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Collective bargaining is a widely accepted institution in the North American system of industrial democracy. One of the main foundations of free collective bargaining is the right of unions to strike and the right of employers to take a strike and to lock out striking workers. For this right to have tangible meaning, the potency of the countervailing weapons must be preserved, a task usually left for governments. Thus, any attempt, real or perceived, to influence the effectiveness of the strike weapon generates passionate debate and conflict. Of all the actions that may impact on the potency of the strike, the one that probably has the greatest implication is the use or legal prohibition of replacement workers during a strike, especially if such replacements are on a permanent basis. Advocates for a ban on strike replacements contend that the use of replacement workers leads to increased tensions and more picket-line violence, longer strikes, and more union decertifications (see for example, Wilson, 1995; AFL-CIO, 1991). Opponents, on the other hand, argue that such a prohibition leads to increased strike activity, more bargaining power for unions, resultant high and inefficient wages, and negative effects on job creation and the economy (Jain and Muthuchidambaram, 1995; More Jobs Coalition, 1992; DLR, 1991).

Over time, lawmakers and researchers have responded to this debate, with the former passing legislation or making decisions in legal cases, through such institutions as courts and labour tribunals, and the latter conducting research on the relationship between various aspects of strike replacements and industrial relations outcomes. This paper goes beyond the political rhetoric to systematically examine and discuss the laws and empirical research on this issue in North America, including Mexico. Mexico is included for two main reasons. First, having legislated a prohibition on both permanent and temporary strike replacements since 1931,

Mexico is considered to have more experience with such laws. Second, Mexican labour law is getting increasing attention following the signing of the North American Free Trade Agreement (NAFTA) and the Labour Side Accord, amidst allegations of widespread abuse of worker rights; the cases dealing with labour issues arising out of the implementation of the Side Accord have kept such issues in the limelight (Adams and Singh, 1997; Murphy, 1995; Compa, 1995; Bierman and Gely, 1995). As trade and business investments with Mexico continue to increase, an examination of specific aspects of Mexican labour law can be useful for all stakeholders.

This paper is divided into four main sections. First, we outline the political debate surrounding the use of strike replacements and associated laws. Second, we discuss the nature, content, and extent of strike replacement laws across North America; third, we conduct a review of the empirical research on the issue and suggest areas for future research. Finally, we conclude with a discussion of the implications of the laws and empirical evidence for collective bargaining and industrial democracy.

**The Political Debate**

The political debate on strike replacements is marked by considerable passion and controversy, with many unions and workers' rights advocates proposing a legal prohibition, sometimes on a general basis (temporary and permanent), and employers and "free market" advocates generally opposing such prohibitions. There are several distinctive arguments made in support of a ban on strike replacement workers[1]. First, it is contended that the use of strike

[1]For a discussion of both sides of the debate, see Jain and Muthuchidambaram (1995).

replacements, especially for those hired as permanent or potentially permanent workers (after a specified period as in some Canadian jurisdictions), leads to greater tensions during the strike and increases the likelihood of picket line violence (Alexandrowicz, 1994; Perry, Kramer and Schneider, 1982; Hutchinson, 1966).

Second, proponents of a prohibition on strike replacements argue that using replacement workers leads to longer strikes since the employer's ability to continue production is not seriously affected and its ability to withstand the strike becomes stronger. Further, prolonging strikes with the use of replacement workers may lead to union decertifications (AFL-CIO, 1991; Gramm, 1991; Hargrove, 1995). While such decertifications may imply unfair labour practices, it is argued that sometimes it is difficult to prove unfair labour practices by employers thus avoiding any punitive legal response. The strike by the Professional Air Traffic Controllers Organization (PATCO) in 1981 is sometimes cited as an important turning point in the use of permanent replacement workers in the United States - this strike led to the decertification of PATCO. In this strike, President Reagan fired over 11,000 air traffic controllers participating in an illegal strike and ordered federal agencies not to re-employ them. Some commentators argue that this set the tone for a new, aggressive approach by employers in their use of permanent replacements (for a review of the PATCO strike, see Northrup, 1984).[2]

Third, it is contended that hiring replacements, even on a temporary basis, allows the

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[2]Some journalistic-type accounts of this strike contend that it contributed to the decline of union rates in the United States, mainly as a result of workers subsequent fear in joining unions, as well as through union decertifications. However, this is a somewhat simplistic analyses of union decline in the United States (see Rose and Chaison, 1996, for a good analysis of union densities in the U.S. and Canada). It should be noted that the decline in union densities began before the 1981 strike.

employer to avoid its obligations to the institution of collective bargaining, an institution that is accepted by all parties as being crucial to the functioning of industrial democracy (Singh and Jain, 1997; Langille, 1995; Cornwell, 1990; England, 1983). It is further argued that an even more pernicious outcome of such a practice is the possibility of a striker losing his or her job as a result of practising the fundamental right to strike (Hargrove, 1995; AFL-CIO, 1991); this argument is summarized in a statement emanating from the AFL-CIO:

"[t]he prospect of re-establishing absolute control of the workplace is seductive to many employers. For them, the opportunity to hire permanent replacements is an incentive to provoke strikes, to recruit a more pliant, non-union workforce, and to renounce any further employment relationship with their union workers" (AFL-CIO, 1991, p.1).

Opponents of laws that prohibit strike replacements make a number of distinctive arguments as well. First, it is argued that to deny employers the freedom to hire replacements would tip the balance of bargaining power in favour of organized labour, thereby leading to higher, inefficient, and inflationary wage settlements (Witmer, 1992; Eastman and Kenny, 1992; Dole and Hatch, 1991). They thus contend that the law should abstain from the battle and let the market determine the outcome, through the employment of those who are willing to work under the prevailing conditions set by the struck employer. This argument implies that there is a balance of power between employers and unions. Along similar lines, it is contended that tipping the balance of power in favour of unions would increase industrial disputes, including more frequent and longer strikes (Reynolds, 1991). Second, it is argued that a prohibition on replacement workers places small firms, the pillars of the capitalist system, at a distinctive disadvantage since their ability to withstand strikes is weaker than larger firms. For instance, larger firms may have larger inventories, greater revenues to sustain a long strike, more secure

markets, and an ability to double-up on shift work once the strike is completed. Third, by not allowing replacement workers, production, and consequently employment and the economy, are adversely affected. It is contended that this is evident even if small units within larger firms are affected, especially for employers with functionally integrated units or those operating within a "just-in-time" production system. These arguments are summed up in a 1992 statement emanating from the Ontario Chamber of Commerce during the debate on the proposed introduction of a law banning strike replacements:

"...the ability to strike gives the union a substantial capability to inflict economic damage on a company. A ban on replacement workers dramatically escalates that power. It gives unions the capability to bankrupt any Ontario-based business virtually at will...the impact of this massive shift in power will be felt by everybody, not just those companies who are, or will be unionized ... it will affect overall economic vitality, and it will affect the tax base for the province's social programs ... the ban on replacement workers would hit the hardest at the companies and jobs we most want to have..." (Eastman and Kenny, 1992, pp.6-7).

All the NAFTA countries - Canada, the United States and Mexico - explicitly or implicitly recognize the right to strike. However, there are marked differences in the actors' positions, as evident above, on how legislation should deal with a number of strike-related issues, including that of replacement workers. These differences have given rise to a fairly complex set of strike replacement laws across these countries.

## Strike Replacement Laws in the United States, Canada and Mexico

### The United States

The *National Labour Relations Act (NLRA)* of 1935, also called the *Wagner Act*, grants workers the right to organize, bargain collectively, and "take part in the activities of their organizations." More specifically, the right to strike is addressed by Section 7 of the *NLRA*

which states that:

"[e]mployees shall have the right to self-organization, to form, join, or assist labour organizations, to bargain collectively through representatives of their own choosing, and to engage in other concerted activities for the purpose of collective bargaining or mutual aid or protection..."

Section 8(a)(3) of the *NLRA* further ensures this right in declaring that it is an unfair labour practice (ULP) for an employer "to interfere with, restrain, or coerce employees in the exercise of the rights guaranteed in section 7."

While the Constitution of the United States and the *NLRA* do not explicitly address the strike replacement issue, a number of National Labour Relations Board (NLRB) and Court cases have done so, of which the most important has been *NLRB v Mackay Radio and Telegraph Co.* (1938). In *Mackay*, the union representing the workers at a unit of the employer's operations struck as a result of a dispute related to the terms of a collective bargaining agreement. The employer consequently moved employees from other locations to do work for the striking employees in San Francisco. The strike failed and the employer reinstated all the strikers except five of the most active union supporters. The union filed ULP charges with the NLRB which held that the employer discriminated against the employees because of their activities and support for the union during the strike. Upon appeal by the employer to the Court of Appeal, the court denied enforcement of the Boards's order. When the case came up in Supreme Court, it was found that the NLRB's position was supported by the evidence. While the strike replacement issue was never the focus of this case, the Supreme Court, however, made a casual reference to the issue, thus giving rise to the Mackay doctrine:

"nor was it an unfair practice to replace the striking employees with others in an effort to carry on the business. Although section 13 [of the NLRA] provides "nothing in the Act shall be

construed so as to interfere with or impede or diminish in any way the right to strike," it does not follow that an employer, guilty of no act denounced by the statute, has lost the right to protect and continue his business by supplying places left vacant by the strikers. And he is not bound to discharge those hired to fill the places left by strikers, upon the election of the latter to resume their employment, in order to create places for them..." (*Mackay Radio*, 1938, p.346-347).

Ever since this ruling, employers have been permitted to lawfully hire replacement workers, permanent and/or temporary, for workers engaged in economic strikes[3] (for limitations and further discussions of the *Mackay* doctrine, see Bierman and Gely, 1995; Golden, 1991; Spector, 1992; Pollitt, 1991; Dolan, 1991; Estrecicher, 1987; Furaro and Josephson, 1995; Adams, 1996; Weiler, 1984). However, the *Mackay* ruling does not give employers an unfettered right in hiring replacement workers. Employers must prove legitimate and substantial business reasons for not reinstating strikers at the end of a strike, or face ULP charges (see for example, Spector, 1992; Weiler, 1984).

In another important and related case, *Belknap v. Hale (1983),* replacement workers were informed, both verbally and in writing, that they would be hired as permanent replacements and would be retained even after the strike ended. However, upon the termination of the strike, replacement workers were released to make way for the returning strikers, a decision that was successfully challenged in the Supreme Court.

Over time there has been a number of related cases[4] but the *Mackay* doctrine remains the

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[3]Replacement workers can only be used in economic strikes - that is, strikes that occur as a result of demands related to conditions of employment, union recognition, etc. They cannot be used in ULP strikes - that is, strikes resulting from violations of the *NLRA*.

[4]See for instance, *NLRB v Fleetwood and Trailer (1967)* - for a ruling that strikers cannot be displaced by new hires after the strike is over; *NLRB v Erie Resistor Corp (1963)* - for a ruling that replacements cannot be treated more favourably than reinstated strikers; *Great Dane Trailers (1967)* - a ruling stating that hiring replacements "inherently destructive" of employee rights are

general rule. Many unions, labour advocates and politicians have criticised this doctrine and there have been several attempts to introduce legislative changes. Over the past 15 years, the U.S. federal legislative lawmakers have debated at least four proposals to limit the use of permanent replacement workers, with no law being passed on any occasion. For instance, in 1991, the U.S. House of Representatives debated H.R. 5, a bill which sought to make it an ULP for employers to hire or threaten to hire permanent replacements during strikes (Corbett, 1994). An almost identical bill, S. 55 was soon after introduced in the Senate but was killed by filibusters (Daily Labor Report, 1992a; 1992b). The *Cesar Chavez Workplace Fairness Act*, a similar proposal, suffered the same fate. State legislation aimed at restricting the use of permanent replacement workers, such as that in Maine in 1987 and Minnesota in 1991, have also been ruled unconstitutional (LeRoy, 1993; Budd, 1994). Further, in 1995, President Clinton issued an executive order prohibiting the government from doing business with firms that hire permanent strike replacement workers (see Nomani, 1995; Manegold, 1995). However, this executive order was later terminated by adverse court decsions. The *Mackay* ruling has thus remained in force.

Canada

Canadian labour legislation, unlike the United States, is not administered solely at the federal or national level (see Table 1 for a summary of relevant legislation). By the time the *Wagner Act* was passed in 1935, labour affairs had devolved to the provinces; many inter-provincial/intra-national issues were retained at the federal level (Adams, 1995). Currently, only

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ULPs but those that are "comparative slight" (or no direct threat to the union's survival) may not be.

about 10% of the workforce is covered by federal legislation (Statistics Canada, 1998).

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Insert Table 1 about here

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The right to strike is not guaranteed in any Canadian jurisdiction, even though all have provisions similar to the federal *Canada Labour Code* s.8(I)[5] which stipulates that "[e]very employee is free to join the trade union of his choice and to participate in its activities." However, as Arthurs, Carter, Fudge, Glasbeek and Trudeau (1993) note, statutes in all jurisdictions regulate strikes thus implying employees have this right.

The *Canada Labour Code* has historically been silent on the use of temporary strike replacements and had no clause on the reinstatement of strikers upon the cessation of a strike. However, recent changes (1998) in the *Labour Code* prohibit the use of both permanent and temporary replacements[6]:

"No employer or person acting on behalf of an employer shall use, for the demonstrated purpose of undermining a trade union's representational capacity rather than the pursuit of legitimate bargaining objectives, the services of a person who was not an employee in the bargaining unit

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[5]The *Canada Labour Code* regulates labour matters in the federal jurisdiction (e.g., banking, transportation, etc.). The ten provinces are responsible for all other matters and have passed their own labour legislation.

[6]There were very heated debates leading up to the passing of this law, with the business community opposing any ban on replacement workers and organized labour wanting a total ban on all strike replacements. The three-man Commission on the Reform of the Labour Code were split in their recommendations to the government, with two favouring a temporary ban, and one arguing for a total prohibition. It would be interesting to see how the Canada Labour relations Board treat the issue of "undermining a trade union's representational capacity" in the cases that come before them. See http://labour-travail.hrdc-drhc.gc.ca/labour/labstandard/index.html for the Final Report by the Commission in which the debate on strike replacements is presented.

on the date on which notice to bargain collectively was given and was hired or assigned after that date to perform all or part of the duties of an employee in the bargaining unit on strike or locked out" (s.94(2)(1)).

At the provincial level, Quebec (*Labour Code, s.109.1, 1977)* and British Columbia (*Labour Relations Code, s.68, 1993)* have prohibitions on the use of both temporary and permanent replacements, once the prerequisites for a lawful strike or lockout are met. Both provinces prohibit the use of new hires, employees from other locations or from other employers to do struck work but permit the use of managerial staff; reprisals against managers who refuse to do such work are disallowed. Both jurisdictions allow for exemptions to the law in the case of emergencies and for services deemed essential. Some notable differences in the law between the two provinces are also evident. Quebec has a blanket prohibition on the use of bargaining unit members during a strike, whereas in British Columbia employers are allowed to use consenting strikers and non-bargaining unit employees. Further, Quebec prohibits struck work to be done at other facilities (contracting out and/or relocation) while this is permissible in British Columbia. Ontario, under the New Democratic Party government, introduced similar prohibitions against hiring temporary and permanent replacements in 1993 but these were repealed by the Progressive Conservative government when it was elected to office in 1995.

Professional strike breakers, defined as persons not involved in a dispute whose primary object "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" (*Ontario Labour Relations Act, s78(1), 1995)*, are prohibited in Ontario, Manitoba, Alberta, and by logical extension British

Columbia and Quebec[7]. Alberta and Nova Scotia, as well as Quebec and British Columbia, disallow discipline or discharge against workers who refuse to do struck work. "Strike related misconduct," such as incitement, intimidation, or surveillance to discourage strikes is prohibited in Ontario and Manitoba.

Eight provinces, including the two with outright bans on strike replacements (Saskatchewan, British Columbia, Ontario, Manitoba, Alberta, Prince Edward Island, Nova Scotia and Quebec), have provisions in their labour statutes, which to varying degrees, guarantee the striker his or her job at the end of a strike. Ontario provides for the reinstatement of strikers anytime within six months of the strike once an unconditional application for work is made and Alberta has a similar two year stipulation; the other six provinces have no such limitations. In essence, all eight jurisdictions have explicit provisions banning the use of permanent replacements. Even though there is a lack of explicit legislation on reinstatement rights in New Brunswick and Newfoundland, the practice of rehiring strikers after a legal strike seems to have acquired a status of custom and practice in all Canadian jurisdictions[8]. Further, it should be noted that these two provinces, along with P.E.I., Nova Scotia and Ontario[9], have legislation prohibiting the supplying or hiring of replacement workers by employers represented by an

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[7]See table 1 for citations of the relevant legislation on strike replacements.

[8]While it is not customary for strikers to be permanently replaced in Canada, there are some exceptions. One notable exception occurred in the 1994 strike at Irving (the firm's name) in New Brunswick in which several strikers were not rehired after the union "lost" the strike.

[9]*New Brunswick Industrial Relations Act, s.50(2); Newfoundland Labour Relations Act, s.68; P.E.I Labour Act, s.60; Nova Scotia Trade Union Act, s.102; Ontario Labour Relations Act, s.140(2).*

accredited employer's organization (thus making the law applicable to the construction industry). In fact, all Canadian jurisdictions provide that the employment relationship does not cease solely because an employee has stopped working as a result of a strike or lockout[10] (Adams, 1996). These "striker protection" clauses are usually interpreted by the labour relations boards and courts to give protection to strikers from being permanently replaced[11].

As a recent report by the body overseeing NAFTA's Labour Side Accord stated:

"permanent replacements are completely prohibited in Canada through law, jurisprudence or practice. In Canada, the striker replacement debate turns on the use of temporary replacements - the use of managers or other non-striking employees of the employer, or the hiring of temporary replacement workers. A consensus prevails that views permanent striker replacement as fundamentally violative of workers' freedom of association and right to strike" (NAALC, 1996, p.28).

There is a mosaic of case law across the various Canadian jurisdictions, partly as a result of the variations in legislation. Nevertheless, a few cases stand out, some serving as precedents (for a discussion of many of these cases, see Adams, 1996). The status of the employment relationship following a strike was addressed by the Supreme Court in *McGavin Toastmaster v. Ainscough (1975)*. In this case, workers went on strike during the term of a collective agreement (illegal in Canada); the employer thus contended that they had breached their individual employment contracts and were not entitled to severance pay. However, the Court ruled that

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[10]*Canada Labour Code, s3(2); Alta. Labour Relations Act, s.87; B..C. Labour Relations Code, s.1(2); Manitoba Labour Relations Act, s.2(1); N.B. Industrial Relations Act, s.1(2); Nfld. Labour Relations Act, s.2(2); N.S. Trade Union Act, s.14; Ont. Labour Relations Act, s.1(2); P.E.I. Labour Act, s.9(2); Quebec Labour Code, s.110; Sask. Trade Union Act, s.2(f)(iii).*

[11]See for example, *General Aviation Services (1982)*, in which it was found that the employer's decision not to reinstate strikers was an ULP and violated s.107(2) of the Canada Labour Code.

while the strike may have been unlawful, it did not *per se* terminate the employment relationship; it was ruled that the collective bargaining agreement was in force, not the individual contract, and thus the employees were entitled to their severance pay. The employment relationship was also ruled to be in force during a legal strike at *Eastern Provincial Railways (1984)*. In this case, the union lost the strike and the employer refused to reinstate the strikers over replacement workers; the Canada Labour Relations Board (CLRB) found the refusal to reinstate the strikers to be an ULP. In these cases, the adjudicators refused to apply an *obiter dictum* of one judge, out of nine, in *C.P.R. Co. v. Zambri (1962)*, in which it was held that employers were at liberty to engage others to fill the places of strikers and were not obligated to continue the employment of striking employees at the termination of a strike.

In *Shaw-Almex Industries Ltd (1987)*, the Canada Labour Relations Board held that it was an unfair labour practice to refuse to reinstate striking employees at the end of a strike because the employer did not want to let go of replacement workers, thus discriminating against strikers. It was held that the employer violated the duty to bargain in good faith because it impaired the union's ability to represent its members. The legislation in many jurisdictions has since addressed this issue through reinstatement rights clauses, thus ensuring the continuity of the employment contract upon the cessation of a strike.

The question of who exactly is a replacement worker was addressed by the British Columbia Labour Relations Board in *V.I. Care Management Ltd (1993)*; it was held that it must be shown that replacement workers were used to do bargaining unit work and that such replacements were employed for the purpose of resisting a strike or pursuing a lockout to sustain a finding that the employer violated the prohibition against hiring replacement workers.

There are several other relevant cases on the strike replacement issue[12]. However, in general, as Adams (1996, p.10-42) states:

"[t]he totality of these cases shows labour law as very protective of employees' organizational rights but leaving the detail of a collective bargaining relationship to the outcome of relative economic power. If employee collective action does not achieve certain desired ends, collective bargaining laws are not designed to alter this result absent specific legislative direction to the contrary. Nevertheless, this restraint can give way to labour board intervention when unilateral employer power appears excessive or inherently destructive or not reasonably necessary given the state of negotiations..."

Mexico

The 1917 Mexican Constitution contains extensive protections for workers, reflective of the major role played by working people and their organizations in the success of the 1910 revolution (Clark, 1934; Miller, 1966; Middlebrook, 1991). The legitimacy of unions and the right to strike are guaranteed under Article 123 of the Constitution (entitled "Labour and Social Security"), thus preceding similar American and Canadian law by almost two decades. As Zelek and de la Vega (1992) note, this Mexican initiative represented one of the earliest constitutional recognitions of labour rights in world history. Over time, the Constitution has been amended several times but these rights have, in general, continued to be protected in the statutes (Miller,

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[12]See for example, *Webster and Horsefall (1969)*, in which an ULP was not found in the termination of strikers since the employer had legitimate business reasons for its actions as it was going out of business; in *Fotomat Canada Ltd. (1980)*, Ontario's six month limitation to reinstatement rights was brought to the fore - it was found that the employer deliberately prolonged the strike thus the strikers had rights to their jobs even after the six months (essentially the adjudicators - OLRB - converted an economic to an ULP strike); however, in *Mini-Skool Ltd. (1983)*, the Ontario Labour Relations Board concluded that after the six months period is over, strikers have no legal rights to bump strikers who had returned before the strike was over - note, however, that the issue here was with strikers who had returned to their jobs and not outside replacements. The *Shaw-Almex* ruling has since held that the employer's "motive" is the key factor in the decision; improper motive was found in *Shaw-Almex*.

1968; Franco, 1991). As a result of the protections in the Constitution and the federal labour law, Mexican workers now enjoy an impressive list of rights in the law. In fact, Mexican workers, in principle, enjoy more rights than their counterparts in both the United States and Canada (Bartow, 1990; Befort and Cornet, 1996). However, as LaBotz (1992) states, the government has established mechanisms that limit the effectiveness of these rights through the federal labour law and its associated institutions.

The Federal Labour Law, or the Ley de Trabajo (L.F.T.), enacted in 1931, regulates labour law countrywide, including issues related to minimum working conditions, the rules of association and bargaining, and the conflict resolution process. It also establishes tribunals at various levels of government (federal, state, and major cities) to oversee the law. These tripartite tribunals, called Conciliation and Arbitration Boards (CABs), are comprised of an equal number of labour and management representatives and a government official who acts as the chairperson. Issues under the federal jurisdiction are dealt with by the Federal Conciliation and Arbitration Boards, while state and local issues are handled by state and local boards, respectively.

The right to strike is protected under Article 123-XVII of the Mexican Constitution and the strike replacement issue is specifically addressed by the federal labour law. Article 447 of the L.F.T. prohibits an employer from temporarily or permanently replacing legally striking workers; this prohibition has been in place since 1931. The strike replacement issue thus revolves around conditions under which strikes are deemed legal or "existent". The L.F.T., as amended in 1970, states that for a strike to be considered legal, among other prerequisites, the strike must aim to : (i) attain a balance of workers' and employers' rights; (ii) pressure employers to execute, revise, or comply with collective bargaining agreements, and , (iii) annually obtain

higher wages (Singh and Jain, 1997). It is further stipulated that a strike is legal only if carried out by a majority of workers in the firm or industry (for industry-wide bargaining units). While no formal majority strike vote is required to commence a strike, such a majority may be required to be proven if the legality of the strike is challenged. Other requirements include a formal petition by the union to the appropriate CAB, stating the reasons for the strike and the expected time of commencement, to which the employer is asked to respond within forty-eight hours. In keeping with the conciliatory disposition of the CABs, a negotiated settlement is attempted. If the CAB fails in its efforts and declares the strike to be legal, the employment contract is suspended and replacement workers cannot be used. Exemptions are provided for certain essential services.

These extensive procedures have the dual effect of "settling" disputes once they erupt, as well as discouraging strike action. As LaBotz (1992, p.50) notes, this system has been very effective in keeping strikes down, "...between 1982 and 1988 there were 78,801 strike notifications to initiate the process of taking strike action, but only 2.3 percent of those strikes were actually carried out." de la Garza (1991) report similar figures; between 1975 and 1984, there were a total of 531,070 conflicts in all Mexican jurisdictions (federal and local) resulting in only 11,832 strikes (2.23 percent).

Since the use of strike replacements is prohibited by law, the use of replacements occurs in situations involving "illegal" or *inexistente* strikes, as declared by the CABs. However, as Franco (1991, p.115) notes,

"[p]ostrevolutionary governments have generally exercised great caution in declaring strikes nonexistent. The strong preference has been for conciliation of labor-employer conflicts. If an employer requests that a strike be declared nonexistent within seventy-two hours after the strike

begins, the government has been careful to follow the letter of the law. However, recent policy concerning strike recognition has been sharply different.."

Relevant case law is somewhat inaccessible since such information is rarely open to the public. Further, as Befort and Cornet (1996, p.269) point out, "as a civil law system, legislation - not jurisprudence - plays a primary role in Mexico's legal rules." Nevertheless, a few cases offer insights into the application of Mexico's strike replacement law, enforcement procedures, and the operation of the CABs (see LaBotx, 1992; Middlebrook, 1991).

In 1991, the Modelo Brewery Workers Union, and affiliation of the Confederation of Mexican Workers (CTM)[13] struck at Modelo Brewery, pressing for changes to the collective agreement. The strike decision was made after appropriate legal procedures were followed, such as petitions to the CAB, and after conciliation attempts failed. The CAB ruled the strike "nonexistent" but a court of appeal reversed this decision, effectively stopping the company from hiring replacement workers. However, in a surprise decision a few weeks later, the strike was reverted back to its illegal status by the same court; the company fired the 5,200 striking workers and hired replacements with the support of the CTM which claimed that that the strike was political. The strike failed and the government re-hired all the strikers except about 100 of the most militant unionists who were given severance packages. The government, the CAB, and the CTM all found this decision acceptable. The CTM subsequently created another union to replace the Modelo Brewery Workers Union (LaBotz, 1992).

In a similar case, the groundworkers union at the state-owned Aeromexico airline struck

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[13]The CTM is Mexico's largest and most powerful "official" labour confederation. It shares a close relationship with the government and the ruling political party.

in 1988 after filing appropriate petitions, claiming violations to the collective agreement. The government promptly declared bankruptcy and initiated plans for privatization, and the CAB ruled the strike illegal on grounds that proper legal procedures were not followed. The airline was subsequently re-opened as a private company and management re-hired some of the workers who were on strike "not on the basis of their seniority but on their opposition to labor unions" (LaBotz, 1992, p.100). As the government stated, its actions were legal since Mexican laws permit companies to declare bankruptcies and re-open as new entities.

In another case, the militant Mexican Electricians' Union (SME) filed a strike petition against the Compania de Luz y Fuerza del Centro and its affiliates (Franco, 1991). The strike was declared nonexistent on the grounds that it was spurred by general economic conditions facing the country and not specifically related to conditions in the company. The workers were thus compelled to return to their jobs or lose them in favour of replacements. A similar fate resulted in a 1987 strike called by the National Telephone Workers union (Franco, 1991).

As the Mexican situation suggests (similar incidents also occurred during the 1989 Tornel Rubber Company and the 1990 Ford Motor Company strikes, among others), poor enforcement procedures may block the translation of impressive statutory and constitutional worker rights provisions to reality. The operation of the CABs has stirred considerable controversy. In fact, as a result of recent NAFTA labour cases, a special study on these institutions has been requested by the tri-national North American Agreement on Labor Cooperation (NAALC).

It is generally agreed that there are enforcement problems in Mexico, even by those who claim that critics are too harsh:

"the negative image created by U.S. commentators during the NAFTA treaty debate overstated

the failings of the Mexican labor law system. Indeed, ...the Mexican system is more protective of worker rights than its U.S. counterpart...Nevertheless, the Mexican labor relations system has failed to protect workers to the full extent that it should. Significant problems do exist in the Mexican workplace. These problems, however, are not primarily due to defects in the substance of Mexican labor law, but rather they are reflections of limited resources and a scarcity of jobs" (Befort and Cornet, 1996, p.300).

Thus, one lesson for other North American jurisdictions is that the passing of legislation is not sufficient in ensuring a protection of the principles of free collective bargaining. Legislation on strike replacements, if this is the path chosen by policy makers, must be accompanied by a provision of adequate resources, and strong and independent administrative agencies to implement the laws.

## A Review of the Empirical Research

### *A Brief Overview of Theoretical Frameworks*

There are no theories that specifically address the strike replacement issue. Thus, researchers have generally relied on standard models/theories of strikes to guide their work. An analysis of the literature reveals that most, if not all, of the theories used in the research on striker replacements may be categorized as "economic," reflecting the disciplinary focus that has dominated the literature. In general, strike replacements (both the passing of law and the actual use of replacement workers) have been treated in the literature as integrally connected to the bargaining power issue. The relevant question has invariably been: does the passing of a law or the use (or threat to use) of replacement workers affect the "power relationships" between employers and union thereby leading to outcomes that favour one party? Two main strike theories/models are emphasized in the empirical research: the joint cost and the inter-related

"information dissemination" models (for a review of strike models and outcomes, including critiques, see Kaufman, 1992). Both have been used to explain the main outcomes in the striker replacement debate, viz., strike activity, bargaining power, wages and employment, and union survival.

The joint-cost model (Kennan, 1980, 1986; Reder and Neumann, 1980) predicts that the greater the joint costs of a strike to unions and employers, the less the chances for a strike or "expensive mistake." That is, both sides rationally calculate their respective costs of a strike versus other alternatives (e.g., arbitration); the greater the costs of a strike to a party, the more likely that party will be willing to make compromises. In terms of strike activity, the model suggests an inverse relationship between strike costs and strike incidence and duration. With regards to the strike replacement issue *per se*, this theory has been extended to make predictions on various outcomes such as bargaining power, wages, and strike activity. For instance, it is suggested that the use of strike replacement workers reduces the costs to employers (since production may not be significantly affected) thus increasing their bargaining power and lowering wages (Gramm and Schnell, 1994).

The "information-dissemination" models (imperfect information, information uncertainty, asymmetric information) all grapple with the issue of a lack of relevant information (costs and benefits of strikes) by both parties. In the imperfect information model, strikes are assumed to occur as a result of a miscalculation of the associated benefits and costs (see Kaufman, 1992, for a more detailed discussion of these models). The uncertainty information model extends this argument to include the amount of information to be processed and the degree of uncertainty associated with the variables. Siebert and Addison's (1981) analogy to

"accidents" is particularly relevant in discussing the effects of strike replacement legislation. According to their arguments, strikes, like road accidents, cannot be predicted accurately ahead of time. However, certain conditions that make driving more difficult or safer will have a predictable relationship with accidents. Thus, strike laws favourable to unions will increase their power in the employer-union relationship. Finally, the asymmetric information model proposes that strikes are not really a result of an information deficiency and inaccurate estimates but rather a device used by unions to appraise firms' ability to pay based on their profitability. That is, unions hold the strike threat or use a strike (as an employer calculates his costs of taking a strike vs other alternatives) to efficiently seek out a firm's profitability. In terms of testable hypotheses on strike replacements, a ban on all replacement workers, for instance, is predicted to lead to a greater uncertainty about future profits and increased strike activity (Abowd and Tracy, 1989).

*Empirical Studies: Research Design and Results*

In his review article, Kaufman (1992), noting that the striker replacement issue was one of the most important strike issues in the 1980s, laments that "...this subject is almost entirely missing from the industrial relations literature" (p.119). While such research has accelerated somewhat in the 1990s, there is still an overall sparse body of empirical research.

Two early studies focussed on the issue from an employer's perspective, with an emphasis on the right of employers to continue business operations and methods employers can use to ensure the success of such operations. A more recent body of literature has focused on "testing" the controversial issues in the political debate on strike replacements. Two distinct streams of this latter research body can be identified: one that examines the *probable* effects of strike replacement laws on various outcomes, especially strike activity (incidence and duration)

and changes in wages (proxy for bargaining power) - this stream uses exclusively Canadian-based data; and, a second that focuses on the effects of the *actual use* of replacement workers on such outcomes - uses mainly US-based data[14]. Overall, these studies focus on a number of dependent variables, most of which are mentioned in the political debate. These variables may be classified into two categories: (I) balance of power indicators/variables (employers' ability to continue business operations; strike activity; bargaining power/wages; union decertification; and union coverage); and, (ii) wider social and economic issues (picket-line violence, effects on small firms, and employment).

*(i) Balance of Power Variables*

(a) Employers' Ability to Continue Operations

An employer's ability to continue its operations is a crucial indicator of relative power, and a mechanism whereby an employer can gain more power in the relationship. That is, it is both an indicator and tool of economic power. In an early study, Hutchinson (1962) analyzed the determinants and consequences of an employer's decision to continue business operation during a strike, with the use of replacement workers. In this in-depth study of fifty-five firms, over 150 interviews were conducted with a wide range of stakeholders; relevant archival data, including photographic coverage of strike violence in local newspapers, were also analyzed. Hutchinson (1962) reported that some of the main variables influencing an employer's decision to continue operations included the right by employers to operate with or without union labour, the associated costs, and, interestingly, personality and psychological factors. Consequences of the

[14]There are no known studies that use Mexican data; the obvious reason being striker replacements are legally banned in that country.

decision to use replacement workers included picket-line violence and a weakening of unions.

Perry et al (1982) in another early study, examined the legal, institutional, logistical, and economic dimensions of operating a struck facility from a management perspective. In an detailed analysis of 15 US companies that were known to have utilized strike replacements, using formal and informal interviews and company data, they found that while employers were able to continue their operations to meet market needs, there was a high turnover among permanent replacements, "emotional encounters" and some picket line violence, and an increase in the bargaining power of employers as indicated through concessionary wage settlement by the unions. In both Hutchinson (1962) and Perry, et al. (1982), the authors conclude their studies by advising management on the mechanisms necessary to protect their "right to take a strike," including ways in which to effectively use strike replacements to continue operations. In more recent studies, Gramm (1991) and Gramm and Schnell (1994), using survey data on 53 strikes in the United States, in which permanent replacements were used in 10 and temporary replacements in 4, it was found that the use of permanent replacements had no significant effects on an employer's ability to continue its operations; that is, the use permanent replacements (versus temporary replacements) offered no significant advantage in continuing the firm's operations. Overall, while the sample sizes in these studies are relatively small, the use of "first-hand" data is noteworthy and needs to be pursued in future research, albeit with larger samples.

(b) Strike Activity, Bargaining Power, and Union Decertification

The debate on the effects of strike replacements (both the passing of laws and the actual use of replacement workers) on strike activity (incidence and duration), bargaining power and wages, and union decertifications has attracted the most academic attention so far; some studies

include all of these outcomes as dependent variables.

Gunderson, Kervin and Reid (1989) examined the impact of nine policy variables, including a prohibition on the use of replacement workers, on strike incidence (other policy variables were mandatory strike votes, one-stage conciliation, two-stage conciliation, a cooling-off period, an employer-initiated vote option, compulsory dues check-off, a permission of negotiated reopeners of collective agreements, and automatic reopeners for technological change). Using logit analysis of 3347 individual collective agreements (involving 531 strikes) in fairly large establishments (mostly 500 or more employees; some with 200-500 employees), they found that a prohibition of replacement workers was associated with significantly higher strike probabilities. They rationalized this unexpected finding through an explanation of the probable effects of picket line violence: "[the] elimination of the potential picket line violence associated with the use of 'scabs' appears to have made the strike a more viable option to the parties, in spite of the greater potential output loss associated with such a prohibition" (Gunderson, Kervin and Reid, 1989, p.790).

In another study, Gunderson and Melino (1990), using hazard function estimates, analyzed the effects of various policy variables, including a prohibition of replacement workers, on strike duration (variables were similar to Gunderson, Kervin and Reid, 1989). Using a sample of 7,546 strikes in Canada (sample comprised mostly of units of 500 or more employees) between 1967 and 1985, they found a similar "surprising" result: a prohibtion on strike replacements is associated with longer strikes. However, as they noted, "...the effect of the antiscab legislation is identified only through its existence in Quebec since 1977. It may be picking up the effects of other changes in that province, which are not controlled for in our

analysis" (Gunderson and Melino, 1990, p.308). Gunderson, Melino, and Reid (1990) offer further explanation of their finding that Quebec legislation was associated with increased strike activity (duration and incidence). Drawing from Keenan and Wilson (1988), they point out the possibility that strike replacement legislation "may increase the union's uncertainty about the firm's position because the option of using replacement workers is now circumvented. As well, the legislation enlarges the rents to be bargained over since the firm cannot utilize the alternative of replacement workers" (Gunderson, Melino and Reid, 1990, p.517).

Gramm (1991), using mainly descriptive statistics, examined the differences across strikes in which permanent (versus temporary replacements) were used by struck firms. Using survey data on 53 strikes in the United States (described earlier), she found that in instances when permanent replacements were used, strikes were longer; unions were also more likely to be decertified, and there was a limited impact on an employer's ability to continue its business operations. Using this same database, Gramm and Schnell (1994) analyzed the effects of using permanent replacements (versus other labour sources) on bargaining members job security, resultant wage contracts, and an employer's ability to continue operations. Using ordinary least squares and logistic regression analyses, they found the use of permanent replacements had no significant effects on an employer's ability to operate at full capacity, significantly decreased the rehiring of strikers, and resulted in less favourable contracts (compared with firms that did not hire permanent replacements). However, the small sample in the two studies raises a question about the statistical robustness of the results.

In another study, Schnell and Gramm (1994) investigated the effects of an employer announcing an intent to use permanent strike replacements and the actual use of such

replacements on strike duration. Using hazard function estimates on a sample of 271 strikes in 1985 and 1989, as reported by the United States General Accounting Office (when corrected for sampling "error", implied n=1211), they found that both actions by an employer were associated with longer strikes. As the authors note, their findings are consistent with arguments made by proponents of a ban on permanent strike replacements, viz., that such replacements lead to longer strikes.

Olson (1990), using duration analysis in a study on the use of replacement workers in strikes in New York during three periods (1881-86, 1901-11, and 1926-31), and in general U.S. strikes involving 1000 or more workers (1984-88), also found that the use of replacement workers led to longer strikes. Card and Olson (1995), using archival strike data for Illinios, New York and Massachusetts in the 1880s, report similar results. However, no distinctions were made in these two studies between permanent and temporary replacement workers. A U.S. General Accounting Office study further found that hiring permanent replacements is associated with longer strikes (US GAO, 1991).

In a more recent study on the actual use of replacement workers, Jain and Singh (1999), using regression analyses on a sample of 93 strikes in Canada, also found that strikes are significantly longer when replacements are used. The authors further complemented their quantitative study with two case studies; the basic difference in these two cases was that replacements were used in one strike and not the other. This qualitative research complement suggested that certain behavioural-based variables, such as attitudes and personality, may have led to the longer strike in the instance where replacement workers were used.

Budd (1996) in a study of 2042 collective bargaining agreements between 1966-85 in

Canada, of which 22.5 percent involved a strike, used logit and ordinary least squares regression analyses to investigate the effects of various strike replacement laws on strike activity and wage determination. He found that, controlling for province/jurisdiction effects, a ban on permanent replacements is not significantly associated with strike incidence, strike duration and negotiated wages. In an earlier version of this study, Budd and Pritchett (1994), using changes in wages as an indicator of shifts in bargaining power, with controls for other wage determinants, reported that, "there is no evidence to support the contention that the presence of legislation affecting the use of strike replacements significantly alters relative bargaining power and the wage determination process" (Budd and Pritchett, 1994, p.376).

In summary, the research evidence on the actual use of strike replacements is unambiguous: this practice leads to increased strike activity. The effects of strike replacement legislation is less clear. While some studies report increased strike activity, others suggest an insignificant relationship[15].

(c) Union Coverage

While union coverage is not a primary issue in the strike replacement debate, it may be argued that legislation supportive of a prohibition may lead to increased union coverage as a result of increases in bargaining power and wages, as suggested by critics of such legislation. Martinello and Meng (1992) investigated the effects of a number of labour laws, including restrictions on replacement workers, on union coverage. Using a cross-section data on 3853 Canadian full-time employees, they found that a ban on permanent and temporary replacements,

[15]The issue of resolving these differences is now attracting the attention of Gunderson and Budd and their colleagues (personal communication, 1998).

and professional strike breakers, had no significant impact on union coverage since it had no significant effects on wages. However, as they noted, "the finding of no significant effect...is likely due to inadequate variation in the provincial laws. If, for example, some provinces allowed permanent strike replacements...one would likely find a significant effect of variations in legislation on union coverage" (Martinello and Meng, 1992, p.189).

*(ii) Social Policy and Economic Variables*

(a) Picket Line Violence

One of the main reasons proposed for a ban on strike replacements relates to the issue of picket-line violence. Sensational tragedies are sometimes highlighted , such as the Giant Mines disaster in Yellowknife, Canada, when replacement workers were killed by a bomb (Christopherson, 1995); a striker was subsequently convicted for this crime. In one study that addressed picket-line violence, Alexandrowicz (1994) analyzed 48 strikes in Ontario in 1988 that involved some violence. He concluded that "the employer's use of replacement workers proved to have the strongest impact on picket-line violence" (p.67). Hutchinson (1962) and Perry et al. (1982) also reported violence in the strikes they analyzed. There are many reasons why violence may be triggered by strike replacements, including the fact that daily crossing of picket-lines by replacement workers increases the chances of conflict, and that the emotional states of strikers may predispose them to violence (Alexandrowicz, 1994). As Hutchinson (1962, p.4) noted,

> "[w]hen a strike is called emotions rise. Settlements are, however, usually concluded with a minimum of physical harm and destruction of property. But when a firm decides to operate its facilities and then proceeds to hire replacements for striking workers, emotions tend to supplant reason, and conflict begins in dead earnest."

The issue of picket-line violence is preeminent in the strike replacement debate. Thus,

there is a need for far more rigorous research. While the lack of archival data is a major problem, initiation of primary, survey-type research promises to be an exciting avenue.

(b) Effects on Small Firms

Small firms contribute significantly to the North American economy and it is imperative that empirical studies on strike replacements analyze relevant aspects. Given this fact, a few studies are beginning to address this issue. Cutcher-Gershenfeld, McHugh and Power (1996) focussed specifically on small firms in Michigan. Using ordinary least square regression analysis on data from 481 collective bargaining negotiations between 1987-1991, 24 involving strikes (11 used replacement workers), they found that the use of strike replacements had no significant effects on the time to settle disputes after contract expirations. In another study, Budd (1996) investigated this issue in an analysis of 1298 collective agreements in Canada (subset of the larger sample in the same study reviewed earlier in this paper) when bargaining units were less than 1000 employees. While a significantly greater impact of the legislation on strike incidence was evident for small versus large firms, there were no significant effects on bargaining power and wages.

(c) Employment

Noting that opponents of a ban on strike replacements contend that this would lead to massive job losses, Budd (1997) examined the effects of strike replacement legislation on employment. Using regression analyses on aggregate employment data for the period 1966-1994 (n=3480) and disaggregated unionized employment data (n=3629) in private sector collective bargaining agreements, he reported that a general ban on strike replacements (both temporary and permanent) has adverse employment consequences, with mixed results for provisions that

allow the use of temporary workers (only) and the banning of professional strikebreakers. In fact, with the aggregate data, a ban on temporary replacements is associated with a significant increase in jobs. Further studies are needed on this issue, especially in view of the mixed results.

*General Findings, Caveats and Future Research*

While the evidence from the empirical studies can only be treated as tentative, there are some discernible general findings. First, studies that examine the actual use of strike replacements all report that such a practice is associated with longer strikes, more picket-line violence, and more union decertifications. Second, a legal prohibition on the use of replacement workers seems to have negligible effects on bargaining power and wages. Third, while small businesses experience more strikes, these are not significantly longer than in large firms, and there is no evidence suggesting that bargaining power and wages are adversely affected in these smaller firms. Fourth, there are mixed results on the effects of strike replacement legislation on strike activity. While some studies report more frequent and longer strikes (Gunderson, Kervin and Reid, 1989; Gunderson and Melino, 1990; Gunderson, Melino and Reid, 1990), others find no significant effects of the laws (Budd and Pritchett, 1994; Budd, 1996). The single study that examines the effects of strike replacements on employment report mixed results: a negative effect for a general prohibition but mixed, even favourable, effects for laws allowing the use of temporary replacements (Budd, 1997).

Apart from specific concerns about individual studies, as stated earlier, there are some general caveats with many of these studies. First, strikes and the use of replacement workers are not common occurrences, especially in larger firms. Also, the potential for strikes exists mainly in the unionized sector of the economy; this sector comprises approximately 30 percent of the

labour force in Mexico, 34 percent in Canada, and 15 percent in the United States (Statistics Canada, 1998; DLR, 1998; LaBotz, 1992; NAALC, 1995). Further, it is estimated that replacement workers are used in about 15-30 percent of strikes in the United States (Perry, Kramer and Schneider, 1982; Gramm, 1991), about 12-20 percent in Canada (Haywood, 1991; Jain and Singh, 1999), and legally non-existent in Mexico. Replacement workers are usually not preferred because of training costs and a poisoned labour-management relations climate following the strike. In many of the studies, while sample sizes are fairly large, the number of strikes in effect and the proportion of replacement workers used are relatively small. Thus, it is not difficult to envisage insignificant effects of strike replacements on industrial relations outcomes, especially macro-economic variables. As reported in some studies, the "significant" results may be picking up on factors that are inherently difficult to control. For instance, is the traditional militancy of unions in Quebec, catalyzed by the totality of the labour law changes in 1977, more reflective of the generally higher strike frequency and incidence in that province rather than strike replacement legislation?

Second, many of the studies, including all using Canadian-based data, emanate from databases that track situations involving large establishments, usually more than 500 employees. It is generally accepted that strike replacements are rarely, if ever, used in large firms. Thus, analyzing the probable effects of the law on data that exclude firms that are most likely to be affected (small firms) or on firms that may not be affected by the law (large firms) poses a potential for bias.

Third, there is a general lack of explicit relevant theory to guide research in this area. If we focus on strike activity for instance, while there is no general theoretical model that explains

the effects of strike replacements *per se*, many scholars have used standard models of bargaining and strike activity (for recent reviews, see Kaufman, 1992; Kennan, 1986), of which the most popular have been the joint-cost model (Reder and Newmann, 1980; Kennan, 1980) and the asymmetric information model (Card, 1990). However, as Budd (1996) notes, these models yield ambiguous predictions regarding the effects of strike replacement legislation. For instance, using the joint-cost model, "a ban on permanent replacements increases the cost of disagreeing for management (reducing strike activity) while reducing the cost of disagreeing for labor (increasing strike activity). The net result is ambiguous" (Budd, 1996, p.251). Similar conclusions can be made with regard to the other theoretical models.

This lack of relevant theory has been noted by many scholars. LeRoy (1995) notes that "[e]xamination of strikes involving replacements is so preliminary at this time that no theoretical model of such strikes has been proposed." The contention here is that strikes using replacement workers are quite different from "regular" strikes, for which standard theoretical models are geared. Gunderson, Kervin and Reid (1989) lament that their results may not provide a clear-cut test of theory "because the labour relations policies have not been explicitly included in the theoretical models in the literature" (p.790). Budd (1996, p.251) further asserts that, "...because, there is no well-accepted model of the collective bargaining process and strike activity..., no unambiguous theoretical expectations exist regarding the impact of strike replacement legislation. Thus, to decipher the impact of such legislation, one needs to rely on empirical research." While there is nothing inherently wrong with such a deductive approach to empirical research, it is perhaps time, in light of the empirical findings so far, to deductively and inductively develop theoretical formulations, explicitly incorporating labour relations legislation

to guide such research, thereby increasing our understanding of the effects of such policies.

Fourth, as Chaison and Rose (1994) point out, strike replacement laws (general prohibition) have only been recently adopted in Canada (Quebec 1977-present; Ontario 1993-1995; and, British Columbia 1993-present); thus, there is an inherent difficulty in establishing cause and effect. Of course, this limitation will gradually cease to be applicable as the law "matures" in Quebec and British Columbia.

Fifth, researchers are not generally unanimous in how "strike duration" is best defined. This is especially the case in the United States. Esentially, is the strike over when the union says it is? Or is it over when production resumes? And how fully does production have to resume? In Canada, since the general practice is to re-hire strikers, this is less of a problem since the date the strikers return to their jobs is a good indicator of the end of a strike (see Jain and Singh, 1999). However, in the United States, as a result of this definitional problem, the duration data may exaggerate the actual length of replacement strikes.

Sixth, there is some confusion on the specification of the strike replacements variables; that is, there is an inconsistent understanding on the extent (number of provinces) of strike replacement legislation in Canada, especially with regard to the presence of statutes and cases on the reinstatement rights of strikers. Further, none of the studies consider the case law in Canada's federal and provincial jurisdictions. As the *Mackay* ruling illustrates, case law is as powerful as statutory laws in Canada and the United States. Of course, this places some doubt on the research results of all the studies that examine the effects of labour law on various outcomes. Future research should consider both statute and case law in the analysis.

Nevertheless, attempts at "natural experiments," such as those conducted by Gunderson

and colleagues and Budd, are laudable. The use of large databases to examine the effects of legislation, controlling for as many other factors as possible, is an innovative research design that future research should build upon. For instance, as Gunderson, Kervin and Reid (1989) suggest, future research should model both strikes and wages as jointly determined, thus enabling the estimation of the policy variables on bargaining power and wages.

Another intriguing avenue for future research is an examination of the legislation itself as a dependent variable(s) (Gunderson, et al, 1990). So far, research has examined the legislation, and the use of strike replacements, as independent variables. However, is the relationship unidirectional only? That is, can strike activity, bargaining power and wages, and other outcome variables be driving legislation?

Finally, there is a conspicuous absence of contributions from fields other than economics in the literature. While this may be a result of historical factors, there is a definite need for studies that explore the strike replacement issue from other perspectives, including those that are behaviourally-based. One of the most promising avenues for research is to marry the traditional case study approach with those that use large archival databases. It is interesting to note that two of the earliest studies on the replacement worker issue (albeit indirectly), using a case study approach, found psychological and personality factors to be "significant" in explaining the antecedents and consequences of the decision to use replacement workers. Jain and Singh (1999) also found attitudinal and personality factors to be important in their case studies on the strike replacement issue. It is time for a more interdisciplinary approach to the issue.

**Concluding Comments**

Collective bargaining is founded on two main principles: (i) a recognition of the legitimacy of all the actors in the industrial relations system, with an obligation to honour associated commitments; and, (ii) the protection of the integrity and effectiveness of the countervailing weapons. While the use of temporary replacement workers, and associated laws, suggest a compromise in reconciling differences between employers and organized labour (Weiler, 1980, 1984), the use of permanent replacements by some employers questions their commitment to both principles. First, by avoiding unions, the use of permanent replacements allows the employer to shirk its responsibility to the system of collective bargaining (Langille, 1995; England, 1983). Further, the possibility that unions may be decertified, especially through prolonged strikes, is a pernicious outcome of laws that permit hiring permanent replacements.

The second principle is integrally linked to the "matching power" debate. While it is practically impossible to locate any mathematically right point of balance in the union-management relationship, it is generally recognized that employers do have the upper hand (England, 1983). Thus, to use permanent replacements to do struck work may render impotent a union's most powerful, probably only real, weapon - the strike. As Gould (1993, p.202) argues,

> "[e]mployers have the right to lockout and, subsequent to bargaining to the point of impasse, to unilaterally institute their own position on wages, hours, and terms and conditions of employment. The right to permanently replace...is the right to use nuclear weaponry in the arsenal of industrial weapons."

Further, the practice of permanently replacing strikers does not seem to be in line with international norms. The right to strike is implicitly recognized by the International Labour Organization (ILO) through Convention No. 87 (Hodges-Aeberhard and Odero de Rios, 1987).

The ILO has criticized the United States of making this right devoid of content by allowing employers the right to hire permanent replacements (Lippmer, 1995). As an ILO committee of experts concluded, "the right to strike is critically demeaned when the law of the land sanctions an employer's decision to permanently replace striking workers" (cited in Lippmer, 1995, p.2060).

While empirical research on the effects of such fundamental labour laws may be useful for policy decisions, in the final analysis, the principles of industrial democracy, including the protection of free collective bargaining, may be even more important considerations in enacting strike replacement legislation. As Fox (1969, p.397) notes, within a pluralistic society, "...the legitimacy of trade unions in our society rest not upon their protective function in labour markets or upon their success, real or supposed, in raising the share enjoyed by their members, but on social values which recognize the right of interest-groups to combine and have effective voice in their own destiny." By extension, this argument may be applied to labour laws that embody principles of industrial democracy.

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*Table 1: Strike Replacement Legislation in Canada*

| | Total Ban on All Replacements | Reinstatement Rights Provisions | Professional Strikebreakers Banned | Provisions Protecting those who refuse to do struck work |
|---|---|---|---|---|
| Federal | s. (1998 - present) | | | |
| Alberta | | s.88 (1988-present) | s.152(1)(1988-present) | s.147(f)(1988-present) |
| British Columbia | s.68 (1993-present) | | s.3(3) (1975-present) | s.68(3) (1993-present) |
| Manitoba | | ss.11,12,13 (1976-present) | ss.14 (1) (1973-present) | ss.15,16 (1973-present) |
| New Brunswick | | | | |
| Newfoundland | | | | |
| Nova Scotia | | s.53(3)(a)(1989-present) | | s.53(3)(c) |
| Ontario | s.73 (1993-95) | s.80 (1995-present)<br>s.75(1) (1970-1993) | s.78 (1986-present)<br>s.73(1) (1993-1995) | |
| P.E.I. | | s.9(1987-present) | | |
| Quebec | s.109.1 (1977-present) | s.98(a) (1977-present) | | |
| Saskatchewan | | s.46 (1994-present) | | |

Source: Survey of Ministries of Labour/Labour Departments/Labour Boards.

*Table 2: Summary of Major Empirical Research*

| Study | Sample | Dependent Variable(s) | Independent Variables and Controls | Analysis | Results |
|---|---|---|---|---|---|
| Gunderson, Kervin and Reid (1989) | 3347 coll. ag., mostly >500 ee's; 531 strikes | strike incidence | eight policy variables, plus controls for industry, region/province, size of unit, etc | logit analysis | statistically significant increase in strikes |
| Gunderson and Melino (1990) | 7546 strikes in private sector: 1967-85; mostly >500 ee's | strike duration | same as above | hazard-function estimates | strikes longer when a general prohibition on replacement workers exists |
| Gramm (1991) | 53 strikes; permanent replacements in 10, 4 temporary | union decertification; strike duration; employer's ability to continue operations | not applicable | descriptive statistics | when permanent replacements use: unions more likely to be decertified; strikes longer; limited impact on employers ability to continue operations |
| Martinello and Meng (1992) | Cross section of 3853 full-time ee's in 1986 | union coverage | ban on permanent and temporary replacements and strike breakers plus other policy variables | probit regressions | no significant impact on wages and union coverage |

| Study | Sample | Dependent Variable(s) | Independent Variables and Controls | Analysis | Results |
|---|---|---|---|---|---|
| Schnell and Gramm (1994) | 271 strikes in 1985 and 989; corrected n=1211 | strike duration | employers' announcing use of striker replacements; actual use of replacements, plus controls for size of unit, region, etc. | hazard function estimates | no significant effects on proportion of full capacity operations; significant decrease in the re-hiring of strikers; firms using replacement workers obtain less favourable contracts than those that do not |
| Gramm and Schnell (1994) | 53 strikes in U.S. | Employers ability to continue operation; strikers' job security; bargaining outcomes. | Hiring permanent replacements; plus controls for size of unit, etc. | logistic regressions | general prohibition and ban on professional strikebreakers associated with increased likelihood of strikes; reinstatement rights clauses associated with lower strike probabilities. |
| Cuther-Gershenfeld, McHugh and Power (1996) | 481 coll. bar. negotiations, 24 involving strikes - 11 using repl. workers: 1987-91 | time to settle after contract expiration | use of replacement workers plus industry strike incidence | OLS regression | no significant effect on time to settle |

| Study | Sample | Dependent Variable(s) | Independent Variables and Controls | Analysis | Results |
|---|---|---|---|---|---|
| | | | | | |
| Budd (1996) | 2042 c.b. agreements; 22.5% involved a strike; 13.8% in Quebec | strike incidence, strike duration, wage determination | bans on permanent, temporary and professional strike breakers plus controls for year/time etc. | logit analysis; hazard estimates; OLS regressions | general prohibition and ban on professional strike breakers associated with increased likelihood of strikes; reinstatement rights clauses associated with lower strike probabilities |
| Jain & Singh (1999) | 93 strikes in Canada | strike duration | use of replacement workers, legal environment, size of bargaining unit, sector, industry, year | OLS regression analyses | use of replacement workers significantly associated with longer strikes |

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