chosen as the focus of the analysis for the reasons previously mentioned. However, there may be a problem in that Quebec is a "distinct society". In order to determine exactly how distinct Quebec is, it would be necessary to wait and measure the effect in Ontario and British Columbia.

There is an on-going debate regarding the benefits or problems associated with micro and macro level analyses. This study falls into the macro-level category and is thus subject to the methodological problems associated with such studies. The macro-level measures employed in this study may not accurately represent the micro level constructs they are supposed to proxy (Wheeler, 1984). The magnitude of the strike incidence, for example, depends on the number of strike opportunities and data on this characteristic may not be readily available at this level. For example, the exorbitant inflation in the 1970s lead to a significant decrease in the length of

contracts and therefore there was a greater opportunity for strikes. The present analysis does not control for this. Also the number of strikes may include both legal and illegal strikes and strikes which occur during a union's first contract negotiations. The basis behind the occurrence of these different strikes makes a difference in how they should be analyzed.

The fact that this study fails to contain an empirical analysis of the effect of replacement worker legislation on the amount of strike violence occurring during a strike is one limitation. The original content of this thesis included an empirical examination of the effect of replacement workers on strike violence. Unfortunately, I ran into some difficulty in obtaining an appropriate database. I had intended to create a database using the principal English and Francophone newspapers in Montreal and the Canadian Newspaper Index, however this index only started publication in 1977, therefore eliminating any chance of obtaining any pre-intervention data points. The existence of strike violence is the most valid argument put forth on this issue. While it appears logical that the number of violent incidents would decrease without the presence of replacement workers, it is important to examine how significant this decrease would be, whether a reasonable amount of violence continues to exist, and how legislators should approach such a situation.

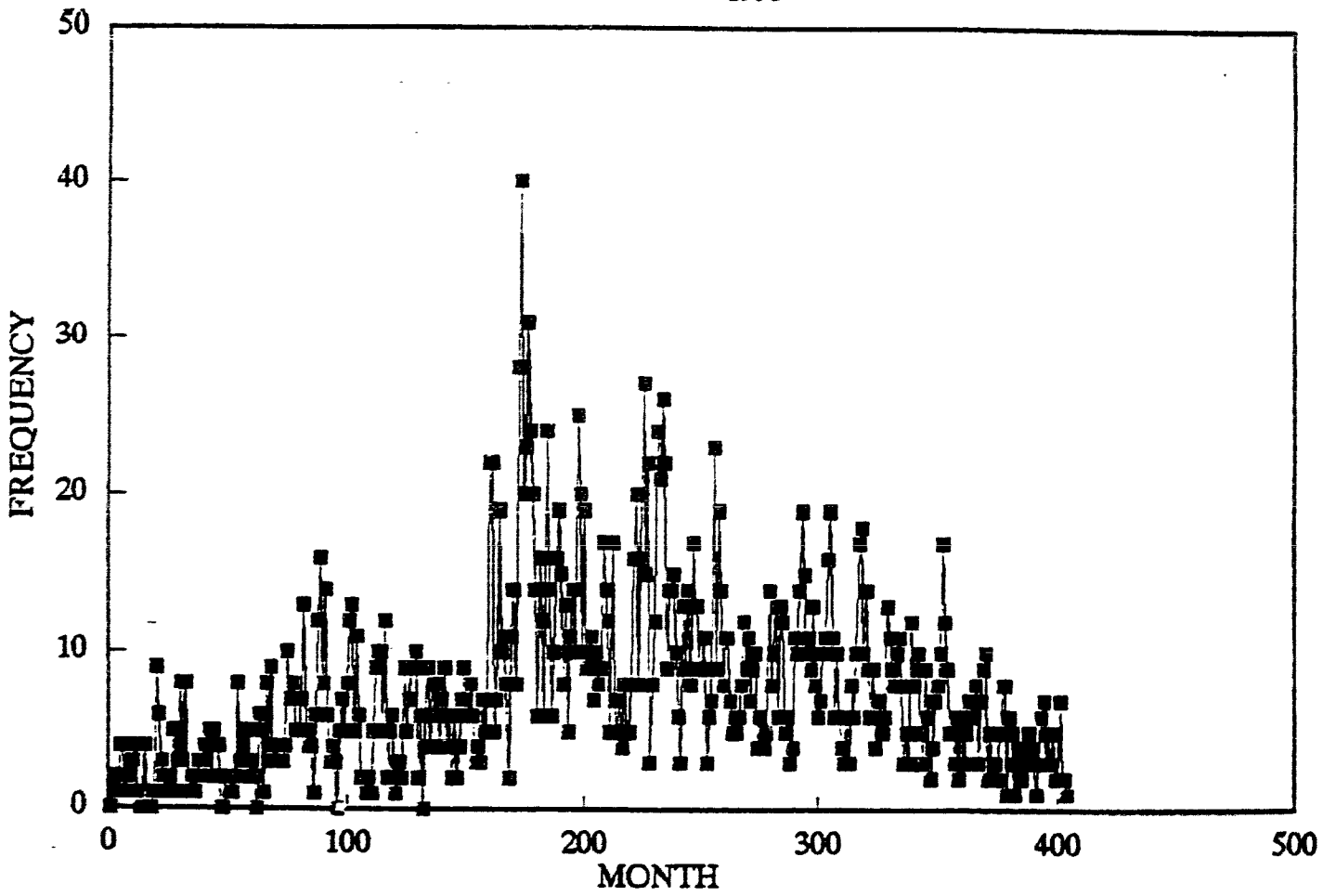
A topic deserving of further attention emerges from arguments proposed by those against legislation prohibiting replacement workers. In each of the three Canadian provinces which enacted anti-replacement legislation, business groups consistently mentioned that investment in the province would suffer as a result of the legislation. It would be interesting to conduct a study which examines if in fact investment in the province did decrease following the institution of the

legislation, and if so, how significantly. It would also be interesting to interview the same groups who made these claims to see how they perceive the outcome of the legislation. This would be virtually impossible to measure in Quebec because of the on-going separatist crisis and language problems. These two factors alone led to a considerable outflows of business in the 1970s.

Appendix A

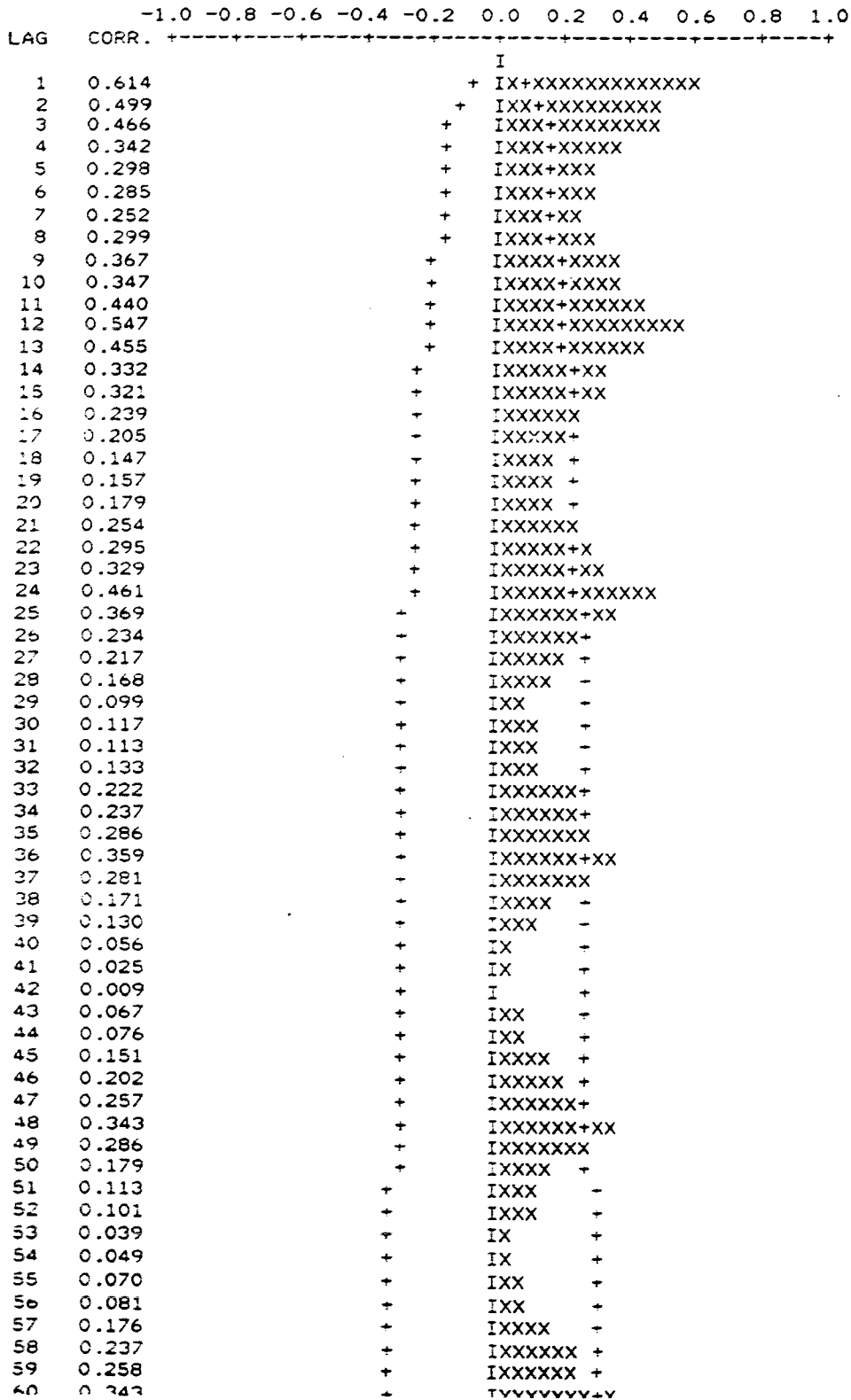
FREQUENCY

1960 - 1993



ACF - Raw Data - Strike Frequency

PLOT OF AUTOCORRELATIONS



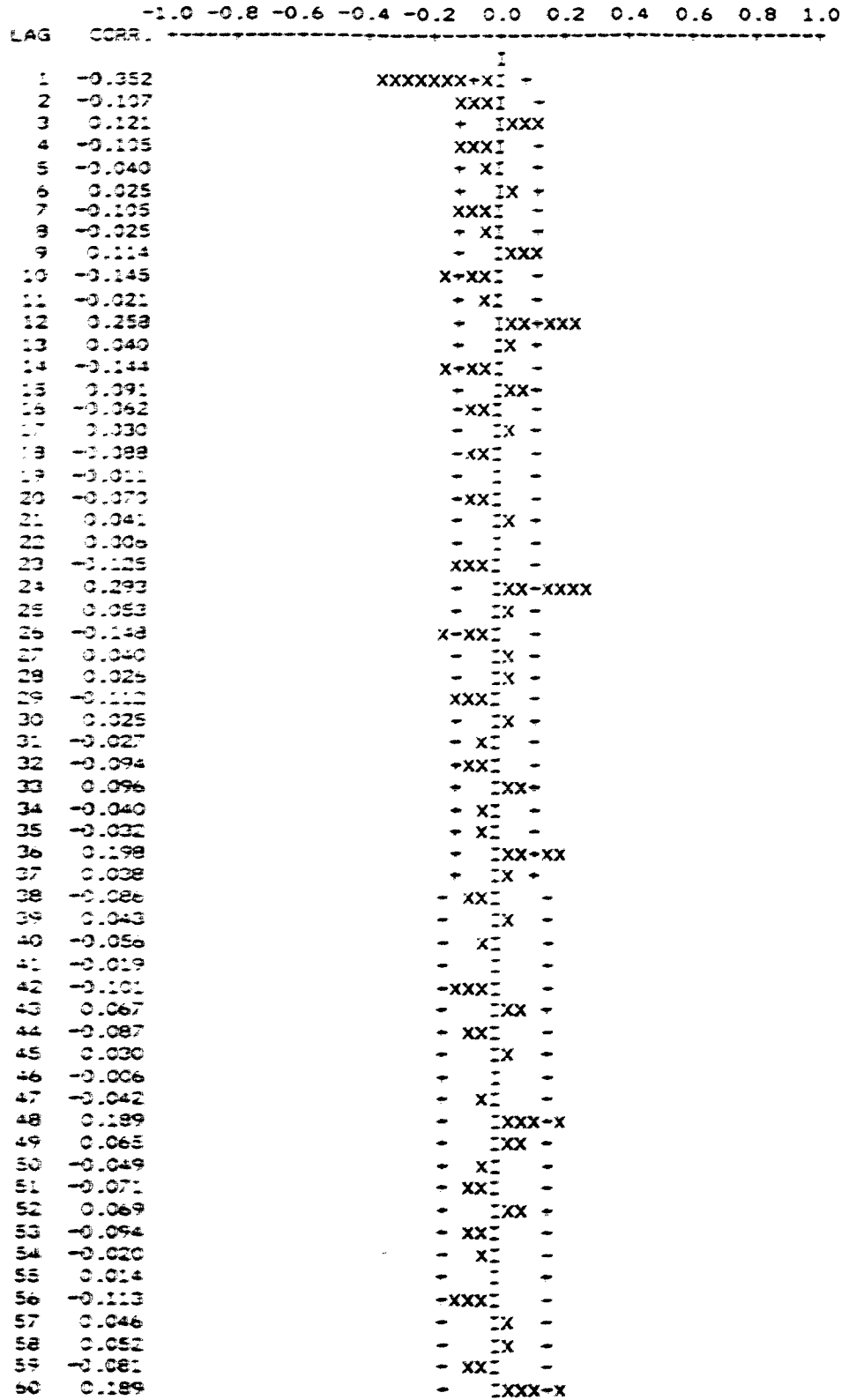
PACF - Raw Data - Strike Frequency

PLOT OF PARTIAL AUTOCORRELATIONS

LAG	CORR.	
		-1.0 -0.9 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
		----->
1	0.614	I
2	0.196	+ IX+XXXXXXXXXXXXXXX
3	0.166	+ IX+XXX
4	-0.054	+ IX+XX
5	0.033	+XI +
6	0.056	+ IX+
7	0.035	+ IX+
8	0.138	+ IX+X
9	0.171	+ IX+XX
10	0.035	+ IX+
11	0.200	+ IX+XXX
12	0.259	+ IX+XXXX
13	-0.030	+XI +
14	-0.194	XXX+XI +
15	-0.007	+ I +
16	-0.040	-XI -
17	-0.002	+ I -
18	-0.110	X+XI +
19	0.050	+ IX-
20	-0.016	+ I +
21	0.089	+ IXX
22	0.088	+ IXX
23	0.032	+ IX+
24	0.169	+ IX+XX
25	-0.079	XXI +
26	-0.156	XX+XI +
27	-0.029	-XI +
28	-0.004	+ I +
29	-0.036	-XI +
30	0.054	+ IX+
31	0.057	+ IX+
32	-0.001	+ I +
33	0.054	+ IX+
34	0.004	+ I +
35	0.054	+ IX+
36	-0.015	+ I -
37	-0.081	XXI -
38	-0.062	XXI -
39	-0.066	XXI -
40	-0.064	XXI -
41	0.002	+ I +
42	0.008	+ I +
43	0.144	+ IX+XX
44	-0.021	+XI +
45	0.037	+ IX+
46	0.020	+ IX+
47	0.071	+ IXX
48	0.083	+ IXX
49	-0.006	+ I -
50	-0.035	+XI +
51	-0.061	XXI -
52	0.048	+ IX-
53	0.023	+ IX+
54	0.039	+ IX+
55	-0.017	+ I +
56	-0.028	+XI +
57	0.082	+ IXX
58	0.033	+ IX+
59	-0.002	+ I +
60	0.018	+ I +

ACF - Strike Incidence - DF=1

PLOT OF AUTOCORRELATIONS



PACF - Strike Frequency - DF=1

PLOT OF PARTIAL AUTOCORRELATIONS

LAG	CORR.	
		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
		+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1	-0.352	I
2	-0.264	XXXXXXXX+XI +
3	-0.025	XXXXXX+XI +
4	-0.109	+XI +
5	-0.121	X+XI +
6	-0.093	X+XI +
7	-0.186	XXI +
8	-0.204	XXX+XI +
9	-0.062	XXX+XI +
10	-0.218	XXI +
11	-0.276	XXX+XI +
12	0.012	XXXXXX+XI +
13	0.175	+ I +
14	-0.008	+ IX+XX
15	0.021	+ I +
16	-0.017	+ IX+
17	0.090	- I +
18	-0.070	- IXX
19	0.005	XXI +
20	-0.100	+ I +
21	-0.102	XXI +
22	-0.053	X+XI +
23	-0.187	+XI +
24	0.073	XXX+XI +
25	0.145	+ IXX
26	0.026	+ IX+XX
27	-0.005	+ IX+
28	0.030	+ I +
29	-0.059	+ IX+
30	-0.064	+XI +
31	-0.006	XXI +
32	-0.069	+ I +
33	-0.019	XXI +
34	-0.059	+ I +
35	0.012	+XI +
36	0.078	+ I +
37	0.057	+ IXX
38	0.062	+ IX+
39	0.058	+ IXX
40	-0.008	+ IX+
41	-0.015	+ I +
42	-0.154	+ I +
43	0.005	XX+XI +
44	-0.048	+ I +
45	-0.026	+XI +
46	-0.079	+XI +
47	-0.097	XXI +
48	-0.004	XXI +
49	0.030	+ I +
50	0.059	+ IX+
51	-0.055	+ IX+
52	-0.019	+XI +
53	-0.039	+ I +
54	0.016	+XI +
55	0.026	+ I +
56	-0.089	+ IX+
57	-0.040	XXI +
58	-0.005	+XI +
59	-0.014	+ I +
60	0.000	+ I +

ACF - Strike Frequency - DF=1, MA=1, AR=12

PLOT OF AUTOCORRELATIONS

LAG	CORR.	
1	0.067	I
2	0.023	+ IXX
3	0.009	+ IX+
4	-0.131	+ I +
5	-0.108	X+XI +
6	-0.062	XXXI +
7	-0.133	+XXI +
8	-0.015	XXXI +
9	0.016	+ I +
10	-0.096	+ I +
11	0.059	+XXI +
12	-0.109	+ IX +
13	0.102	XXXI +
14	-0.008	+ IXXX
15	0.028	+ I +
16	-0.021	+ IX +
17	0.017	+ XI -
18	-0.145	+ I +
19	-0.071	X+XXI -
20	-0.088	+XXI -
21	-0.047	+XXI -
22	0.059	+ XI +
23	0.007	+ IX +
24	0.214	+ I +
25	0.115	+ IXX+XX
26	-0.039	+ IXXX
27	-0.020	+ XI +
28	0.011	+ I +
29	-0.121	+ I -
30	0.011	XXXI -
31	-0.069	+ I +
32	-0.045	+XXI +
33	0.076	+ XI +
34	0.026	+ IXX+
35	0.086	+ IX +
36	0.111	+ IXX+
37	0.049	+ IXXX
38	-0.008	+ IX +
39	-0.011	+ I +
40	-0.145	+ I +
41	-0.087	X+XXI +
42	-0.163	+XXI +
43	-0.020	X+XXI +
44	-0.050	+ XI +
45	-0.040	+ XI +
46	0.000	+ XI +
47	0.066	+ I +
48	0.147	+ IXX+
49	0.104	+ IXX+x
50	0.026	+ IXXX
51	-0.066	+ IX +
52	0.059	+XXI +
53	-0.089	+ IX +
54	-0.056	+XXI +
55	-0.066	+ XI +
56	-0.078	+XXI +
57	0.058	+XXI +
58	0.095	+ IX +
59	0.055	+ IXX+
60	0.100	+ IX +

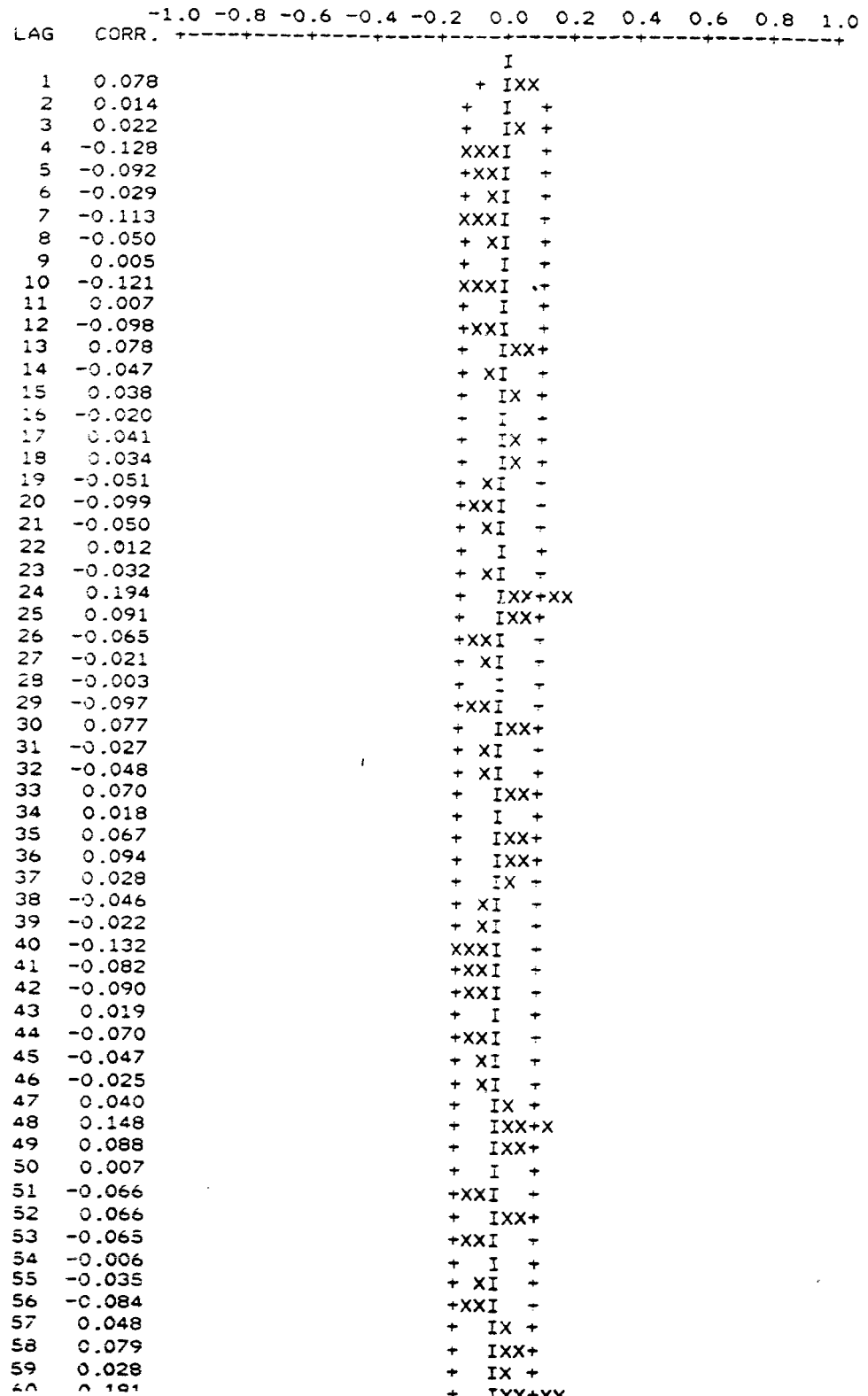
PACF - Strike Frequency - DF=1, MA=1, AR=12

PLOT OF PARTIAL AUTOCORRELATIONS

LAG	CORR.	
1	0.067	I
2	0.019	+ IXX
3	0.007	+ I +
4	-0.134	+ I +
5	-0.092	X+XI +
6	-0.045	XXI +
7	-0.123	+XI +
8	-0.016	X+XI +
9	-0.004	+ I +
10	-0.123	+ I +
11	0.028	X+XI +
12	-0.153	+ IX+
13	0.107	XX+XI +
14	-0.072	+ IX+X
15	0.022	XXI +
16	-0.067	+ IX+
17	0.000	XXI +
18	-0.159	+ I +
19	-0.079	XX+XI +
20	-0.104	XXI +
21	-0.043	X+XI +
22	-0.023	+XI +
23	-0.029	+XI +
24	0.136	+ IX+X
25	0.062	+ IXX
26	-0.127	X+XI +
27	-0.017	+ I +
28	-0.017	+ I +
29	-0.062	XXI +
30	-0.035	+XI +
31	-0.041	+XI +
32	-0.046	+XI +
33	0.041	+ IX+
34	0.029	+ IX+
35	0.080	+ IXX
36	0.090	+ IXX
37	0.018	+ I +
38	-0.048	+XI +
39	-0.024	+XI +
40	-0.108	X+XI +
41	-0.094	XXI +
42	-0.121	X+XI +
43	0.056	+ IX+
44	-0.070	XXI +
45	-0.043	+XI +
46	-0.071	XXI +
47	0.018	+ I +
48	0.073	+ IXX
49	-0.007	+ I +
50	-0.051	+XI +
51	-0.094	XXI +
52	0.002	+ I +
53	-0.053	+XI +
54	-0.046	+XI +
55	-0.017	+ I +
56	-0.099	XXI +
57	0.061	+ IXX
58	0.002	+ I +
59	0.029	+ IX+
60	0.102	+ IX+X

ACF - Strike Frequency - DF=1, MA=1, AR=12,18

PLOT OF AUTOCORRELATIONS



PACF - Strike Frequency - DF=1, MA=1, AR=12,18

PLOT OF PARTIAL AUTOCORRELATIONS

LAG	CORR.	
		I
1	0.078	+ IXX
2	0.008	+ I +
3	0.021	+ IX+
4	-0.132	X+XI +
5	-0.074	XXI +
6	-0.015	+ I +
7	-0.104	X+XI +
8	-0.048	+XI +
9	-0.007	+ I +
10	-0.133	X+XI +
11	-0.007	+ I +
12	-0.137	X+XI +
13	0.089	+ IXX
14	-0.117	X+XI +
15	0.025	+ IX+
16	-0.078	XXI +
17	0.030	+ IX+
18	-0.003	+ I +
19	-0.085	XXI +
20	-0.125	X+XI +
21	-0.049	+XI +
22	-0.016	+ I +
23	-0.035	+XI +
24	0.136	+ IX+x
25	0.072	+ IXX
26	-0.152	XX+XI +
27	-0.025	+XI +
28	-0.011	+ I +
29	-0.052	+XI +
30	0.047	+ IX+
31	-0.055	+XI +
32	-0.031	+XI +
33	0.026	+ IX+
34	0.047	+ IX+
35	0.072	+ IXX
36	0.088	+ IXX
37	0.019	+ I +
38	-0.053	+XI +
39	-0.021	+XI +
40	-0.094	XXI +
41	-0.078	XXI +
42	-0.093	XXI +
43	0.051	+ IX+
44	-0.040	+XI +
45	-0.048	+XI +
46	-0.072	XXI +
47	0.032	+ IX+
48	0.075	+ IXX
49	-0.001	+ I +
50	-0.042	+XI +
51	-0.106	X+XI +
52	0.014	+ I +
53	-0.048	+XI +
54	-0.035	+XI +
55	-0.020	+XI +
56	-0.077	XXI +
57	0.071	+ IXX
58	0.038	+ IX+
59	0.045	+ IX+
60	0.123	+ IX+x

ACF - Strike Frequency - Final Model - DF=1, MA=1, AR=12,18,24

PLOT OF AUTOCORRELATIONS

LAG	CORR.	
		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
		+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1	0.057	I
2	0.009	+ IX +
3	0.046	+ I +
4	-0.107	+ IX +
5	-0.059	XXXI +
6	-0.040	+ XI +
7	-0.133	+ XI +
8	-0.038	XXXI +
9	-0.023	+ XI +
10	-0.132	+ XI +
11	-0.036	XXXI +
12	-0.033	+ XI +
13	0.089	+ XI +
14	-0.012	+ IXX+
15	0.055	+ I +
16	0.026	+ IX +
17	0.096	+ IX +
18	0.044	- IXX+
19	-0.049	+ IX +
20	-0.058	+ XI +
21	-0.049	+ XI +
22	0.007	+ XI +
23	-0.069	+ I +
24	-0.096	+XXI +
25	0.057	+XXI +
26	-0.076	+ IX +
27	-0.005	+XXI +
28	0.023	+ I +
29	-0.056	+ IX +
30	0.071	+ XI +
31	0.016	+ IXX+
32	-0.017	+ I +
33	0.059	+ IX +
34	0.024	+ IX +
35	0.045	+ IX +
36	0.024	+ IX +
37	-0.021	+ IX +
38	-0.044	+ XI +
39	-0.035	+ XI +
40	-0.085	+ XI +
41	-0.082	+XXI +
42	-0.076	+XXI +
43	0.042	+XXI +
44	-0.036	+ IX +
45	-0.006	+ XI +
46	-0.029	+ I +
47	0.027	+ XI +
48	0.091	+ IX +
49	0.061	+ IXX+
50	0.025	+ IXX+
51	-0.055	+ IX +
52	0.053	+ XI +
53	-0.027	+ IX +
54	-0.032	+ XI +
55	-0.037	+ XI +
56	-0.050	+ XI +
57	0.034	+ XI +
58	0.077	+ IX +
59	0.037	+ IXX+
60	0.133	+ IX +
		+ IXXX

PACF - STrike Frequency - Final Model - DF=1, MA=1, AR=12,18,24

PLOT OF PARTIAL AUTOCORRELATIONS

LAG	CORR.	
		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
		+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
		I
1	0.057	+ IX +
2	0.006	+ I +
3	0.045	+ IX +
4	-0.113	XXXI +
5	-0.048	+ XI +
6	-0.035	+ XI +
7	-0.120	XXXI +
8	-0.032	+ XI +
9	-0.028	+ XI +
10	-0.134	XXXI +
11	-0.055	+ XI +
12	-0.055	+ XI +
13	0.086	+ IXX+
14	-0.071	+XXI -
15	0.029	+ IX +
16	-0.018	+ I +
17	0.082	+ IXX+
18	0.011	+ I +
19	-0.061	+XXI -
20	-0.060	+XXI -
21	-0.044	+ XI +
22	0.029	+ IX +
23	-0.054	+ XI +
24	-0.098	+XXI +
25	0.074	+ IXX+
26	-0.113	XXXI +
27	0.018	+ I +
28	-0.029	+ XI -
29	-0.057	+ XI +
30	0.010	+ I +
31	-0.047	+ XI +
32	-0.006	+ I +
33	0.006	+ I +
34	-0.009	+ I +
35	0.045	+ IX +
36	-0.008	+ I +
37	0.020	+ I +
38	-0.073	+XXI -
39	-0.013	+ I +
40	-0.090	+XXI -
41	-0.059	+ XI +
42	-0.087	+XXI +
43	0.028	+ IX +
44	-0.063	+XXI +
45	-0.041	+ XI +
46	-0.085	+XXI +
47	-0.011	+ I +
48	0.023	+ IX +
49	0.026	+ IX +
50	-0.067	+XXI +
51	-0.093	+XXI +
52	-0.002	+ I +
53	-0.032	+ XI +
54	-0.027	+ XI +
55	-0.058	+ XI +
56	-0.074	+XXI -
57	0.060	+ IX +
58	0.049	+ IX +
59	0.076	+ IXX+
60	0.082	+ IXX+

Appendix B

Gradual, Permanent Effect: FREQUENCY

Parameter	Variable	Type	Order	Estimate	St.Err.	T-Ratio
1	Freq	MA	1	0.7220	0.0359	20.13
2	Freq	AR	12	0.2534	0.0495	5.12
3	Freq	AR	18	-0.1124	0.0464	-2.42
4	Freq	AR	24	0.2803	0.0494	5.67
5	Nolaw	UP	0	1.3980	0.9889	1.41
6	Nolaw	SP	1	0.8682	0.1232	7.05

Gradual, Temporary Effect: FREQUENCY

Parameter	Variable	Type	Order	Estimate	St.Err.	T-Ratio
1	Freq	MA	1	0.6900	0.0374	18.46
2	Freq	AR	12	0.2482	0.0493	5.04
3	Freq	AR	18	-0.1220	0.0463	-2.64
4	Freq	AR	24	0.2804	0.0492	5.70
5	Nolaw	UP	0	-0.4056E	0.1475	-0.03

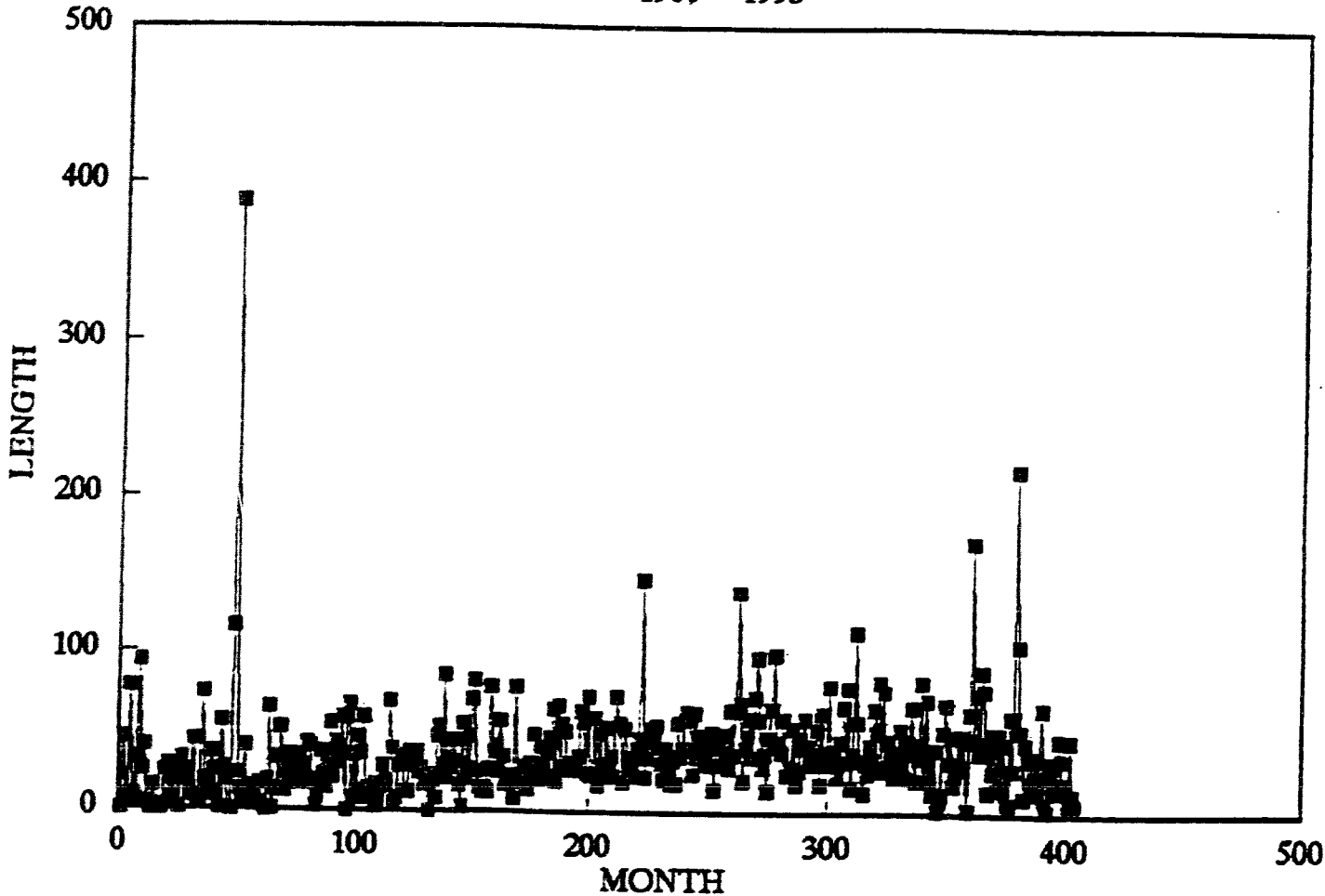
Sudden Permanent Impact: FREQUENCY

Parameter	Variable	Type	Order	Estimate	St.Err.	T-Ratio
1	Freq	MA	1	0.6793	0.0380	17.89
2	Freq	AR	12	0.2494	0.0492	5.06
3	Freq	AR	18	-0.1251	0.0462	-2.71
4	Freq	AR	24	0.2814	0.0491	5.73
5	Nolaw	UP	0	-2.015	2.8289	-0.71

Appendix C

DURATION

1960 - 1993

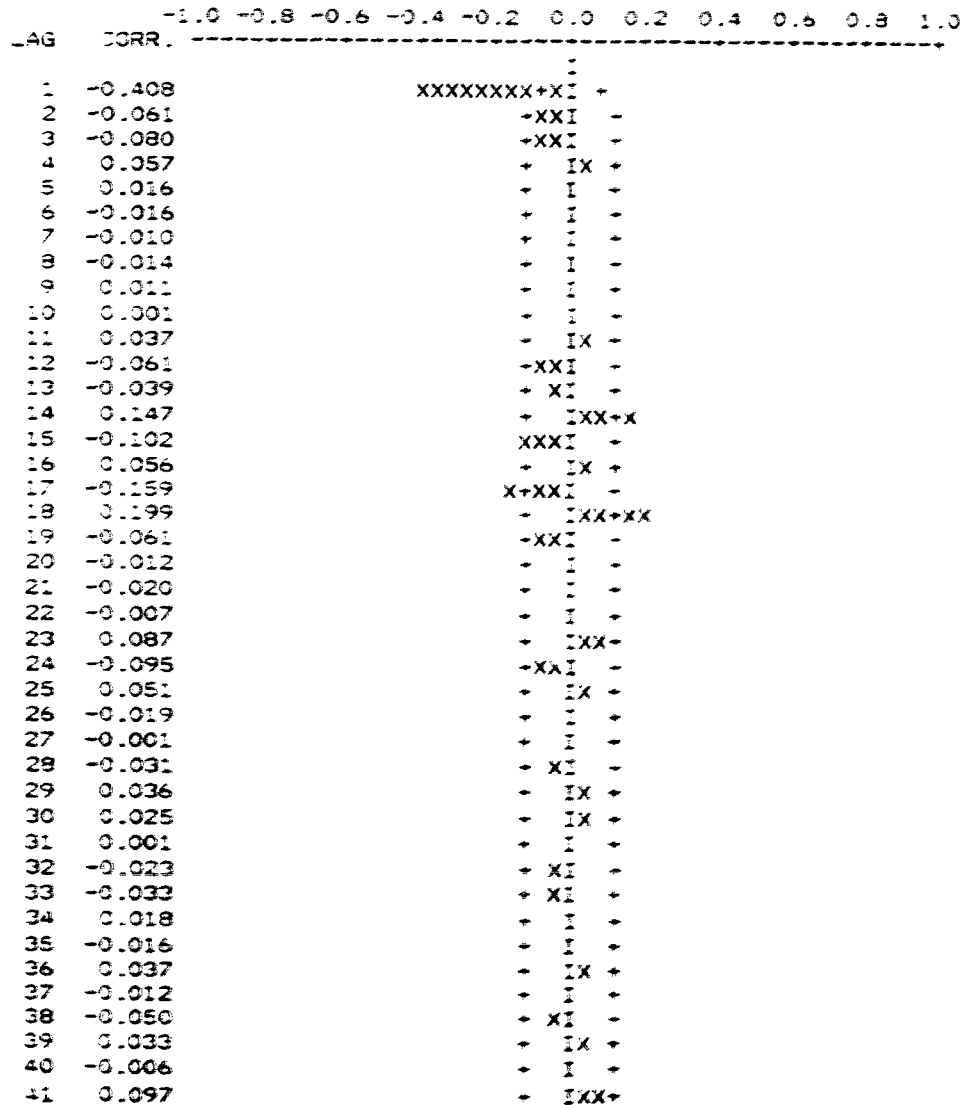


ACF - Strike Duration - DF=1

AUTOCORRELATIONS

1- 12	-.41	-.06	-.08	.06	.02	-.02	-.01	-.01	.01	0.0	.04	-.06
ST.E.	.05	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
13- 24	-.04	.15	-.10	.06	-.16	.20	-.05	-.01	-.02	-.01	.09	-.09
ST.E.	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
25- 36	.05	-.02	0.0	-.03	.04	.02	0.0	-.02	-.03	.02	-.02	.04
ST.E.	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
37- 48	-.01	-.05	.03	-.01	.10	-.08	-.03	.02	.08	-.09	-.06	.12
ST.E.	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.07	.07
49- 60	-.01	-.02	-.03	0.0	-.03	.09	-.03	-.05	.03	-.01	.01	.01
ST.E.	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07	.07

PLOT OF AUTOCORRELATIONS

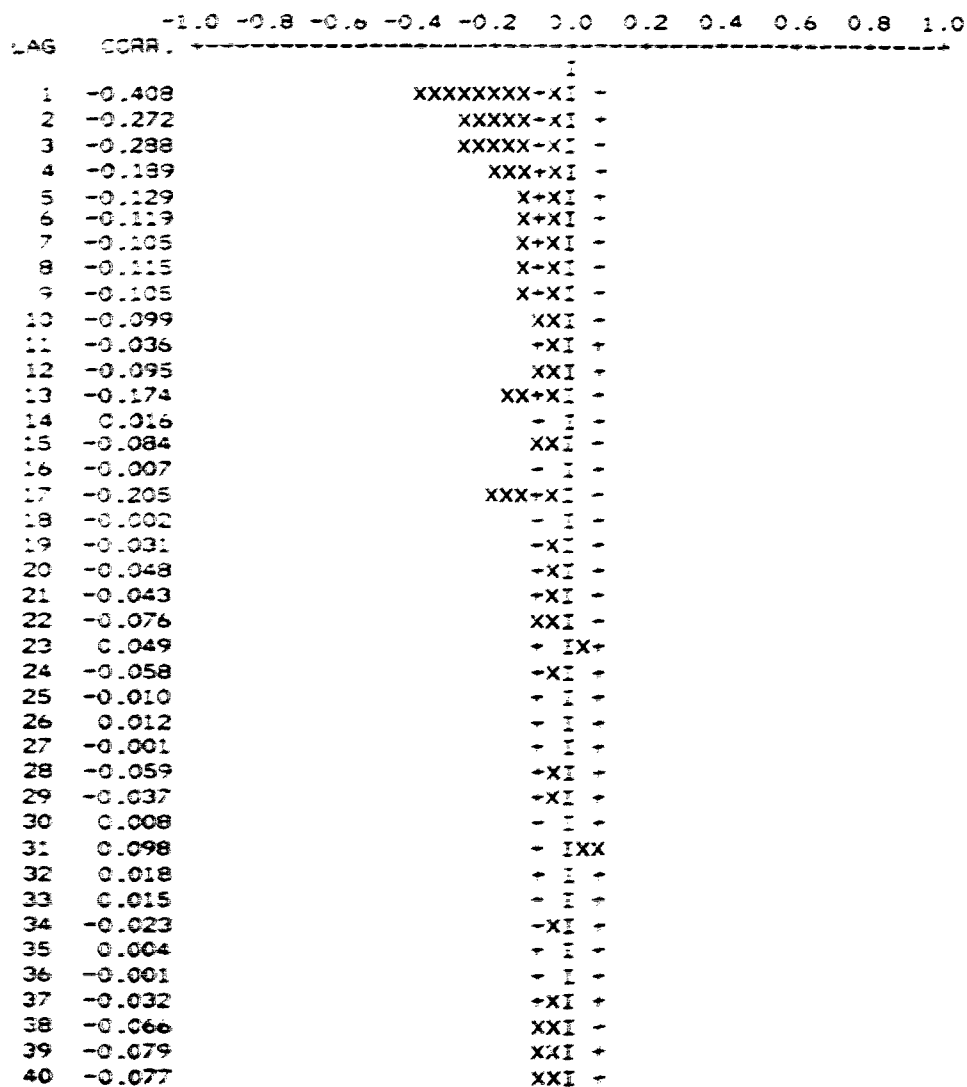


PACF - Strike Duration - DP=1

PARTIAL AUTOCORRELATIONS

1- 12	-.41	-.27	-.29	-.19	-.13	-.12	-.11	-.12	-.10	-.10	-.04	-.10
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
13- 24	-.17	.02	-.08	-.01	-.21	0.0	-.03	-.05	-.04	-.08	.05	-.06
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
25- 36	-.01	.01	0.0	-.06	-.04	.01	.10	.02	.02	-.02	0.0	0.0
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
37- 48	-.03	-.07	-.08	-.08	.01	.01	-.05	-.05	.06	-.01	-.12	.02
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
49- 60	.02	.03	.03	.01	-.04	.07	.03	-.01	.06	.05	-.05	.02
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05

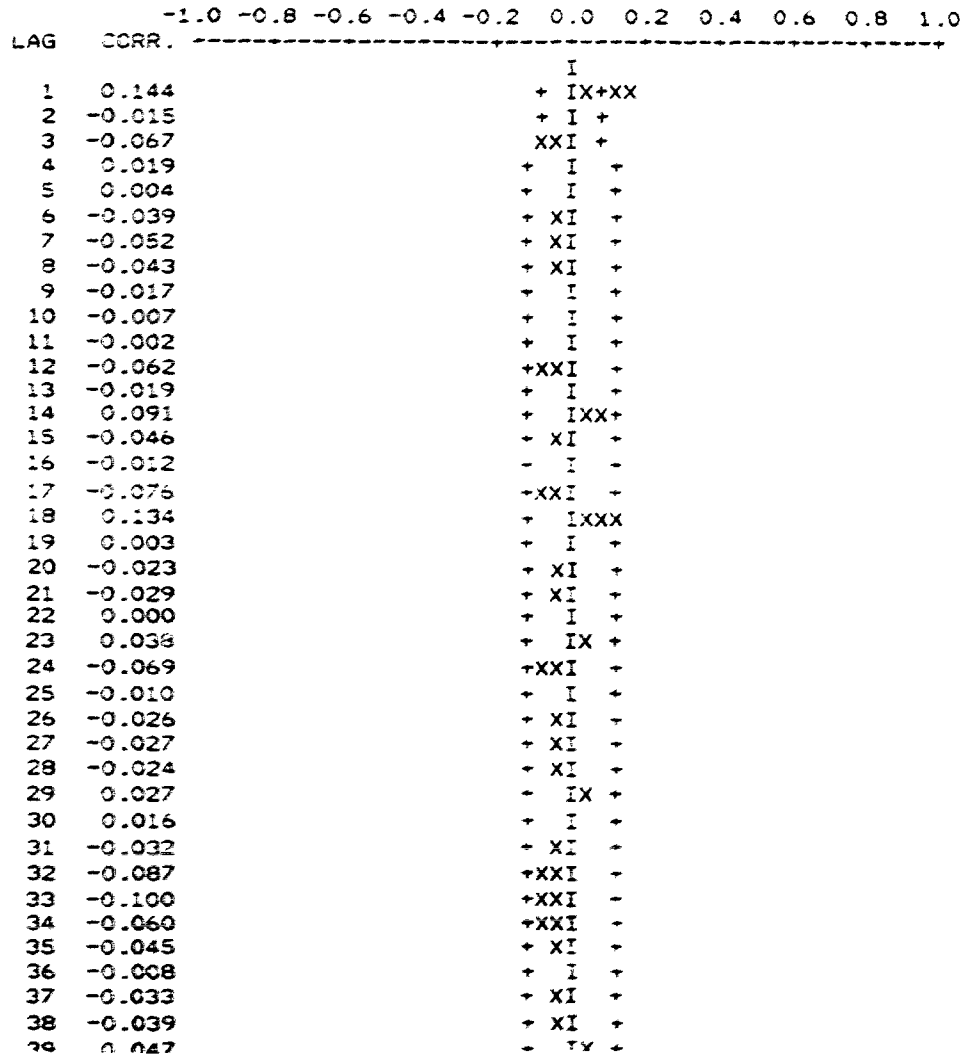
PLOT OF PARTIAL AUTOCORRELATIONS



ACF - Strike Duration - DF=1, MA=1

1- 12	.14	-.01	-.07	.02	0.0	-.04	-.05	-.04	-.02	-.01	0.0	-.06
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
L.-B. Q	8.4	8.5	10.	11.	11.	11.	12.	13.	13.	13.	13.	15.
13- 24	-.02	.09	-.05	-.01	-.08	.13	0.0	-.02	-.03	0.0	.04	-.07
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
L.-B. Q	15.	18.	19.	19.	22.	29.	29.	30.	30.	30.	31.	33.
25- 36	-.01	-.03	-.03	-.02	.03	.02	-.03	-.09	-.10	-.06	-.04	-.01
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
L.-B. Q	33.	33.	33.	34.	34.	34.	34.	38.	42.	44.	45.	45.
37- 48	-.03	-.04	.05	.08	.11	-.02	-.01	.06	.08	-.05	-.02	.12
ST.E.	.05	.05	.05	.06	.06	.06	.06	.06	.06	.06	.06	.06
L.-B. Q	45.	46.	47.	49.	55.	55.	55.	57.	59.	61.	61.	67.
49- 60	.08	.01	-.02	-.01	.01	.08	0.0	-.04	.01	.01	.02	.02
ST.E.	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
L.-B. Q	70.	70.	70.	70.	71.	74.	74.	74.	74.	74.	75.	75.

PLOT OF AUTOCORRELATIONS



PACF - Strike Duration - DF=1, MA=1

PARTIAL AUTOCORRELATIONS

1- 12	.14	-.04	-.06	.04	-.01	-.04	-.04	-.03	-.01	-.01	0.0	-.06
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
13- 24	-.01	.09	-.09	.01	-.07	.14	-.05	-.02	0.0	0.0	.03	-.09
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
25- 36	.02	-.01	-.04	-.02	.03	.01	-.03	-.13	-.06	-.06	-.02	-.05
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
37- 48	-.05	-.02	.03	.05	.06	-.02	-.02	.05	.05	-.06	.01	.14
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
49- 60	.03	.02	.01	.01	.02	.08	-.03	0.0	.04	-.03	-.03	.07
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05

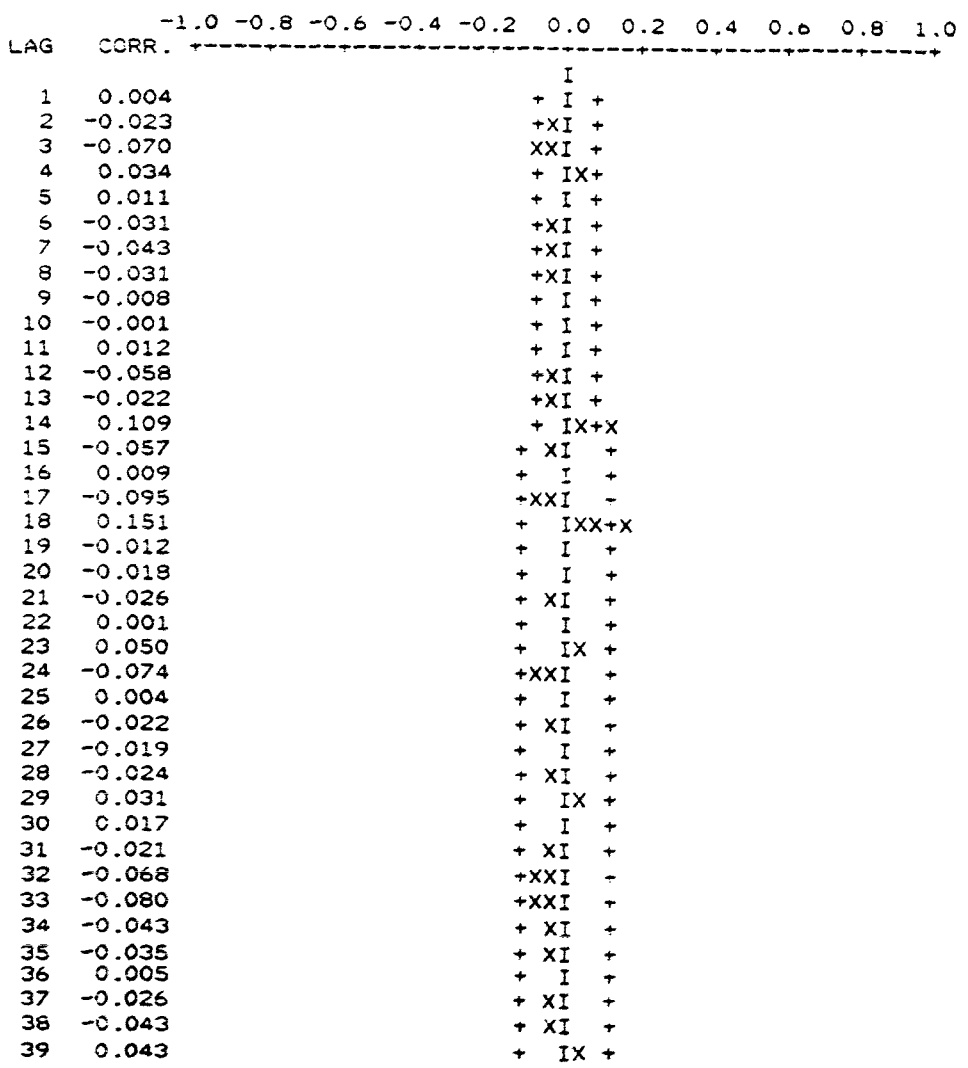
PLOT OF PARTIAL AUTOCORRELATIONS

LAG	CORR.	
		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
		-----+-----
1	0.144	I + IX+XX
2	-0.036	+XI +
3	-0.061	XXI +
4	0.038	+ IX+
5	-0.007	+ I +
6	-0.043	+XI +
7	-0.037	+XI +
8	-0.033	+XI +
9	-0.013	+ I +
10	-0.008	+ I +
11	-0.003	+ I +
12	-0.065	XXI +
13	-0.005	+ I +
14	0.092	+ IXX
15	-0.089	XXI +
16	0.009	+ I +
17	-0.068	XXI +
18	0.143	+ IX+XX
19	-0.049	+XI +
20	-0.021	+XI +
21	-0.002	+ I +
22	-0.005	+ I +
23	0.032	+ IX+
24	-0.090	XXI +
25	0.020	+ IX+
26	-0.012	+ I +
27	-0.039	+XI +
28	-0.024	+XI +
29	0.032	+ IX+
30	0.012	+ I +
31	-0.027	+XI +
32	-0.127	X+XI +
33	-0.057	+XI +
34	-0.061	XXI +
35	-0.017	+ I +
36	-0.048	+XI +
37	-0.046	+XI +
38	-0.018	+ I +
39	0.026	+ IX+
40	0.049	+ IX+
41	0.058	+ IX+

ACF - Strike Duration - DF=1, MA=1, AR=12

1- 12	0.0	-.02	-.07	.03	.01	-.03	-.04	-.03	-.01	0.0	.01	-.06
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
L.-B. Q	0.0	.20	2.2	2.7	2.8	3.2	3.9	4.3	4.3	4.3	4.4	5.8
13- 24	-.0.	.11	-.06	.01	-.10	.15	-.01	-.02	-.03	0.0	.05	-.07
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
L.-B. Q	6.0	11.	12.	12.	16.	26.	26.	26.	26.	26.	27.	30.
25- 36	0.0	-.02	-.02	-.02	.03	.02	-.02	-.07	-.08	-.04	-.03	0.0
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
L.-B. Q	30.	30.	30.	30.	31.	31.	31.	33.	36.	37.	37.	37.
37- 48	-.03	-.04	.04	.06	.11	-.04	-.02	.05	.08	-.06	-.03	.10
ST.E.	.05	.05	.05	.05	.05	.05	.06	.06	.06	.06	.06	.06
L.-B. Q	38.	39.	39.	41.	46.	47.	47.	48.	51.	53.	53.	58.
49- 60	.06	.01	-.02	-.01	.01	.08	-.01	-.04	.02	.01	.02	.02
ST.E.	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
L.-B. Q	60.	60.	60.	60.	60.	63.	63.	64.	64.	64.	65.	65.

PLOT OF AUTOCORRELATIONS



PACF - Strike Duration - DF=1, MA=1, AR=1

PARTIAL AUTOCORRELATIONS

1- 12	0.0	-.02	-.07	.03	.01	-.03	-.04	-.03	-.01	-.01	.01	-.06
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
13- 24	-.02	.11	-.07	.01	-.08	.14	-.02	-.02	0.0	-.01	.05	-.08
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
25- 36	.01	0.0	-.03	-.03	.03	.02	0.0	-.12	-.06	-.07	-.02	-.04
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
37- 48	-.04	-.02	.02	.05	.07	-.01	-.03	.04	.07	-.05	-.02	.12
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
49- 60	.05	.02	.01	.01	.01	.09	-.01	0.0	.05	-.02	-.04	.06
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05

PLOT OF PARTIAL AUTOCORRELATIONS

LAG	CORR.	
		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
1	0.004	I
2	-0.023	+ I +
3	-0.070	+XI +
4	0.034	XXI +
5	0.008	+ IX+
6	-0.035	+ I +
7	-0.037	+XI +
8	-0.032	+XI +
9	-0.015	+ I +
10	-0.006	+ I +
11	0.010	+ I +
12	-0.059	+XI +
13	-0.024	+XI +
14	0.106	+ IX+X
15	-0.073	XXI +
16	0.012	+ I +
17	-0.083	XXI +
18	-0.139	+ IX+X
19	-0.024	+XI +
20	-0.022	+XI +
21	-0.001	+ I +
22	-0.008	+ I +
23	0.046	+ IX+
24	-0.084	XXI +
25	0.011	+ I +
26	-0.005	+ I +
27	-0.034	+XI +
28	-0.031	+XI +
29	0.029	+ IX+
30	0.021	+ IX+
31	-0.003	+ I +
32	-0.116	X+XI +
33	-0.062	XXI +
34	-0.067	XXI +
35	-0.015	+ I +
36	-0.038	+XI +
37	-0.044	+XI +
38	-0.024	+XI +
39	0.019	+ I +
40	0.048	+ IX+
..		. . .

ACF - Strike Duration - DF=1, MA=1, AR=1,14

1- 12	.01	-.01	-.06	.01	.03	-.02	-.03	-.02	-.01	0.0	.02	-.06
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
L.-B. Q	.10	.10	1.6	1.6	-1.9	2.1	2.5	2.6	2.7	2.7	2.9	4.1
13- 24	-.01	.01	-.08	0.0	-.08	.17	0.0	-.01	-.01	.01	.06	-.07
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
L.-B. Q	4.2	4.3	6.7	6.7	9.3	21.	21.	21.	21.	21.	22.	24.
25- 36	0.0	-.02	-.05	-.03	.04	.02	-.03	-.07	-.08	-.05	-.04	.03
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
L.-B. Q	24.	24.	25.	26.	26.	27.	27.	29.	32.	33.	34.	34.
37- 48	.01	-.01	.03	.05	.05	-.02	.01	.06	.03	-.02	0.0	.11
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
L.-B. Q	34.	34.	34.	35.	37.	37.	37.	38.	38.	39.	39.	44.
49- 60	.07	.01	-.03	-.01	.01	.09	-.02	-.04	.02	0.0	.02	.02
ST.E.	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06	.06
L.-B. Q	46.	46.	47.	47.	47.	50.	50.	51.	51.	51.	51.	52.

PLOT OF AUTOCORRELATIONS

LAG	CORR.	
		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
1	0.014	+ I +
2	-0.010	+ I +
3	-0.061	XXI +
4	0.011	+ I +
5	0.025	+ IX+
6	-0.025	+XI +
7	-0.029	+XI +
8	-0.021	+XI +
9	-0.010	+ I +
10	0.004	+ I +
11	0.021	+ IX +
12	-0.056	+ XI +
13	-0.014	+ I +
14	0.009	+ I +
15	-0.077	+XXI -
16	0.004	+ I +
17	-0.080	+XXI -
18	0.167	+ IXX+X
19	-0.003	+ I +
20	-0.013	+ I +
21	-0.014	+ I +
22	0.010	+ I +
23	0.057	+ IX +
24	-0.066	+XXI +
25	-0.001	+ I +
26	-0.016	+ I +
27	-0.046	+ XI +
28	-0.030	+ XI +
29	0.043	+ IX +
30	0.020	+ I +
31	-0.031	+ XI +
32	-0.073	+XXI +
33	-0.082	+XXI +
34	-0.049	+ XI +
35	-0.037	+ XI +
36	0.032	+ IX +
37	0.005	+ I +
38	-0.011	+ I +
39	0.026	+ IX +

PACF - Strike Duration - Df=1, MA=1, AR=1,14

PARTIAL AUTOCORRELATIONS

1- 12	.01	-.01	-.06	.01	.02	-.03	-.03	-.02	-.01	0.0	.02	-.06
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
13- 24	-.01	.01	-.09	0.0	-.08	.16	-.01	-.02	0.0	.01	.05	-.07
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
25- 36	.01	-.01	-.06	-.03	.03	.03	-.03	-.09	-.06	-.07	-.02	-.01
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
37- 48	0.0	0.0	.01	.04	.01	0.0	0.0	.05	.03	-.02	-.01	.10
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05
49- 60	.06	.03	0.0	.01	.02	.09	-.01	-.01	.05	-.03	-.01	.04
ST.E.	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05	.05

PLOT OF PARTIAL AUTOCORRELATIONS

LAG	CORR.	
		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0

1	0.014	I
2	-0.010	+ I +
3	-0.061	XXI +
4	0.012	+ I +
5	0.024	+ IX+
6	-0.029	+XI +
7	-0.026	+XI +
8	-0.018	+ I +
9	-0.014	+ I +
10	0.001	+ I +
11	0.021	+ IX+
12	-0.058	+XI +
13	-0.012	+ I +
14	0.010	+ I +
15	-0.088	XXI +
16	0.004	+ I +
17	-0.078	XXI +
18	0.161	+ IX+XX
19	-0.014	+ I +
20	-0.017	+ I +
21	0.001	+ I +
22	0.005	+ I +
23	0.046	+ IX+
24	-0.075	XXI +
25	0.011	+ I +
26	-0.006	+ I +
27	-0.062	XXI +
28	-0.028	+XI +
29	0.032	+ IX+
30	0.025	+ IX+
31	-0.032	+XI +
32	-0.087	XXI +
33	-0.058	+XI +
34	-0.072	XXI +
35	-0.016	+ I +
36	-0.011	+ I +
37	0.002	+ I +
38	0.001	+ I +
39	0.008	+ I +
40	0.041	+ IX+
41	0.010	+ I +

ACF - Strike Duration - Final Model - Df=1, MA=1, AR=1,14,18

PLOT OF AUTOCORRELATIONS

LAG	CORR.	
		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
		+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
1	0.014	I
2	-0.010	+ I +
3	-0.051	+ I +
4	0.010	+XI +
5	0.021	+ I +
6	-0.004	+ IX +
7	-0.036	+ I +
8	-0.019	+ XI +
9	-0.005	+ I +
10	0.014	+ I +
11	0.024	+ IX +
12	-0.056	+ XI +
13	-0.009	+ I +
14	0.028	+ IX +
15	-0.055	+ XI +
16	0.018	+ I +
17	-0.075	+XXI -
18	0.012	+ I +
19	-0.023	+ XI +
20	-0.006	+ I +
21	-0.012	+ I +
22	0.000	+ I +
23	0.040	+ IX +
24	-0.060	+ XI +
25	0.012	+ I +
26	-0.021	+ XI +
27	-0.059	+ XI +
28	-0.021	+ XI +
29	0.041	+ IX +
30	0.011	+ I +
31	-0.006	+ I +
32	-0.074	+XXI +
33	-0.048	+ XI +
34	-0.024	+ XI +
35	-0.031	+ XI +
36	-0.006	+ I +
37	0.004	+ I +
38	-0.005	+ I +
39	0.024	+ IX +
40	0.044	+ IX +
41	0.037	+ IX +
42	-0.021	+ XI +
43	0.004	+ I +
44	0.060	+ IXX+
45	0.036	+ IX +
46	-0.021	+ XI +
47	-0.019	+ I +
48	0.106	+ IXXX
49	0.065	+ IXX+
50	0.030	+ IX +
51	-0.013	+ I +
52	-0.006	+ I +
53	0.007	+ I +
54	0.089	+ IXX+
55	-0.015	+ I +
56	-0.038	+ XI +
57	0.017	+ I +
58	-0.005	+ I +
59	0.015	+ I +
60	0.026	+ IX +

PACF - Strike Duration - Final Model - DF=1, MA=1, AR=1,14,18

PLOT OF PARTIAL AUTOCORRELATIONS

LAG	CORR.	
		-1.0 -0.8 -0.6 -0.4 -0.2 0.0 0.2 0.4 0.6 0.8 1.0
		+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+-----+
		I
1	0.014	+ I +
2	-0.011	+ I +
3	-0.051	+XI +
4	0.012	+ I +
5	0.019	+ I +
6	-0.007	+ I +
7	-0.034	+XI +
8	-0.017	+ I +
9	-0.006	+ I +
10	0.010	+ I +
11	0.023	+ IX+
12	-0.056	+XI +
13	-0.005	+ I +
14	0.028	+ IX+
15	-0.064	XXI +
16	0.019	+ I +
17	-0.071	XXI +
18	0.010	+ I +
19	-0.026	+XI +
20	-0.013	+ I +
21	-0.011	+ I +
22	-0.002	+ I +
23	0.041	+ IX+
24	-0.072	XXI +
25	0.014	+ I +
26	-0.016	+ I +
27	-0.074	XXI +
28	-0.015	+ I +
29	0.035	+ IX+
30	0.002	+ I +
31	-0.006	+ I +
32	-0.081	XXI +
33	-0.046	+XI +
34	-0.043	+XI +
35	-0.034	+XI +
36	-0.022	+XI +
37	0.004	+ I +
38	0.000	+ I +
39	-0.002	+ I +
40	0.045	+ IX+
41	0.024	+ IX+
42	-0.025	+XI +
43	0.004	+ I +
44	0.052	+ IX+
45	0.023	+ IX+
46	-0.018	+ I +
47	-0.016	+ I +
48	0.108	+ IX+x
49	0.053	+ IX+
50	0.026	+ IX+
51	-0.013	+ I +
52	-0.002	+ I +
53	0.010	+ I +
54	0.079	+ IXX
55	-0.007	+ I +
56	-0.019	+ I +
57	0.044	+ IX+
58	-0.011	+ I +
59	-0.007	+ I +
60	0.038	+ IX+

Appendix D

Gradual, Permanent Effect: DURATION

Parameter	Variable	Type	Order	Estimate	St.Err.	T-Ratio
1	Workday	MA	1	0.9663	0.0127	75.88
2	Workday	AR	1	0.1728	0.0524	3.30
3	Workday	AR	14	0.5870E	0.0479	1.23
4	Workday	AR	18	0.1700	0.0502	3.39
5	Nolaw	UP	0	2.053	19.3404	0.11
6	Nolaw	SP	1	0.6421	3.5034	0.18

Gradual, Temporary Effect: DURATION

Parameter	Variable	Type	Order	Estimate	St.Err.	T-Ratio
1	Workday	MA	1	0.9647	0.0133	72.66
2	Workday	AR	1	0.1722	0.0525	3.28
3	Workday	AR	14	0.6038E	0.0478	1.26
4	Workday	AR	18	0.1712	0.0501	3.42
5	Nolaw	UP	0	-0.6023E	0.1516	-0.40

Sudden, Permanent Effect: DURATION

Parameter	Variable	Type	Order	Estimate	St.Err.	T-Ratio
1	Workday	MA	1	0.9663	0.0127	76.80
2	Workday	AR	1	0.1730	0.0524	3.30
3	Workday	AR	14	0.5799E	0.0477	1.21
4	Workday	AR	18	0.1702	0.0501	3.39
5	Nolaw	UP	0	4.260	10.8223	0.39

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