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Strike Activity and Wildcat Strikes in British Columbia : 1945-1975
Grèves et grèves sauvages en Colombie Britannique

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Résumé de l'article

L'auteur présente et analyse le modèle des grèves en Colombie britannique de 1945 à 1975 et celles-ci sont classée en trois groupes distincts: celles qui se produisent à l'occasion d'une première convention collective, celles qui sont déclenchées lors du renouvellement de la convention et, finalement, celles qui ont lieu en cours de convention. L'auteur traite en particulier de ces dernières qu'on appelle aussi grèves sauvages, grèves illégales, grèves inautorisées, grèves de protestation. Les sources des statistiques relatives aux grèves sont tirées des publications du ministère du Travail de la Colombie britannique et de celles d'une agence publique qui désire conserver l'anonymat. L'enquête a porté sur quatre secteurs d'activité: le secteur privé de compétence fédérale, le secteur public de compétence fédérale, les pêches et le secteur de la compétence de la province. La plus grande partie de l'étude se rapporte aux arrêts de travail qui se sont produits dans le secteur qui est du ressort de la province. On y a retenu le secteur des pêches en considérant que la négociation porte sur le prix du produit, le poisson, plutôt que sur le prix du travail lui-même et qu'il y a eu, au cours de la décennie 1970, conflit entre la province et le gouvernement fédéral en matière de l'établissement des réglementations relatives à cette industrie.

Pendant la période de 1945 à 1975, 12% de toutes les grèves relevant de la compétence de la Colombie britannique eurent lieu à l'occasion de la négociation d'une première convention collective et elle ont duré en moyenne 73.4 jours ouvrables. 52% se sont produites lors du renouvellement d'une convention collective et elles ont duré en moyenne 41.1 jours ouvrables. Enfin, 36% sont survenues en cours de convention et elles ont duré en moyenne 6.2 jours ouvrables. Le recours à la grève s'est accru graduellement au cours des décennies 1940, 1950, 1960 et surtout 1970. D'ailleurs, ces statistiques sont identiques à ce que Carrothers et Palmer (1966, 234) ont constaté en Ontario de 1958 à 1965. Le nombre des grèves, ainsi classées en tenant compte de la convention, obéit aux cycles économiques, mais leur durée n'y est pas reliée. Cette dernière constatation confirme celle de Walsh (1975, 47-48) pour ce qui est de la durée de l'ensemble des grèves au Canada en fonction des cycles économiques, et, dans les deux cas, pour les motifs que Stem (1978, 38) a énoncés. Une constatation fondamentale de la présente étude, c'est que les séries pour le nombre et la durée des grèves, classées selon la nature de la convention, diffèrent considérablement, ce qui signifie qu'il faut les analyser séparément.

Les grèves en cours de convention ont été étudiés d'une façon spéciale parce qu'elles sont surtout des grèves illégales et qu'elles ont par conséquent un intérêt d'ordre public. Il faut souligner que la proportion des grèves sauvages est plus élevée en Colombie britannique que dans l'ensemble du Canada et aux États-Unis. On peut présumer que ceci est attribuable au fait que l'économie de cette province repose sur l'exploitation des ressources naturelles (Clack 1975, 9-10). Il y eut une augmentation marquée des grèves sauvages en Colombie britannique, de 1965-1969 jusqu'à 1970-1973, augmentation qui fut sans parallèle ailleurs au Canada.

Deux déterminants économiques de ce type de grève furent tirés de la théorie de Rees (1952) sur les grèves sauvages occasionnées par des frustrations refoulées, soit le pourcentage d'augmentation du coût de la vie et le taux du chômage. Quand on les utilise comme instruments dans une équation régressive, ces variables n'expliquent pas la durée des grèves inautorisées, mais elle expliquent, d'une façon qui n'est pas très significative, le nombre et la fréquence des grèves sauvages. Peut-être cela est-il dû à la nature non-économique des motifs allégués pour justifier ces grèves.

La combinaison interindustrielle des grèves sauvages (tout comme celle des grèves survenues à l'occasion de la négociation d'une première convention ou d'un renouvellement de convention) a également été étudiée. Celle-là est conforme à ce que Kerr et Siegel ont découvert pour l'ensemble des grèves dans leur étude générale. Les essais tentés en vue de comparer la théorie de Kerr et Siegel n'ont pas donné de résultats puisqu'elle n'offre que peu d'hypothèses vérifiables. Les grèves ont surtout eu lieu en Colombie britannique dans l'industrie forestière.

Des variables imaginaires représentant l'influence des changements dans la législation sur la fréquence des grèves furent incluses dans l'équation régressive. Deux variables différentes furent utilisées: l'une qui tenait compte de l'ensemble de la période au cours de laquelle la nouvelle législation fut en vigueur; la deuxième était restreinte aux deux premières années de l'application de la loi.

D'une façon générale, on peut conclure que les modifications apportées à la législation n'ont pas eu d'effet sensible sur les grèves sauvages. En conséquence, auraient-elles eu lieu indépendamment des sanction auxquelles on pouvait recourir. Cependant, il y a quelques indices que la législation récente, qui a mis l'accent sur le règlement volontaire et à l'amiable des conflits de droit, peut être préférable à l'approche légaliste et punitive antérieure. Cette nouvelle façon de procéder selon le*Code du travail* peut avoir eu pour résultat de réduire le nombre des grèves sauvages, ce qui aurait pu également se produire, parce que, en 1974-1975, syndicats et employeurs de l'industrie forestière se sont entendus pour tenter de résoudre leur conflits sans recourir à des arrêts de travail illégaux.

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Strike Activity and Wildcat Strikes in British Columbia: 1945-1975

E.G. Fisher

This paper extends and updates the research of Professor Jamieson on strike activity in British Columbia for the period 1945-1975.

With over forty percent of its non-agricultural workforce unionized, British Columbia has had a rather high incidence of strike activity (see, e.g., Jamieson (1977b).) In addition, British Columbia, accounting for approximately eleven percent of Canada's population, experiences approximately eleven percent of Canada's work stoppages.[1] This paper investigates strike activity in British Columbia for three reasons. First, British Columbia has a rich labour history (see, e.g., Phillips (1967).) Second, Canada consists of regional economies, one of which is British Columbia, and most collective bargaining takes place regionally.[2] Third, British Columbia experienced certain novel legislative experiments from 1945 through 1975. They included the B.C. Labour Relations Board's dispatching labour relations officers to intervene where grievance machineries were overloaded with grievances (1963-75, particularly 1974-75) and the labour minister's assigning "special officers" to act as "trouble shooters" and mediate-arbitrate certain potentially explosive disputes (1974-75). This paper seeks to extend and update the research of Jamieson (1971) and (1962) on strike activity in British Columbia as well as the research of others on strike activity, including Clack (1975), Kerr and Siegel (1954) and Rees (1952). The 1945-75 time period is a

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** The work of Professor emeritus Stuart Jamieson inspired this research. I am particularly indebted to John Cragg, Russell Uhler and an anonymous referee for incisive and helpful comments.

1 The figures concern 1975-77. Population figures are from SMALL (1979, 27). British Columbia strike statistics come from British Columbia's Ministry of Labour, *Labour Research Bulletin 6,* January 1978, 15, while Canada wide strike statistics were supplied by Labour Canada.

2 See, for example, BREWIS (1969), especially Chapter 13, OSTRY ans ZAIDI (1972), PEITCHINIS (1975), and BLAIN (1977), as well as DOWNIE (1971) and H.D. WOODS, *et al.* (1968, pp. 60-64).

time period for which a consistent, usable data base was assembled. (See Fisher (1979).)

The first part of this paper will present the strike pattern in British Columbia during 1945-75 and examine key features of it. Significantly, strikes are classified by contract status into (1) first agreement strikes, (2) contract renewal strikes and (3) strikes during the term of collective agreements. (Strikes during the term also are referred to as "unauthorized", "illegal" (a slight misnomer), "wildcat" and "protest strikes".)[3] Apparently, only one other set of researchers analysed strike activity by contract status: Carrothers and Palmer (1966).

This paper next focusses on other features of British Columbia strike activity during 1945-75 and subsequently on wildcat strikes in British Columbia. It then examines, first, the applicability of the Kerr and Siegel (1954) model of interindustry strike activity to wildcat strike activity in British Columbia and, second, the empirical applicability of Rees' (1952) pressure-value theory to British Columbia wildcat strikes during 1950-75. Significantly, Kerr and Siegel employed a sociological analysis of strikes; whereas, Rees' theory involved economic determinants of strike activity. The last portion of this paper investigates the effects of changes in British Columbia labour legislation during 1950-75 on strikes during the term.

Strike Activity in British Columbia 1945-75

Strike data were gathered from various publications by the British Columbia Ministry of Labour (e.g., *Annual Report* and *Labour Research Bulletin*) and from the files of a similar public agency desiring anonymity. The latter's data were used to resolve inconsistencies, to glean qualitative information and to supplement British Columbia Labour data in classifying strikes by contract status.

The jurisdictional classifications for the strike data were as follows: federal private sector, federal public sector, fishing, and British Columbia's jurisdiction. The federal private sector includes firms involved in interna-

3 Technically speaking, if a strike occurred as the result of a reopener clause, it would not be a strike during the term or an illegal or wildcat strike, provided that the entire agreement were reopened. If only one or two items were reopened and the remainder of the agreement remained "closed," the latter presumably would constitute a bar to a lawful strike in all Canadian jurisdictions, including British Columbia, except for Saskatchewan. Consequently, there may be a much smaller proportion of collective agreements with reopeners in all Canadian jurisdictions excluding Saskatchewan than in Saskatchewan and the United States.

tional and interprovincial transportation and communications, banks, and federal crown corporations.[4] As such, it included certain segments of industry in British Columbia such as transportation which exert a significant influence on British Columbia's resource extraction based economy. For instance, a 1969 tow-boat dispute brought the Province's forest products industries to a virtually complete halt, imparting significant downward multiplier-effect to the economy of British Columbia.[5] The federal public sector comprises those federal public servants who bargain collectively under the *Public Service Staff Relations Act* (R.S.C. 1970, c. P-35). Fishing normally is not considered a jurisdiction, but it was legally contested between the federal and provincial jurisdictions during the mid-1970s. Moreover, it involves special labour negotiations in which the price of an *intermediate product* (fish) rather than that of labour sometimes is the object of negotiations. British Columbia's jurisdiction in this study comprises employers and employees lying outside fishing and the two federal jurisdictions.

Within the jurisdiction of British Columbia, the distribution of strikes by contract status was as follows for the years, 1945-75: first agreement--12%, contract renewal--52% and during the term--36%. (See Table 1.) Significantly the Carrothers and Palmer study yielded similar results in Ontario during 1958-65: first agreement--26% (331 strikes), contract renewal--45% (572) and during the term--29% (364).[6] The 1958-65 figures for British Columbia were very similar: first agreement--21% (47), contract renewal--52% (114) and during the term--27% (58).

By contrast, the patterns for the proportion of all strikes that were wildcat strikes in British Columbia and Ontario diverged from 1966 through 1972. According to Clack, strikes during the term generally declined as a percentage of all strikes in Ontario (1975, Figure VI). They dipped from roughly 26% during 1965-69 to approximately 22% during 1970-72. By contrast, strikes during the term increased substantially in British Columbia as a proportion of all strikes from 34.3% during 1965-69, to 39% during 1970-72.[7]

4 See *Canada Labour Code,* Revised Statutes of Canada 1970, c. L-1, s. 2.

5 See Employers' Council of British Columbia (1970).

6 See CARROTHERS and PALMER, 1966, 234, Table 40. Strikes which involved "other circumstances" were dropped from Carrothers and Palmer's data, in order to make the data compatible with the data used in the current study.

7 CLACK used five-year moving averages in his calculations. Five-year moving averages were calculated using the data presented in Table 2. They were as follows: 32.3% (1965), 39.9% (1966), 33.2% (1967), 29.7% (1968), 36.6% (1969), 36.7% (1970), 41.1% (1971), and 41.1% (1972). They correspond to the ones that Clack presents for British Columbia for the respective years (1975, Figure VI).

The trend of strike activity in British Columbia was an increasing one during the 1940's, 1950's, 1960's, and particularly the 1970's, as is illustrated in Table 1. This increasing trend occurred in the two jurisdictions that the Federal Government regulates, as well. (See Table 1.) Moreover, Ontario and Québec also experienced a steady increase in strike activity, measured in man-days lost, over the 1945-49, 1950-59, 1960-69, and 1970-75 time periods.[8]

However, when the strike data for British Columbia are classified according to contract status and aggregated over each year, a distinctly cyclical pattern is evident for each strike series from 1945 through 1971. The number of first agreement strikes, contract renewal strikes and strikes during the term generally increase during upswings and attain maximums either during the peak of each boom (e.g., 1951, 1956-57, and 1966) or within a year or two after the peak. They typically decline as the economy of British Columbia enters into a recessionary period and attain a minimum either during the trough of the regional business cycle (e.g., 1954, 1960-61, and 1970-71) or a year or two thereafter. By contrast, the advent of double-digit inflation, coupled with relatively high levels of unemployment from 1973 through 1975 generally was accompanied by an upsurge in the number of strikes for each of the three strike series. (See Table 2.) But, such a cyclical pattern was not observed with regard to the duration of strikes. (See Table 2.) Walsh also found that the duration of strikes was related much less to cyclical activity than was the number of strikes (1975, 47-48). Walsh, however, used national data concerning strikes in Canada and did not classify strikes by contract status. Stern pointed out (1978, 38) that both economists and sociologists, although using somewhat different sets of explanatory variables, encountered much greater difficulty in attempting to empirically "explain" the duration, as opposed to the number and frequency of strikes.[9]

Jamieson attributes the cyclical pattern of strikes in British Columbia (and elsewhere in Canada) to "... [e]*conomic instability,* particularly as

8 See JAMIESON (1977b) concerning strike activity, measured in man-days lost, for British Columbia, Ontario and Québec from 1965 through 1974. See GARNER (1976) concerning Canada-wide strike activity which has been classified by province (and industry) and which is measured as number of strikes per unionized employee. See EATON (1973) concerning man-days lost and the number of strikes in British Columbia and Ontario from 1946 through 1970. See also Canada Department of Labour, *Strikes and Lockouts in Canada,* which is an annual publication and which is the source for the data in the studies by Jamieson (1977b), Garner (1976) and Eaton (1973).

9 STERN attributed this difficulty to the fact that economists and sociologists applied the same conceptual framework to the decision to strike as to the decision to continue to strike (1978, 38).

regards highly unstable cycles of investment and construction activity" (1977a, 1) which occur due to the lumpiness of investment activity in, and the construction of, such things as dams and buildings. This fuelled cyclical regional economic activity which was accentuated, in turn, by the dependence of British Columbia's resource-based economy upon the vagaries of foreign markets for a considerable proportion of their sales. In Jamieson's (1977b) analysis, strike activity in "pattern-setting" industries--construction and forest products--which, significantly accounted (1) for over one-fourth of all interest disputes strikes and (2) for almost three-fourths of all wildcat strikes during 1945-75.[10] (See Table 3.)

OTHER FEATURES OF BRITISH COLUMBIA STRIKE ACTIVITY DURING 1945-75

It is noteworthy that trade and services accounted for approximately 41% of all first agreement strikes, but they only contributed 18% of all contract renewal strikes and 2.4% of all strikes during the term. (See Table 3.) The relatively high percentage of first agreement strikes and the relatively low percentage of strikes during the term apparently reflect the traditional difficulties of organizing and, if certified, retaining a union in these industries.

A significant finding is that, statistically speaking, each of the three strike series can be dealt with separately. Initially, analysis of variance, later pair-wise statistical tests were conducted with respect to the differences between the mean number and the mean duration of the three strike series.[11] Pair-wise correlation coefficients were calculated in order to determine the degree to which the three series were colinear. The mean of the difference between the two variables generally was significantly different from zero at a very high level of significance,[12] and the correlation coefficients were not

10 Interest disputes strikes here mean strikes that issue from contract negotiations (i.e., first agreement and contract renewal strikes).

11 The analysis of variance F-tests revealed that the means were significantly different from each other at the .1% level of significance both for annual and quarterly observations. The F-statistics were as follows: annual mean numbers: 11.37 (2,75 degrees of freedom), quarterly mean numbers: 28.26 (2,369 DF), annual mean durations: 16.81 (2,75 DF), and quarterly mean durations: 38.13 (2,369 DF).

12 The results of the test, that the mean of the difference between the two variables was zero, were as follows: T_{N12} (5.5*), T_{N13} (4.3*), T_{N23} (2.8*), T_{D12} (1.8**), T_{D} (5.6*) and T_{D23} (9.8*) where N and D represent the number of strikes and duration and where 1, 2 and 3 represent first agreement, contract renewal and during the term, respectively. All t-statistics (T) are statistically different from zero at the .1% level (*) but one. The one exception is statistically different from zero at the 10% level (**).

high enough (a minimum of .8 and preferably .9) to warrant lumping the series together.[13]

The bulk of unlawful strikes that took place in B.C. from 1945 through 1975 were, of course, strikes during the term (503 of 1400 strikes per Table 1). By contrast, unlawful strikes constituted somewhat less than eight percent of all strikes issuing from interest disputes and for which some data on legal status were available: 77 of 911 interest disputes strikes (see Fisher, 1979, 100-101). Unlawful interest disputes strikes included strikes where the union "jumped the gun" (i.e., violated at least one of the preconditions for a lawful strike, such as conducting a secret strike ballot). They also included strikes for the following reasons: booking of sick, respecting another union's picket lines, information pickets, mystery pickets, and picket signs saying "no contract, no work". The figure of eight percent probably is an underestimate because many strikes were listed as "no reason" given. Indeed, the Rand Commission in Ontario found that some 38% (234 of 623 strikes) involved picketing outside the legal strike period during 1958-67.[14]

Wildcat strikes are of interest not solely because they statistically differ from interest disputes strikes and constitute the bulk of unlawful strikes. They also occur under different circumstances, and presumably for different reasons, than do interest dispute strikes. For instance, the contract is "closed" rather than "open". Moreover, wildcat strike activity represents a circumvention of the grievance machinery, which was the statutorily compulsory method for resolving rights disputes in British Columbia during 1945-75.

WILDCAT STRIKES IN BRITISH COLUMBIA: 1945-75

Thirty-six percent of all strikes in British Columbia were wildcat strikes. This was one of the highest ratios of wildcat strikes to all strikes in Canada. In both Canada and the United States thirty percent of all strikes were wildcat strikes over the 1946-73 time period. Moreover, Nova Scotia, where approximately one-half of all strikes were wildcat strikes over the same period, had the highest incidence of "unlawful" strikes.[15] British

13 The result of the correlation tests were the following: $r_{N12}(.71)$, $r_{N13}(.63)$, $r_{N23}(.70)$, $r_{D12}(-.06)$, $r_{D13}(.25)$, and $r_{D23}(.18)$, where r is the correlation coefficient. The other variables were defined in footnote 12 above.

14 This includes picketing during the following times of strike: during the legal strike period, during waiting period after conciliation, during conciliation, and during negotiation. See RAND, 1968, 179.

15 See CLACK, 1975, 6-7, and 10-11. See JAMIESON, (1962) for an analysis of the 1949-59 wildcat strike experience in British Columbia, as compared with the rest of Canada.

Columbia only experienced two years, 1971 and 1973, when approximately one-half of all strikes were "illegal" strikes.[16]

British Columbia's above-average incidence of "unauthorized" strikes presumably is mainly due to its resource-based economy, which is composed of traditionally wildcat-prone industries, such as mining, forest products, construction, and transportation. (See Clack, 1975, 9-10 and Table 4 below.) Curiously, the high incidence of "protest" strikes in Nova Scotia is seemingly inexplicable. (See Clack, 1975, 11 and 15.)

There was a substantial increase in wildcat strikes in British Columbia from 1965-69 to 1970-72, as described above. (See Clack, 1975, 9-10.) The upswing in the ratio of unauthorized strikes to all strikes that occurred in British Columbia was not paralleled elsewhere in Canada. In particular, it was not paralleled in Quebec, Ontario and Nova Scotia, which along with British Columbia generally have contributed about ninety percent of the wildcat strikes in Canada. Clack discovered that during 1965-69 as compared with 1970-72 the proportions of wildcat strikes to all strikes declined in Ontario from roughly twenty-six percent to approximately twenty-two percent, in Quebec from about nineteen percent to below ten percent in Nova Scotia from somewhat above sixty percent to somewhat below fifty percent (1975, Figure VI).

The increasing trend of wildcat strikes activity in British Columbia seems to have mirrored a deterioration of labour relations in the forest products industries. During the peak wildcat strike years of 1971 and 1973, for instance, wildcat strikes in these industries made up at least sixty-nine percent of all wildcat strikes in B.C. (See Table 4.) Significantly, these peaks occurred in the middle of the two-year master agreements negotiated during mid-1970 and mid-1972. One protest strike during 1971 involved an informal work group--fallers--and concerned representational issues with the bargaining unit, which is one of the largest units in B.C. Such representational difficulties clearly are inherent to many consolidated bargaining structures (see Weber, 1967, 14 and 18). Steps were taken on both sides of the bargaining table to reduce the previously high number of wildcat strikes in forest products during 1974 and 1975.[17] These measures were somewhat successful, particularly during 1975. (See Table 4.)

The second-highest wildcat-prone industry, construction, also contributed to the rash of wildcat strikes that took place in British Columbia

16 The ratio of wildcat strikes to all strikes exceeded one-half in 1971, it was slightly under one-half in 1973. See FISHER, 1979, 110.

17 See, for example, N.L. MENARD, 3rd Vice-President of Regional Council No. 1, International Woodworkers of America, personal letter in my possession, May 10, 1978.

during 1970-75. However, in comparison with forest products, the proportion of all strikes that were "unauthorized" strikes in construction was a more volatile series, of lower incidence. Finally, mining and food and beverages, both of which previously were rather "dormant" became more active contributors to the 1970-75 upsurge of unlawful strikes in B.C. (see Table 4).

THE APPLICABILITY OF THE KERR AND SIEGEL HYPOTHESIS TO WILDCAT STRIKE ACTIVITY IN BRITISH COLUMBIA: 1945-75

Jamieson (1962, 410-411) argued that wildcat strike activity in B.C. conformed with the Kerr and Siegel (1954) theory of strike activity. A key element in the K-S theory is that workers isolated, say, in work camps or company towns who also are engaged in hard physical labour share hardships, frustrations and experiences both on-and-off-the-job.[18] By contrast, urban workers, who in particular share fewer off-the-job experiences with their co-workers, make up a less cohesive group than do the "isolated masses." K and S essentially assume that the more experiences and frustration employees share, the more likely they will "wildcat" when a potential wildcat strike-triggering incident takes place (cet. par.). (See K-S, 1954, 193.)

Kerr and Siegel, therefore, conclude that the "isolated masses" should be more prone to wildcat than are urban labourers. In other words, the K-S theory predicts that, because of social pressures, a larger proportion of rural bargaining units, as opposed to urban bargaining units, will wildcat.[19] The Greater Victoria District and Vancouver and the Lower Mainland were considered urban and the rest of British Columbia rural, while province-wide strikes were counted as both rural and urban. Within the Federal Government's two jurisdictions and that of British Columbia it was found that 70% (378/542) of all wildcat strikes in B.C. during 1945-75 occurred in rural settings. This result is not surprising, considering that the forest products industries and mining, which account for much of wildcat strike activity in B.C., usually have rural locations. Much of the wildcat strike activity within the federal jurisdiction involved longshoring firms, a major telephone company, shipyards, rail firms and airlines (see Fisher, 1979, 113).[20] Strictly speaking, the K-S theory would predict that these industries

18 The hard physical labour hypothesis seldom has been tested by researchers, see LINCOLN, 1978, 200.

19 Indeed, SHORTER and TILLY view the K-S theory as a theory of strikes by *place* rather than by industry (1974, 289).

20 The major telephone company comes under federal legislation because it serves the Yukon Territory and Point Roberts, which is in the United States.

were rural industries--particularly longshoring, which was one of the industries that Kerr and Siegel identified as being strike-prone.[21]

The K-S theory presumably also predicts that because the rural-urban composition of society changes so slowly, there will be little variation in wildcat strike activity from one year to the next (cet. par.). This prediction clearly did not necessarily obtain for British Columbia data concerning wildcat strikes (see Table 2 above). Indeed, the strike cycle of British Columbia was related to the business cycle of British Columbia as noted above.

Kerr and Siegel's empirical findings concerning the international interindustry propensity to strike resemble my findings for British Columbia. They found that construction, forest products, mining and longshoring, among other industries were relatively strike-prone industries. My findings are that, from 1945 through 1975, the most wildcat-prone industries in British Columbia included mining and transportation, as well as, of course, forest products and construction. (See Table 4.) It is noteworthy that within the federal jurisdiction there were 26 wildcat strikes in transportation, seven in communications and three in public administration during 1945-75 (see Fisher, 1979, 113).

Although Kerr and Siegel look at a social bond which may cause wildcat strikes, they do not provide us with testable hypotheses concerning the underlying causes or reasons for wildcat strikes. In particular, the K-S theory does not explain how the various underlying causes of wildcat strikes are related to shared experiences or shared frustrations and how they might vary from one industry to another.

Some understanding of the causes of wildcat strikes can be derived from data concerning the reasons that employees stated for engaging in wildcat strikes. However, there is a caveat: the reasons stated need not be the underlying cause. Discipline (19.4%), wages (17. 84%), the union movement (15.2%), jurisdiction (8.6%), comfort (5.2%), and safety (7.3%) were among the reasons that employees most often cited for walking off during the terms of collective agreements.[22] (See Table 5.) Predictably, safety

21 K-S claim that most "isolated masses" are "geographically isolated" but that longshoremen are "socially isolated within metropolitan communities" (1954, 191, n.5). Unfortunately, they neither provide an independent measure for nor evidence which substantiates this assertion concerning longshoremen.

22 These categories were designed to be compatible with CLACK's (1975) categories. "Jurisdiction" refers to disputes as to which group of employees (e.g., electricians or labourers) performs which job. "Union movement" includes the following stated reasons: recognition, union security, check-off, representation and union administration, employment of particular groups (e.g., non-union workers), hiring of additional labour (e.g., contracting out), sanction by a labour body (e.g., "hot" declaration by B.C. Federation of Labour), protest of government policy (e.g., re: capital punishment, hijackings or workmen's compensation), protest of Anti-Inflation Board award or of War Labour Board award, respecting picket lines, sympathy strike, supervisors' crossing picket lines, and alleged unfair labour practices. The remaining categories are defined and explained in FISHER, 1979, 275-278.

disputes occurred primarily in forest products (46%), construction (21%) and mining (21%), while jurisdictional disputes took place in construction (64%,) forest products (18%) and manufacturing other than forest products (15%). (See Table 5.) Transportation in the federal jurisdiction (e.g., dry docks, shipping and longshoring) accounted for eight percent (3/36) of all jurisdictional disputes in British Columbia. (See Fisher, 1979, 113.)

Significantly, roughly one-fifth of all the wildcat strikes were for economic reasons (wages). Our application below of Rees' economic theory of wildcat strikes should provide some insight as to the extent to which certain economic indicators may influence the decision to wildcat, whether for economic or non-economic reasons.

Rees (1952) views wildcat strikes as a cathartic device and, in particular, as a pressure-valve for releasing pent-up frustrations. Rees' theory is not testable in the sense that we cannot quantify or measure a person's "frustration threshold". However, it is testable in that Rees links employees' tolerance limits for pent-up frustrations inversely with the degree of job security they enjoy. As the unemployment rate decreases (increases), the more (less) secure should employees' jobs become and the greater (smaller) will be their chances of finding alternative employment during a strike. Hence, employees will become more (less) strike-prone. Moreover, the lower (higher) is the probability that the employer can hire strikebreakers.

Another operative independent variable which Rees hinted at but did not link with pent-up frustrations (1952, 382) was the extent to which employees perceive that the wage gains they achieved in a collective agreement had been eroded while the agreement was in force. These wage gains can erode in two ways: (1) relative to other employees or (2) relative to the standard of living or cost of living. Since the strike data are aggregated over all industries, this study will focus on cost-of-living adjustment (COLA) frustration and the "COLA-strike syndrome", which occurred at least twice in British Columbia since the end of World War Two (WWII): once during the first decade after WWII and once during the double digit inflation of the mid-1970s. (See Meadows (1974) ans Meadows (1975).)

The following regression equation was used to test the Rees theory annually (and quarterly) for 1945-75 B.C. strike data:

$$S_t = aI + b X_{1t} + c X_{2t} + e_t \quad \ldots\ldots (1)$$

where the subscript, t, represents time, e_t is the error term, and I is the slope intercept. Strike measures, S, are as follows:

NS = number of strikes during the term;

NS/F = number of strikes during the term divided by the number of contracts in force (F) ; and

DUR = average duration of strikes during the term.

NS/F is theoretically more appealing than NS, since it estimates the *probability* that there will be a strike during the term of a collective agreement.[23]
The two regressors are:

$X_1 = \triangle CPI_t/CPI_{t-}$ = percentage change in the consumer price index (CPI) from year t-1 to year t, and

X_2 = U - = unemployment rate

It is expected that $b > o$ and $c < o$, as explained above. Moreover, to the extent that X_1 and the average duration of collective agreements are inversely correlated, X_1 should pick up the affects of the average duration of collective agreements on wildcat strikes.

THE DATA AND REGRESSION RESULTS

The Vancouver consumer price index series extended from 1950 through 1975 and were collected both annually and quarterly.[24] The unemployment rate series was drawn from Statistics Canada's *Labour Force Survey*. It was complete both annually and monthly from 1953, with sporadic observations from 1945 through 1953. The 1953-75 monthly observations of U were seasonally adjusted. Unadjusted observations for one month of each quarter existed from 1950 through 1952, and were rather volatile. Nonetheless, linear regressions using these sample month observations were employed to backcast U over 1950-52. Backcasting smoothed U during 1950-52. Quarterly and annual series of U were constructed from this. A random sample of contract data was culled from files at Labour Canada's Collective Bargaining Division and transformed into annual and quarterly series.

In view of possible data inadequacies concerning the 1950-52 backcasted series for U, a Chow test was used to determine whether or not

23 See KELLY, 1976, 1-3 who suggested taking into account the level of bargaining. My incidence measure is analogous to Kelly's but restricted to wildcat strikes.

24 The sources of these data were two Statistics Canada publications: *Canadian Statistical Review* and *Price and Price Indexes.*

1950-75 regressions were structurally the same as 1953-75 regressions.[25] They were statistically the same with NS/F and DUR as regressors but not for NS as regressor. Hence, NS regressions cover 1953-75. (See Fisher, 1979, 140.)

The Rees formulation was significantly different from zero at at least the 1% level for both annual and quarterly observations of NS/F and NS as well as for quarterly observations of DUR (see Table 6). Thus, the economic indicators, U and △ CPI/CPI seem to "explain" some of the variation in strikes during the term in B.C. during 1950-75 (or 1953-75 for NS).

Significantly, △ CPI/CPI statistically differed from zero (and had a positive coefficient, as predicted) at at least the 5% level in the statistically significant regressions. (See Table 6.) There clearly is not a very strong relationship between the business cycle, as represented by U, *in this formulation* and the incidence or number of wildcat strike. This may be due to the manner in which △ CPI/CPI dominates within this formulation.

The highest R^2, however, was .381. Such relatively low R^2s presumably occurred, in part, because the issues involved were not influenced by economic factors. Moreover, some researchers, including Slichter, Healy and Levernash believe that wildcat strikes will occur largely because the expected gains exceed the expected costs of complying with the grievance machinery (1960, 675). Economic determinants need not influence such a decision. Finally, the fact that (annual) duration could best be "explained" by non-economic variables was predicted by Stern, who sees "specific local conditions (industry, community, plant and interpersonal)" as having a dominant influence on the length of strike (1978, 39).

THE EFFECTS OF CHANGES IN LABOUR LEGISLATION ON WILDCAT STRIKE ACTIVITY IN B.C.: 1950-75

Dummy variables were constructed in order to simulate the effects of changes in labour legislation in strike activity in B.C. The dummy variables were "on" (i.e., took on a value of one) during the time period they were thought to have influenced strike activity and "off" (i.e., with a value of zero) otherwise.[26] Two types of dummy variables were constructed. One type remained "on" from when the statutory change took effect until

25 See, for example, JOHNSTON, 1972, 206-207 or NETER and WASSERMAN, 1974, 262-264.

26 A statutory change was said to be "on" if it was in force for more than one-half of the year or quarter under consideration.

another one supplanted it and was called a "structural dummy variable." The other type remained "on" for either one or two years after the change was enacted and was called a "learning new rules dummy variable." It tested the hypothesis that there is an underlying economically explained level of strike activity but that this level rose when statutory changes were proclaimed in force, because bargainers encountered difficulties in "playing the old game according to the new rules." The null hypothesis was that statutory changes had no impact on strikes. The main focus of this research was on intercept dummy variable schemas; however, slope-shifting indicator variable configurations also were tested. Parenthetically, the latter had no statistically significant effects. (See Fisher, 1979, 179.)

Subjective classifications were established in order to test for differences in the impact on strike activity which might stem from qualitative changes in legislation: "all changes" (AC), "important changes" (IC) and "fewest important changes" (FIC). It is expected that IC (FIC) will have a greater statistical impact on strike activity than AC (IC), due to the inclusion of more important and fewer statutory changes in the former as opposed to the latter. Structural dummy configurations were tested for AC, IC and FIC and were called respectively "all dummies" (AD: "on" during 1950-54, 1955-58, 1959-73, 1974, and 1975), "important dummies" (ID: "on during 1950-58, 1959-73, and 1974, and 1975) and "fewest important dummies" (FID: "on" during 1950-58, 1959-73, and 1974-75). Important changes were tested in the two dummy variable configurations for learning new rules in one year (LNR1: 1955, 1959, 1974, and 1975) and in two years (LNR2: 1955-56, 1959-60 and 1974-75). The pieces of legislation associated with these changes are presented below in Appendices A and B (see also Fisher, 1979, 143-150 and 230-255).

The most important feature of these changes in legislation was that compulsory, adjudicative, legalistic, and punitive methods of dispute resolution were supplanated during the last decade of 1945-75 by voluntary, accommodative forms of third party intervention.[27] (See Fisher, 1979, 145-146). For instance, during 1963-75 and particularly 1974-75, rights disputes, including those that had developed into wildcat strikes, could be resolved through the following voluntary accommodative technique. Following union or employer request, the Labour Relations Board of British Columbia could dispatch industrial relations officers who intervened and mediators, for instance, to unclog grievance machineries that had become clogged. The objective here was to open channels of labour-management communication, and attack the causes of grievances, thereby

27 See WOODS, 1973, 157-159 for definitions of "accommodative" as opposed to "normative" or "adjudicative" intervention.

avoiding the festering of grievances, so that fewer wildcat strikes might occur. (See, for example, Weiler, 1977, 66-71.)

Such accommodative voluntary methods of dispute resolution, due to their problem-solving possibilities, are expected to reduce the level of strike activity, everything else the same. Earlier (e.g., 1950-73), legalistic, or punitive forms are expected to have an ambiguous effetc on strike activity, cet. par. For instance, the threat of legal solutions or punitive remedial action presumably will not deter either labour or management form engaging in unlawful activity, including unlawful strikes, if either of them perceives that the benefits outweigh the costs. (See, e.g., Jamieson, 1973, 125-142.)

Annual data were deemed preferable to quarterly data for investigating the labour law-strike level relationship, primarily since annual data do not include the noise associated with the seasonal fluctuations found in quarterly data. However, preferring annual to quarterly data clearly reduced the degrees of freedom approximately four-fold (from approximately 100 to about 22), thereby increasing the margin for error in statistical tests. Furthermore, I began this research expecting that changes in labour legislation would not influence strike activity. In order to correct for this bias and the relatively few degrees of freedom, the minimum threshold for accepting the alternative hypothesis (i.e., that the legislation had some effect on strikes) was lowered from the traditional 5% level to the 10% level.

THE REGRESSION RESULTS

Regressions were run on annual data for NS/F and NS but not for DUR. The DUR regression without dummy variables had not differed statistically from zero (see Table 6.) The NS/F regression covered 1950-75, while the NS regression covered 1953-75 in accordance with the Chow test condected above. An F-test based on the analysis of variance was used to determine whether or not the full regression equation (including dummy variables) differed statistically from the reduced regression (without dummy variables). (See, e.g., Neter and Wasserman, 1974, 262-264.)

It is inferred that changes in labour legislation generally did not influence wildcat strike activity in British Columbia during 1945-75, particularly with regards to the theoretically more appealing incidence measure: NS/F (see Table 7). However, the addition of the important dummies (ID) configuration to the reduced regression boosted the R^2 sufficiently that the full regression differed statistically from the reduced regression at the 10% level. Two dummy variables within the ID scheme were associated with an increase in strike activity at at least 10% level of

significance: D_{G1} simulating the effect of the *Industrial Conciliation and Arbitration Act and the Labour Relations Act* (1950-58) and D_{G2} simulating the effect of the *Trade-Union Act* (1958-73). Both these statutes provided for litigious and punitive measures against wildcat strikers. Two other dummy variables had a negative statistically significant effect on strikes: D_{P6} simulating the B.C. *Labour Code* (1974-75) and D_{H3} simulating the B.C. *Labour Code* (1974). The B.C. *Labour Code* implemented accommodative procedures for resolving wildcat strikes, as noted above. However, neither of the dummy variable configurations to which they belonged (LNR1 and LNR2) caused a statistically significant increase in R^2 (See Table 7). LNR1 and LNR2 respectively fell 22% and 13% short of achieving the 10% significance level (see Fisher, 1979, 159 as revised).

Substitution of NS/F for NS as the regressant in the regression equation lead to a curious reversal in the percentage by which the structural dummy variable schemes fell short of (or exceeded) the 10% significance level. The results for NS were 15.3% for FID, -9.5% for ID and -26.5% for AD, while for NS/F they were -88.6% for AD, -88.6% for ID and -91.9 for FID. LNR2 had the smallest percentage (-74.8%) for failing to attain the 10% significance level with NS/F as regressant, while LNR1's performance was mediocre (-87.8%). (See Fisher, 1979, 159 as revised.)

CONCLUSIONS

Strikes during the term differ in kind from interest dispute strikes both in number and duration. The number of wildcat strikes typically has a procyclical pattern and can be "explained" through a regression equation involving two economic deterninants as regressors: the percentage increase in the cost of living and the unemployment rate. However, this economic formulation, which derived from Rees' pent-up frustrations theory of wildcat strikes, did not "explain" the duration of unauthorized strikes. It also lacked a high degree of explanatory power (e.g., $R^2 > .50$) for the number and incidence of wildcat strikes, which may have stemmed from the non-economic nature of the reasons given for those strikes.

The interindustry composition of wildcat strikes in B.C. conforms with that found for all strikes in the Kerr and Siegel study, but K-S does not offer much in the way of testable hypotheses. The forest products industry dominates the pattern of strikes during the term in B.C.

In general, it was inferred that changes in labour legislation did not influence wildcat strike activity. This presumably means that they will occur regardless of the sanctions which may be invoked. However, there was weak

evidence that recent labour legislation stressing a voluntary, accommodative approach to rights disputes may be preferable to earlier legislation embodying a legalistic, punitive approach. For instance, the recently implanted accommodative approach of the B.C. *Labour Code* may have been associated with a reduction in wildcat strikes. But other factors could have had an influence (e.g., through the error term in the regression). One such factor, in particular, was the resolution by industry and union officials in the forest products industry to attempt to resolve problems without contravening the law.

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Grèves et grèves sauvages en Colombie britannique

L'auteur présente et analyse le modèle des grèves en Colombie britannique de 1945 à 1975 et celles-ci sont classée en trois groupes distincts: celles qui se produisent à l'occasion d'une première convention collective, celles qui sont déclenchées lors du renouvellement de la convention et, finalement, celles qui ont lieu en cours de convention. L'auteur traite en particulier de ces dernières qu'on appelle aussi grèves sauvages, grèves illégales, grèves inautorisées, grèves de protestation. Les sources des statistiques relatives aux grèves sont tirées des publications du ministère du Travail de la Colombie britannique et de celles d'une agence publique qui désire conserver l'anonymat. L'enquête a porté sur quatre secteurs d'activité: le secteur privé de compétence fédérale, le secteur public de compétence fédérale, les pêches et le secteur de la compétence de la province. La plus grande partie de l'étude se rapporte aux arrêts de travail qui se sont produits dans le secteur qui est du ressort de la province. On y a retenu le secteur des pêches en considérant que la négociation porte sur le prix du produit, le poisson, plutôt que sur le prix du travail lui-même et qu'il y a eu, au cours de la décennie 1970, conflit entre la province et le gouvernement fédéral en matière de l'établissement des règlementations relatives à cette industrie.

Pendant la période de 1945 à 1975, 12% de toutes les grèves relevant de la compétence de la Colombie britannique eurent lieu à l'occasion de la négociation d'une première convention collective et elle ont duré en moyenne 73.4 jours ouvrables. 52% se sont produites lors du renouvellement d'une convention collective et elles ont duré en moyenne 41.1 jours ouvrables. Enfin, 36% sont survenues en cours de convention et elles ont duré en moyenne 6.2 jours ouvrables. Le recours à la grève s'est accru graduellement au cours des décennies 1940, 1950, 1960 et surtout 1970. D'ailleurs, ces statistiques sont identiques à ce que Carrothers et Palmer (1966, 234) ont constaté en Ontario de 1958 à 1965. Le nombre des grèves, ainsi classées en tenant compte de la convention, obéit aux cycles économiques, mais leur durée n'y est pas reliée. Cette dernière constatation confirme celle de Walsh (1975, 47-48) pour ce qui est de la durée de l'ensemble des grèves au Canada en fonction des cycles économiques, et, dans les deux cas, pour les motifs que Stern (1978, 38) a énoncés. Une constatation fondamentale de la présente étude, c'est que les séries pour le nombre et la durée des grèves, classées selon la nature de la convention, diffèrent considérablement, ce qui signifie qu'il faut les analyser séparément.

Les grèves en cours de convention ont été étudiés d'une façon spéciale parce qu'elles sont surtout des grèves illégales et qu'elles ont par conséquent un intérêt d'ordre public. Il faut souligner que la proportion des grèves sauvages est plus élevée en Colombie britannique que dans l'ensemble du Canada et aux États-Unis. On peut présumer que ceci est attribuable au fait que l'économie de cette province repose sur l'exploitation des ressources naturelles (Clack 1975, 9-10). Il y eut une augmentation marquée des grèves sauvages en Colombie britannique, de 1965-1969 jusqu'à 1970-1973, augmentation qui fut sans parallèle ailleurs au Canada.

Deux déterminants économiques de ce type de grève furent tirés de la théorie de Rees (1952) sur les grèves sauvages occasionnées par des frustrations refoulées, soit le pourcentage d'augmentation du coût de la vie et le taux du chômage. Quand on les utilise comme instruments dans une équation régressive, ces variables n'expliquent pas la durée des grèves inautorisées, mais elle expliquent, d'une façon qui n'est pas très significative, le nombre et la fréquence des grèves sauvages. Peut-être cela est-il dû à la nature non-économique des motifs allégués pour justifier ces grèves.

La combinaison interindustrielle des grèves sauvages (tout comme celle des grèves survenues à l'occasion de la négociation d'une première convention ou d'un renouvellement de convention) a également été étudiée. Celle-là est conforme à ce que Kerr et Siegel ont découvert pour l'ensemble des grèves dans leur étude générale. Les essais tentés en vue de comparer la théorie de Kerr et Siegel n'ont pas donné de résultats puisqu'elle n'offre que peu d'hypothèses vérifiables. Les grèves ont surtout eu lieu en Colombie britannique dans l'industrie forestière.

Des variables imaginaires représentant l'influence des changements dans la législation sur la fréquence des grèves furent incluses dans l'équation régressive. Deux variables différentes furent utilisées: l'une qui tenait compte de l'ensemble de la période au cours de laquelle la nouvelle législation fut en vigueur; la deuxième était restreinte aux deux premières années de l'application de la loi.

D'une façon générale, on peut conclure que les modifications apportées à la législation n'ont pas eu d'effet sensible sur les gèves sauvages. En conséquence, auraient-elles eu lieu indépendamment des sanction auxquelles on pouvait recourir. Cependant, il y a quelques indices que la législation récente, qui a mis l'accent sur le règlement volontaire et à l'amiable des conflits de droit, peut être préférable à l'approche légaliste et punitive antérieure. Cette nouvelle façon de procéder selon le *Code du travail* peut avoir eu pour résultat de réduire le nombre des grèves sauvages, ce qui aurait pu également se produire, parce que, en 1974-1975, syndicats et employeurs de l'industrie forestière se sont entendus pour tenter de résoudre leur conflits sans recourir à des arrêts de travail illégaux.

APPENDIX A

Dummy Variable Schemas

			STRUCTURAL		
D_{G3}**			1948	1954	Industrial Conciliation and Arbitration Act
D_{G4}**			1955	1958	Labour Relations Act
D_{G2}	(+)	(++)	1959	1973	Trade-unions Act
(I)	(I)	(I)	1974	1974	Labour Code of British Columbia
D_{G5}	(+)		1975	1975	Labour Code of British Columbia Amendment Act, 1975
D_{G1}**	(+)	(++)	1948	1958	Industrial Conciliation and Arbitration Act Labour Relations Act
			LEARNING NEW RULES IN ONE YEAR		
D_{P1}			1955	1955	Labour Relations Act
D_{P5}			1959	1959	Trade-unions Act
D_{P4}			1974	1974	Labour Code of British Columbia
D_{P6}			1975	1975	Labour Code of British Columbia Amendment Act, 1975
			LEARNING NEW RULES IN TWO YEARS		
D_{H1}			1955	1956	Labour Relations Act
D_{H5}			1959	1960	Trade-unions Act
D_{H3}			1974	1975	Labour Code of British Columbia

*Substitution of D_{C1} for D_{C3} and D_{C4} yields nearly all dummy variables.
**Substitution of D_{G1} for D_{G3} and D_{G4} yields nearly all dummy variables.
(+)Make up important dummy schema.
(++)Make up important dummy schema.
(I)Intercept term.

APPENDIX B

Changes in British Columbia's Labour Legislation Pertaining to Strikes During the Term: 1948-75

1. The *Industrial Conciliation and Arbitration Act,* 1947, S.B.C. 1947, c. 44, proscribed strikes during the term like its predecessor act, the *Wartime Labour Relations Regulations,* and permitted the levying of fines against unions and their members for striking illegally.
2. The *Industrial Conciliation and Arbitration, 1947, Amendment Act,* 1948, S.B.C. 1948, c. 31, included a provision enabling the British Columbia Labour Relations Board to decertify a union whose members had engaged in an unlawful strike.
3. The *Labour Relations Act,* S.B.C. 1954, c. 17, allowed the minister of labour to initiate court action to determine the legality of a strike. If it were deemed illegal, and if the union or its executive were held responsible, then the judge involved could declare one, two or all of the following null and void: (1) the trade-union's certificate, (2) the written assignment of union dues by the employee to the union persuant to Section 9 of the Act (i.e., the checkoff), or (3) the collective agreement. (These provisions never were enforced, according to Jamieson, 1968, 385-386.)
4. The *Trade-unions Act,* S.B.C. 1959, c. 90, provided even stronger deterrents against unauthorized strikes than the *Labour Relations Act* had. (See Jamieson, 1968, 386.) It clearly defined unions as "legal entities" which could be sued (as could union leaders) for any illegal activities that were associated with strikes, picketing or boycotts and placed upon union leaders the burden of proving that they had not ordered union members to walk off a job site while the contract was in force. (See Carrothers, 1960, 327-29). It also set out conditions under which courts could issue *ex parte* injunctions concerning strikes, lockouts and picketing. (See Carrothers, 1960, 342-45 and Hickling, 1975, 56-69).
5. The *Labour Relations Act Amendment Act, 1963,* S.B.C. 1963, c. 20, permitted intervention by a department labour held officer to assist in resolving a rights dispute where either labour or management requested such an appointment. This provision apparently was seldom, if ever used, but it was the antecedant to a similar but, much more widely used, provision in the B.C. *Labour Code.*
6. The *Labour Code of British Columbia,* S.B.C. 1973 (2nd session), C. 122 enabled the B.C. Labour Relations Board to appoint labour relations officers to assist in resolving rights disputes. It also permitted to the minister of labour to appoint "special officers" to mediate-arbitrate in selected disputes during the term, which were deemed, for instance, to be potential disruptive. This Act permitted the B.C. Labour Relations Board to deal with the legality/illegality of strikes and lockouts, as well as with the non-criminal aspects of picketing.
7. The *Labour Code of British Columbia Amendment Act, 1975,* S.B.C. 1975, c. 33 removed wildcat strikes from being classified as unfair labour practices and therefore subject to the remedies attached to unfair labour practices. It also sanctioned strikes during the term, if and only if, the reason for the strike was safety conditions.

TABLE 1

Number and Average Duration of Strikes Classified by Contract Status and by Jurisdiction in British Columbia: 1945-75

		CONTRACT STATUS					
		First Contract		*Renewal*		*During Term*	
JURISDICTION	*Years*	*No.*	*Average[a] Duration*	*No.*	*Average[a] Duration*	*No.*	*Average[a] Duration*
British Columbia	1945-49	12	36.1	41	30.2	32	9.0
	1950-59	29	33.4	158	27.9	100	6.6
	1960-69	59	85.0	205	43.7	125	7.5
	1970-75	63	73.4	330	41.1	246	6.2
Total	1945-75	163	67.7	734	38.4	503	6.8
Federal: Private Sector	1960-69	0	0.0	2	17.5	0	0.0
	1950-59	0	0.0	15	20.9	6	13.7
	1960-69	0	0.0	18	25.8	8	5.1
	1970-75	3	48.7	41	13.3	31	2.7
Total	1945-75	3	48.7	76	17.9	45	4.6
Federal: Public Sector	1960-69*	0	0.0	0	0.0	1	1.0
	1970-75	0	0.0	14	9.8	6	2.0
Fishing**	1945-59	2	15.0	1	6.0	0	0.0
	1950-59	0	0.0	10	32.2	1	5.0
	1960-69	1	101.0	1	4.0	0	0.0
	1970-75	1	12.0	3	16.3	0	0.0
Total	1945-75	4	35.8	15	25.4	1	5.0

* Not permitted to bargain collectively until 1967, when the *Public Service Staff Relations Act* (PSSRA) was enacted.

** Includes strikes by unorganized employees and involves strikes by organized but non-certified government employees.

a Duration is measured in working days.

Source: Fisher (1979, 91).

TABLE 2

The Annual Pattern of Strikes in the Jurisdiction of British Columbia Classified by Contract Status: 1945-75

	CONTRACT STATUS					
	First Agreement		*Renewal*		*During Term*	
Year	*Number*	*Average Duration (Working Days)*	*Number*	*Average Duration (Working Days)*	*Number*	*Average Duration (Working Days)*
1945	1	45.0	3	9.7	12	6.6
1946	4	11.0	6	42.8	6	20.5
1947	5	17.2	17	32.1	5	1.2
1948	0	0.0	3	40.0	6	11.7
1949	2	126.5	5	24.5	2	4.0
1950	2	22.5	8	26.2	11	2.5
1951	5	10.2	21	20.3	9	16.2
1952	1	30.0	19	31.1	8	3.7
1953	3	39.0	16	30.6	9	3.6
1954	0	0.0	11	27.8	5	7.0
1955	0	0.0	7	32.1	12	7.0
1956	2	25.5	11	28.6	18	6.4
1957	3	75.7	25	23.7	9	5.6
1958	4	31.3	16	30.2	13	7.6
1959	7	43.7	19	22.9	5	11.9
1960	4	24.5	7	15.3	4	20.0
1961	1	10.0	11	55.1	5	2.2
1962	10	35.5	13	87.1	5	26.2
1963	3	40.0	8	73.1	3	1.8
1964	7	125.6	14	44.8	9	4.5
1965	11	67.6	26	34.5	14	4.0
1966	5	113.0	17	20.3	11	9.7
1967	7	31.4	28	46.4	23	5.7
1968	7	51.4	38	37.3	21	11.0
1969	9	121.1	47	32.5	28	4.0
1970	13	117.6	44	43.2	8	7.1
1971	14	67.4	29	37.5	56	5.1
1972	9	30.7	46	31.6	30	7.1
1973	8	60.4	59	35.2	65	3.8
1974	17	70.8	65	32.7	52	5.6
1975	11	58.9	98	36.8	33	9.2
Total*	175		737		497	

* The total number of strikes in Table 2 exceeds that in Table 1, since some strikes previously not classified were classified between the generation of Tables 1 and 2. Table 2 figures were used in subsequent analyses.

TABLE 3

The Percentage of Strikes Within the Jurisdiction of British Columbia by Industry: 1945-75

	Contract Status		
	First Agreement	*Contract Renewal*	*During Term*
Industry	%	%	%
MINING	4	6	9
MANUFACTURING			
Food & Beverages	4	8	4
Pulp, etc.*	6	9	17
Logging, etc.**	1	3	27
Wood Products**	8	4	12
FOREST PRODUCTS***	15	16	56
Metal Products	5	6	2
Machinery +	5	4	2
Misc. Manu.	11	13	5
Sub Total	40	47	68
CONSTRUCTION	11	13	17
TRANSPORTATION, COMMUNICATIONS			
Utilities	4	7	3
TRADE	24	9	1
SERVICES			
Misc. Services	10	7	4
Sub Total	17	18	2
TOTAL PERCENTAGE	100	100	100
TOTAL NUMBER	163[a]	734[a]	503[a]

* Primarily pulp and paper; 1945-69; includes wood products: 1970-75.

** Covers 1945-69.

*** Includes pulp, etc.; logging, etc.; and wood products.

\+ Includes heavy electrical and transportation machinery.

a The totals do not match those in Tables 1 and 2 since these tables were derived at different times. Some strikes were reclassified in between derivations.

TABLE 4

The Pattern of Wildcat Strikes Within Selected Industries and Industrial Groupings in the Jurisdiction of British Columbia: 1960-75

Year	*Mining*	*Food & Beverages*	*Pulp, etc.**	*Logging,*	*Wood Products***	*Misc. Manu.*	*Construction*	*Transportation****	*All Industries*	*% in Forest Products +*	*% in Construction*
1960	1	0	0	1	0	0	2	0	4	25.0%	50.0%
1961	0	0	0	3	2	0	0	0	5	100.0%	0.0%
1962	0	0	0	3	2	0	0	0	5	100.0%	0.0%
1963	0	0	1	0	1	0	1	0	3	66.7%	33.3%
1964	0	0	0	2	1	3	3	0	9	33.3%	33.3%
1965	0	0	1	1	2	1	5	1	13	30.8%	38.5%
1966	0	0	1	4	0	0	5	0	11	45.5%	45.5%
1967	3	0	1	3	6	2	6	1	23	43.4%	26.1%
1968	0	0	1	3	12	0	5	0	21	76.2%	23.8%
1969	1	0	2	13	8	0	3	0	28	82.1%	10.7%
1970	0	0	6	1	—	1	0	0	8	87.5%	0.0%
1971	1	1	7	37	—	1	10	0	56	78.6%	17.9%
1972	4	0	9	7	—	1	4	0	30	53.3%	13.3%
1973	7	4	23	22	—	3	1	1	65	69.2%	1.5%
1974	7	6	23	6	—	1	0	2	52	55.8%	0.0%
1975	5	4	8	4	—	2	6	0	33	36.3%	18.2%
	29	15	83	110	34	15	48	5	371	61.2%	12.9%

* Primarily pulp and paper: 1945-69; includes wood products, 1970-75
(Standard Industrial Classification Codes are set out in Appendix D.)

** Covers 1945-69.

*** Much of transportation lies within the federal private sector jurisdiction.

\+ Forest products include pulp, etc., logging etc., and wood products.

TABLE 5

Reasons for Wildcat Strikes in the Jurisdiction of British Columbia Classified by Industry: 1945-75

	REASON												
INDUSTRY	*Wages*	*Comfort*	*Safety*	*Job Security*	*Deployment*	*Discipline*	*Scheduling*	*Union Movement*	*Jurisdiction*	*Contractual Matters*	*Miscel-laneous*	*Row Total*	*Percent (%)*
FISHING	1											1	0.3
MINING	5	6	6	2	2	9	4	4	0	0	4	42	11.0
MANUFACTURING:													
Food and Beverages	3	0	1	4	0	0	1	5	0	1	0	15	3.9
Pulp, etc.*	10	1	4	2	2	11	4	9	4	3	4	54	14.1
Logging, etc.**	19	6	5	6	3	16	3	11	0	3	6	78	20.4
Wood products**	4	2	4	8	1	16	6	7	2	5	3	58	15.2
PULP, LOGGING, WOOD	33	9	13	16	6	43	13	27	6	11	13	193	50.5
MANUFACTURING:													
Metals	1	0	1	0	0	1	0	2	1	1	0	7	1.8
Machinery***	3	0	0	0	0	0	2	3	3	0	1	12	3.1
Miscellaneous	4	0	0	1		6	0	4	1	3	1	20	5.2
MANUFACTURING	44	9	15	21	6	50	16	41	11	16	15	247	64.6
CONSTRUCTION	12	5	6	0	2	12	0	10	21	3	5	76	20.0
TRANSPORTATION	4	0	0	0	1	1	1	0	1	0	1	9	2.4
COMMUNICATIONS	0	0	0	0	0	0	0	0	0	0	0	0	
UTILITIES	1	0	0	0	0	0	0	1	0	0	0	2	0.5
TRADE	0	0	0	1	0	2	0	0	0	0	0	3	0.8
SERVICES:													
Educational	1	0	0	0	0	0	0	0	0	0	0	1	0.3
Municipal	0	0	0	0	0	0	0	0	0	0	0	0	
Miscellaneous	0	0	1	0	0	0	0	1	0	0	1	2	0.5
Provincial	0	0	0	0	0	0	0	1	0	0	1	2	0.5
Federal	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL	68	20	28	24	11	74	21	58	33	19	26	382	
PERCENT (%)	17.8	5.2	7.3	6.3	2.9	19.4	5.5	15.2	8.6	5.0	6.8		

* Primarily pulp and paper: 1945-1969; also covers wood products: 1970-75

** Covers: 1945-69

*** Includes heavy equipment, electrical and transportation machinery.

TABLE 6

Regressions Using the Rees Formulation: 1950-75 Annual and Quarterly

Annual

S	I	X_1	X_2	R^2	*F-Statistic*
		(T-Statistics for 23 degrees of freedom)			*(2, 23)*
NS/F	0.72	15.97**	-0.003	.381	7.07**
	(1.38)	(3.76)	(-0.33)		
NS[a]	4.77	294.17**	0.07	.338	5.87**
	(0.44)	(3.32)	(0.37)		
DUR	1.44	-26.61	0.12	.108	1.210
	(0.32)	(-0.69)	(1.53)		(2, 26)
		(T-Statistics for 20 degrees of freedom)			

Quarterly

S	I	X_1	X_2	R^2	*F-Statistic*
		(T-Statistics for 101 degrees of freedom)			*(2, 101)*
NS/F	0.80	14.06*	-0.004	.190	11.88*
	(2.23)	(4.87)	(-0.59)		
NS[a]	1.78	65.56*	0.01	.187	11.63*
	(1.03)	(4.72)	(0.35)		
DUR	0.08	75.17***	0.09	.071	3.86**
	(0.02)	(2.30)	(1.25)		

* Statistically different from zero at the .1% level of significance.
** Statistically different from zero at the 1% level of significance.
*** Statistically different from zero at the 5% level of significance.
a The regression with NS as regressor covered 1953-75.

TABLE 7

F-Test That Various Dummy Variable Configurations Are Statistically Different From Zero for Strikes During the Term: 1950-75 Annual or 1953-75 Annual

Dummy Variable Configuration	*No Dummy Variables*	*Fewest Important Dummies*	*Important Dummies*	*All Dummies*	*Learning New Rules in 1 Year*	*Learning New Rules In 2 Years*
Degrees of Freedom	*(2,23)*	*(2,21)*	*(3,20)*	*(4,19)*	*(4,19)*	*(3,20)*
			1950-75 Annual			
R^2 with NS_3/F as Regressant	.381	.393	.405[a]	.426	.415	.432
F-Statistic	—	.208	.269	.372	.276	.599
Variables Statistically Different from Zero	$+X_1$**	$+X_1$***	$+X_1$***	$+X_1$***	$+X_1$***	$+X_1$***
			1953-75 Annual			
Degrees of Freedom	*(2,20)*	*(2,18)*	*(3,17)*	*(4,16)*	*(4,16)*	*(3,17)*
NS_3	.524	.644	.657	.667	.673	.654
F-Statistic	—	3.034†	2.214	1.718	1.823	2.129
Variables Statistically Different from Zero	$+X_1$*	$+X_1$* $+D_{G1}$† $+D_{G2}$***	$+X_1$*	$+X_1$*	$+X_{1*} - D_{P6}$***	$+X_1$* $- D_{H3}$***

* Statistically different from zero at the .1% level of significance.
** Statistically different from zero at the 1% level of significance.
*** Statistically different from zero at the 5% level of significance.
† Statistically different from zero at the 10% level of significance.
\+ Positive coefficient.
— Negative coefficient.
D_{G1} *Industrial Conciliation and Arbitration Act* plus *Labour Relations Act.*
D_{G2} *Trade-Union Act.*
D_{P6}, D_{H3} *Labour Code* of British Columbia.
[a] These regressions for DUR yielded such low R^2s that they were not included in this table.

TABLE 8

F-Test That Estimates Using the Same Regression Equation but Different Time Periods are Statistically Different

	1950-75	*Variables That Differ*		*1953-75*
Regressants	R_p^2 *(F-Statistic)*	*Statistically From Zero*	R_r^2	*F-Statistic (Degrees of Freedom)*
		ANNUAL		
NS/F	.381** (7.073)	$+X_1$*	.522	1.967 (3,20)
NS	.338** (5.869)	$+X_1$*	.524	2.605† (3,20)
DUR	.065 (0.803)	—	.108	0.321 (3,20)
		QUARTERLY		
NS/F	.190* (11.880)	$+I^{***}$ $+X_1$*	.298	1.026 (12,89)
NS	.187* (11.629)	$+X_1$*	.316	1.399 (12,89)
DUR	.071*** (3.862)	$+X_1$**	.059	-0.095 (12,89)

* Statistically different from zero at the .1% level of significance.
** Statistically different from zero at the 1% level of significance.
*** Statistically different from zero at the 5% level of significance.
† Statistically different from zero at the 10% level of significance.
\+ Positive Coefficient.
\- Negative Coefficient.
R_p^2 R^2 for the pooled regression (1950-75).
R_r^2 R^2 for the reduced regression (1953-75).
Source: Fisher, 1979, 140 as revised.