



The STATE OF THE UNIONS: UNITED STATES and CANADA*

By

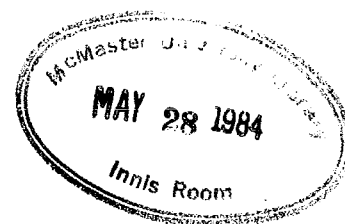
Joseph B. Rose

Faculty of Business
McMaster University
Hamilton, Ontario

and

Gary N. Chaison

Graduate School of Management
Clark University
Worcester, Massachusetts



**INNIS LIBRARY
NON-CIRCULATING**

FACULTY OF BUSINESS

McMASTER UNIVERSITY

HAMILTON, ONTARIO

Research and Working Paper Series No. 221
1984

Innis



HB

74.5

.R47

no.221

*Forthcoming in the *Journal of Labour Research*

The State of the Unions: United States and Canada*

by

Joseph B. Rose
Faculty of Business
McMaster University
Hamilton, Ontario

and

Gary N. Chaison
Graduate School of Management
Clark University
Worcester, Massachusetts

* Forthcoming in the Journal of Labor Research.

Abstract

This study demonstrates that the Canadian labor movement has outperformed its U.S. counterpart in terms of union growth, union density and certification outcomes. Labor and product market factors do not appear to be major contributing factors. Public policy and increased employer resistance have played a critical role, particularly in the decline in unionization in the U.S. Union related variables - militancy, structure and the desire and ability to organize - are also important in explaining the divergent union trends in the two countries.

The purpose of this paper is to compare the divergent paths of the two North American labor movements over the past twenty-five years. In the U.S., there are indicators of union stagnation and decline, including trends in membership growth, union density, and representation election outcomes (Seeber and Cooke, 1983; Fiorito and Greer, 1982). Initially, one might expect a similar trend in Canada given its geographic proximity, economic interdependence, and the well-established U.S. - Canadian labor link. Historically, union and employer policies and industrial relations generally were indistinguishable from practices in the U.S. Yet, in contrast to its American counterpart, the Canadian labor movement has shown signs of vitality and growth.

Our analysis examines two broad issues. First, we compare data on union membership growth and new organizing in the U.S. and Canada. Second, we identify factors which help to explain differences in union performance. The results indicate that public policy, employer resistance and union-related variables influence union growth, union density and representation outcomes.

Union Growth and Density

Comparative union membership data for the period 1956-1980 are presented in Table 1. U.S. union membership expanded by 14.8 percent between 1956 and 1978 and the combined membership of unions and employee associations grew by only about 8 percent from 1968 to 1980. As a proportion of non-agricultural employment, union membership declined from 33.4 percent to 23.6 percent over the entire time period. Disaggregated data reveals slippage in the traditional union strongholds. For example, union density in manufacturing declined by almost 12 percent (1956-1978). In construction, some estimates indicate union density fell to between 30 and 35 percent by 1980 (compared to 71 percent in 1968 (Meltz, 1983)).¹

TABLE 1

U.S. and Canadian Union Membership and Density

A. Union Membership (in thousands)

Year	U.S.				CANADA			
	Union Members	Index (1956=100)	Union and Association Members	Index (1968=100)	Union Members	Index (1956=100)	International Union Members	Index (1956=100)
1956	17,490	100.0			1,352	100.0	947	100.0
1960	17,049	97.5			1,459	107.9	1,052	111.0
1964	16,841	96.3			1,493	110.4	1,062	112.1
1968	18,916	108.2	20,721	100.0	2,010	148.7	1,345	142.0
1972	19,435	111.1	22,239	107.3	2,388	176.6	1,412	149.0
1976	19,634	112.3	23,114	111.5	3,042	225.0	1,508	159.2
1978	20,085	114.8	22,757	109.8	3,278	242.5	1,553	164.0
1980	(1)	(1)	22,366	107.9	3,397	251.3	1,570	165.8

B. Union Density⁽²⁾

Year	U.S.		Manufacturing ⁽³⁾	CANADA	
	Total Unions (Unions and Associations)			Total	Manufacturing ⁽⁵⁾
1956	33.4%		51.3%	33.3%	41.2%
1960	31.4		51.1	32.3	43.2
1964	28.9		48.3	29.4	41.8
1968	27.8		46.6	33.1	47.0
1972	26.4		46.6	34.6	43.4
1976	24.7 (29.1%)		45.1	37.3	43.5
1978	23.6 (26.2%)		39.6	39.0	43.0
1980	(4) (24.6%)		(4)	37.6	43.2

(1) The 1980 BLS survey does not differentiate between unions and employee associations.

(2) Union membership as a proportion of non-agricultural work force.

(3) U.S. union membership figures for manufacturing include Canadian members of international unions.

(4) Unavailable in 1980 survey.

(5) Manufacturing union density may be understated after 1970 because the Statistics Canada survey is not as comprehensive as that of Labour Canada.

Sources: U.S. aggregate membership and density: U.S. Department of Labor, Handbook of Labor Statistics, 1980, (Washington, D.C.: U.S. G.P.O., 1981) Table 165, p. 412. Courtney Gifford (ed.) Directory of U.S. Labor Organizations, 1982-83 (Washington D.C.: Bureau of National Affairs, 1982), p. 1.

U.S. manufacturing membership: U.S. Department of Labor, Directory of National Unions and Employee Associations, Bulletin 2079 (Washington, D.C.: U.S. G.P.O., 1980), Table 15, p. 66.

U.S. manufacturing employment: U.S. Department of Labor, Monthly Labor Review, various issues, table 8.

Canadian aggregate membership and density: Directory of Labour Organizations in Canada (Ottawa: Labour Canada, 1980).

Canadian manufacturing union density 1956-1970: Union Growth in Canada 1921-1967 (Ottawa: Canada Department of Labour, 1970) and Union Growth in Canada in the Sixties (Ottawa: Labour Canada, 1976). After 1970, see Statistics Canada, The Corporations and Labour Unions Returns Act Annual Report (Ottawa: Statistics Canada, 1972-1980).

In sharp contrast, there has been robust growth in Canada. Total union membership rose by more than 150 percent between 1956 and 1980 and union density increased from 33.3 percent to 37.6 percent. In both manufacturing and construction, union density increased (2 percent and 10 percent, respectively) and surpassed the levels of union penetration in the U.S. Indeed, one study reports that by 1980 union density in Canada exceeded the U.S. for all broad industry sectors (Meltz, 1983).²

Since the mid-1960's, the public sector has been the principle source of union growth in North America. However, due to differences in public policy, public sector union penetration is substantially greater in Canada than in the U.S. (Feuille and Anderson, 1980; Rose, 1983). There are several reasons for this. First, for decades some public sector employees, notably in municipalities and government enterprises (e.g., hydro-electric commissions), possessed statutory bargaining rights similar to the private sector. As a result, some unions were entrenched by the mid-1950's and had a firm base for future expansion. Second, the sovereignty doctrine was not as pervasive in Canada (Swan, 1980). With the removal of legal barriers in the 1960's, the federal and provincial governments adopted more liberal policies toward labor relations. This was evident with respect to union recognition (including, in some cases, statutory recognition of exclusive bargaining agents), union security arrangements and bargaining rights, e.g., the right to strike.

Perhaps the most interesting aspect of the divergence in membership trends is the significant difference in private sector union growth. Disaggregated data reveals Canadian membership in American-based international unions (a proxy for private sector unionism) increased from 947,498 to 1,570,654 (64 percent) between 1956 and 1980 (see Table 1). While the proportion of Canadian union members represented by international unions has been declining since the 1960's, these unions expanded at an average annual

rate of two percent during the 1970's. Moreover, Canadian sections of international unions outperformed their American counterparts. A recent study comparing growth rates for a sample of international unions between 1970 and 1978 found "the average increase in total membership of our 29 unions ... was 1.1 per cent, while the average increase in Canadian membership in these unions was 27.6 percent" (Thompson and Blum, 1983, p. 78). Moreover, for the period 1960-1978, Canadian membership rose relative to U.S. membership for 22 of 26 unions (Thompson and Blum, 1983).

The divergence in growth patterns has been particularly pronounced among large international unions since the 1974-75 recession. While unions such as the Teamsters, Steelworkers, and Autoworkers experienced membership decline in the U.S., most Canadian sections recorded membership gains. For the six largest unions, Canadian membership rose relative to U.S. membership between 1974 and 1980 (see Table 2). Even though membership data are not available for individual unions after 1980, some American unions appear to have experienced further slippage. Increased foreign competition and plant shutdowns in the steel industry and deregulation of the trucking industry have produced and will continue to produce substantial membership losses for the Steelworkers and Teamsters. Canadian membership in these two unions is less volatile; between 1980 and 1982, Steelworkers' membership fell 3 percent and Teamsters' membership rose 2 percent (Labour Canada, 1980, 1982).

Representation Elections

The sagging fortunes of U.S. unions is typified by the long-run decline in union victories in National Labor Relations Board (NLRB) representation elections (from 65.3 percent to 46.0 percent between 1955 and 1978). Not only did unions win proportionally fewer elections, but the average size of bargaining units declined in the same period, from 122 to 57 workers (Seeber

TABLE 2

Changes in Private Sector Unions' Membership, 1974-1980

UNION	U.S.	CANADA	Canadian Membership As A Percent of U.S. Membership 1974	1980
Teamsters	- 99,883 (- 5.3%)	+15,362 (+20.3%)	4.0%	5.1%
Automobile Workers	-200,000 (-14.0%)	+15,514 (+10.7%)	8.2	10.6
Steelworkers	- 71,107 (- 6.4%)	+16,004 (+ 8.6%)	16.9	19.6
Electrical (IBEW)	+ 43,995 (+ 4.7%)	+ 5,174 (+ 8.1%)	7.1	7.3
Machinists	-216,099 (-23.8%)	+ 4,291 (+ 7.5%)	6.3	8.9
Carpenters	- 35,990 (- 4.9%)	0 (0.0%)	12.2	12.8

Sources: U.S. Department of Labor, Handbook of Labor Statistics, 1980, (Washington, D.C.: U.S. G.P.O., 1981) Table 165, p. 412; Courtney Gifford (ed.) Directory of U.S. Labor Organizations 1982-83 (Washington D.C.: Bureau of National Affairs, 1982), p.1; and Directory of Labour Organizations in Canada (Ottawa: Labour Canada, 1974-1980).

ERRATA

The decline in Machinist's membership should read - 69,688 (-7.9%). Canadian membership as a percentage of U.S. membership in 1980 was 7.1%.

and Cooke, 1983). While there is considerable debate about the effect of employer campaigns on election outcomes (Getman, Goldberg and Herman, 1976; Dickens, 1983), there are indications that employer opposition to union organizing is increasing. For example, the proportion of elections consented to by employers declined from 42.6 percent to 7.9 percent between 1955 and 1978 (Seeber and Cooke, 1983). Nonconsent elections not only involve procedural delays, but there is empirical evidence that delays reduce the probability of organizing success (Roomkin and Block, 1981). Another source of delay is unfair labor practice charges, which constitute a growing share of the NLRB caseload (from 50.9 percent in 1956 to 76.8 percent in 1980). The total number of unfair labor practices filed increased eightfold between 1956 and 1980 and more than doubled in the past decade. Complaints of employer unfair labor practices, have increased more rapidly (from 3,522 in 1956 to 13,601 in 1970 and 32,281 in 1980). As a percentage of the unfair labor practice caseload, complaints against employers increased from 64.6 percent to 74 percent between 1970 and 1980 (National Labor Relations Board, 1970, 1980). Finally, the NLRB has reached a record backlog in its handling of unfair labor practice charges, quadrupling from 432 cases in 1978 to about 1,700 cases in early 1984. This backlog is expected to worsen: the NLRB processed about twice as many cases each year in 1976-1980 as it did in 1983 (Greenhouse, 1984).

Unfortunately, Canadian certification data are not standardized or readily aggregated as they are in the U.S. because of Canada's decentralized (largely provincial) industrial relations system. Nevertheless, we gathered published data from the federal sector³ and the provinces of British Columbia and Ontario.⁴ These three jurisdictions account for approximately 50 percent of total union membership in Canada.

Canadian unions fared considerably better in new organizing, despite a sharp increase in unfair labor practice complaints. Our findings can be summarized as follows.

- (1) Of the nearly 24,000 applications for certification filed between 1970 and 1981, unions were certified in 70 percent of the cases.⁵ Certification rates ranged from 63 percent in the federal jurisdiction to 74 percent in British Columbia. While union success rates fluctuated annually, there was no discernable upward or downward trend in the aggregate data or in any jurisdiction.
- (2) Certification is normally based on union membership cards rather than elections (discussed below). According to our estimates, fewer than 12 percent of the certification applications resulted in an election.⁶ Nevertheless, unions won a majority of these votes (56 percent) and there was no evidence of a downward trend in union success. Union victories fluctuated annually, ranging from 47 to 59 percent in British Columbia and from 45 to 63 percent in Ontario.
- (3) Although data are limited to the period 1974 to 1980, there was a threefold increase in the number of unfair labor practice complaints (from 386 to 1,210 cases) and the number of complaints granted (from 86 to 260 cases). These complaints comprised 15 percent of the total caseload in 1980 (compared to 6 percent in 1974). The proportion of caseload devoted to unfair labor practices varies considerably among labor boards because of differences in the way each operates. In Ontario and the federal jurisdiction, unfair labor practice cases make up more than 20 percent of caseload, whereas in British Columbia the figure is only 5 percent. Between 1974 and 1980, the largest increases in the proportion of unfair labor practice cases were reported in Ontario (from 9 percent to 25

percent) and the federal sector (from 8 percent to 35 percent). As significant as these changes are, they pale in comparison to the incidence of alleged misconduct in the U.S.

Although unions grow by various means, most observers believe new organizing represents an important, if not the most important, process. Certification permits general membership expansion and helps offset losses caused by attrition, e.g., technological changes and market forces (Freeman, 1983). Recent studies have focused on the link between certification results and union density. It has been estimated that in British Columbia and Ontario, "the annual increase in union density produced by newly certified units is nearly three times as high as that in the United States" (Weiler, 1983, p. 1817). These results suggest that new organizing has had a substantial impact on overall union expansion.

Influences on Union Trends

Several factors have been identified as contributing to union decline in the U.S. These include market changes, public policy, employer resistance, union structure, the desire and ability to organize and union and worker militancy. How do we account for the lack of a similar impact on Canadian unions?

(1) Market Changes

Much of the decline in the American labor movement has been attributed to shifts in labor and product markets (e.g., Roomkin and Juris, 1978). There has been a significant decline in employment in the unionized sectors (notably heavy manufacturing) and employment growth in the assumedly harder to organize sectors, i.e., white collar and professional jobs, in the Sunbelt and in the service industries. In addition, changes in the composition of the labor force, i.e., a higher proportion of females and better educated workers, have been characterized as impediments to union growth.

Can U.S.-Canadian differences in union organization and certification outcomes be explained by market factors? It is true that in some respects employment in Canada has been more stable; manufacturing employment has not declined as significantly nor have there been major geographic shifts to less organized provinces. However, the link between union joining or voting and industry and worker characteristics is far from clear. For example, Freeman (1983) found that in the United States there was little relationship between the decline in union success in NLRB elections and the changing proportions of workers in categories of age, education, sex, race, occupation, industry and geographic location.

The reason is that while the proportion of workers in some categories likely to vote union has decreased (notably, the blue collar workers) the proportion of workers in other categories likely to vote union has increased (young workers, black workers) (Freeman, 1983, p. 7)

Unfortunately, there are no comparable studies of the propensity to vote for a union in Canada. However, Meltz (1983) found that the differences in the industrial distribution of employment in the two countries was not a contributing factor to the higher Canadian membership rate.

If the distribution of employment in Canada in 1980 had been the same as that in the United States, and if the rates of union organization were the ones which actually existed, then the overall union rate would have been even higher than it was in 1980 by approximately 10 percent (Meltz, 1983, p. 9).

In other words, if Canada was more like the U.S., there probably would be a greater difference in the rates of unionization.

Based on the available evidence, it appears that market changes are not a primary cause of declining U.S. union membership or the Canadian-U.S. differential. However, there is a need for more research in this area.

(2) Public Policy

Clearly many factors - economic, social, psychological - influence the decision to unionize (e.g., Henneman and Sandver, 1983), but such decisions

occur within a particular legal framework. Over the past 10 to 15 years, there have been numerous innovations in Canadian labor law. Public policy governing union certification facilitates union organization. While procedures vary among provinces, the thrust of Canadian policy is to encourage employee choice without inviting or encouraging protracted employer campaigns (Weiler, 1980, 1983). Most jurisdictions rely on signed membership cards rather than elections to determine union representation. Even in jurisdictions where elections are preferred to membership cards, steps have been taken to expedite elections. For example, in Nova Scotia, "instant votes" are held within five days of an application for certification in order to combat protracted campaigns. Unions win approximately 75 percent of these elections (Nova Scotia Department of Labour, 1977-1981). Moreover, some provinces protect newly certified unions by allowing labor boards to impose first agreements where the employer bargains in bad faith.

In a recent critique of the U.S. labor law, Weiler (1983) identified the legal framework as a significant factor in the decline of U.S. unionism. Deficiencies in the law, particularly its inability to insulate employees from coercive employer anti-union tactics, has brought about the decline in union success rates in certification elections. The strong U.S. reliance on election procedures sets the stage for possible employer intimidation and election delay. In calling for an overhaul of the legal procedures dealing with employer coercive activities, Weiler (1983) argued "instant elections" would protect employee choice. However, the U.S. approach is unlikely to change soon. Even the modest proposals (by Canadian standards) to reform certification procedures failed to win Congressional approval in 1978 (Mills, 1979).

Union membership cards have been questioned as a measure of employee support. If the Canadian procedure is inappropriate, then organizing success

may not be equated with initial bargaining success, i.e., achieving a first agreement. While the data are sketchy, the ability of unions to achieve first contracts is comparable in the two countries. Prosten (1978) reports that 78 percent of the bargaining units certified in the U.S. in 1970 were brought under a collective agreement. A subsequent study of AFL-CIO unions (April 1979-March 1980) found that 37 percent of the certified bargaining units failed to conclude a collective agreement within two years of the election (Weiler, 1983). In Canada, first agreements were achieved following 70 to 80 percent of the certifications in 1978-1979 (Bain, 1981).⁷ An in-depth analysis of the British Columbia experience (1974-1980), found that approximately 87 percent of the newly certified bargaining units negotiated a contract within 18 months (B.C. Labour Relations Board, 1981).⁸ In addition, Canadian unions have not experienced the sharp increase in decertification elections evident in the U.S. (Krislov, 1979; Anderson, Busman and O'Reilly, 1979; Anderson, O'Reilly and Busman, 1980). In 1980, decertification elections represented 11 percent (compared to 3.7 percent in 1970) of all NLRB elections (National Labor Relations Board, 1970, 1980). Decertification applications in Canada accounted for 5 to 6 percent of all representation cases between 1970 and 1980. Thus certification does not appear to be more tenuous in Canada.

It has been suggested that the expansion of regulatory schemes, e.g. occupational health and equal employment opportunity laws, has made union organizing more difficult. This contention is based on the belief that increased regulation reduces the demand for union services and intensifies management resistance to unions. Canadian public policy provides considerably broader protection for unorganized workers than is the case in the United States. In several jurisdictions, binding arbitration is available to resolve disputes involving unjust dismissal, and redundancies and layoffs (Adams,

1983). There is no empirical evidence these innovations have retarded union growth.

Finally, it should be mentioned that under the Taft-Hartley Act in the United States, the closed shop is prohibited and states are permitted to pass "right-to-work" laws restricting union security arrangements, most notably the union shop. In Canada, there are no comparable legislative provisions. There is some evidence right-to-work laws have significant effects. Ellwood and Fine (1983) found that union organizing was reduced by nearly fifty percent in the first five years after the passage of a "right-to-work" law and about twenty-five percent in the next five years. Union membership was reduced between five and ten percent after passage. It has also been reported that new organizing is less successful in southern states with right-to-work laws. Controlling for other factors, the probability of a union election victory "is reduced by roughly 5 percentage points when the election takes place in a southern state with a right-to-work law" (Cooke, 1983, p. 412). This may help to explain the wider regional dispersion in union organization in the U.S. In 1980, union penetration in the U.S. ranged from 7.8 percent in South Carolina to 38.8 percent in New York; in Canada, it went from 23.1 percent in Alberta (three times the level in South Carolina) to 42.6 percent in Newfoundland (Meltz, 1983).

(3) Employer Resistance

American labor unions have repeatedly claimed that their lack of organizing success has been caused in large part by increased employer resistance (e.g., Kistler, 1977; AFL-CIO News, 1982; Greenhouse, 1984). There is considerable evidence to support the view that employer campaign tactics have hampered union organizing efforts. Lawler (1982) found that employers' use of consultants reduces the probability of an employee voting in favor of union certification and results in unions losing a substantial number

of elections they might have won if consultants had not been present. Such consultants often develop strategies for delaying election proceedings, usually by contesting: the appropriateness of bargaining units, union campaign conduct and election outcomes. Research indicates that delays have a negative impact on union success rates (Roomkin and Block, 1981: Seeber and Cooke, 1983: Weiler, 1983).

Aside from the legal tactics of procedural delay, increased employer resistance to union organizing has taken the form of unfair labor practices during certification campaigns. Weiler (1983) claims that a major factor in the reduced proportion of the workforce that is organized is the "skyrocketing use of coercive and illegal tactics - discriminatory discharges in particular - by employers determined to prevent unionization of their employees" (p. 1770). The number of employees entitled to reinstatement increased 1000 percent from 1957 to 1980. Weiler (1983) estimates that "the current odds are about one in twenty that a union supporter will be fired for exercising rights supposedly guaranteed by federal law a half century ago" (p. 1781). He believes employers are increasingly willing to break the law because they find coercive tactics are effective and the NLRB lacks strong corrective powers.

These conclusions find some empirical support in a recent study by Freeman (1983). It was found that "employer opposition has a substantial and highly statistically depressent effect on union success rates..., which goes a long way to explaining the decline in union organization of new workers in NLRB elections" (Freeman, 1983, p. 24). The unionization of new workers falls 3 to 6 percent for every 10 percent change in unfair labor practices per election. Management opposition accounted for a quarter to almost a half of the decline in union success in NLRB elections. "(H) ad employer opposition to unionism remained at 1950 levels ... unions would have organized about twice the proportion of the unorganized in 1980 as they in fact did "(Freeman,

1983, p. 26). Dickens (1983) also shows that employer campaign conduct, notably threats and actions against union supporters and some forms of communication, had a significant impact on employee voting behavior.

Canadian unions have also expressed concerns about the negative impact of procedural delay and employer unfair labor practices on union certification. The higher rate of organizing success in Canada suggests that public policy may have a subtle but important impact on direct union suppression strategies. For example, Weiler (1983) estimates the number of discriminatory discharge complaints per representation campaign was 25 times greater in the U.S. than in British Columbia and 6 times greater than in Ontario. Beyond this measure, little is known about the relative levels of employer resistance in the two countries, or the intensity, pervasiveness and sophistication of union avoidance tactics. More research is also needed to assess the impact of "indirect union substitutions" approaches (e.g., progressive human resources management techniques) designed to reduce the incentive to unionize (Kochan, 1980).

One other manifestation of employer resistance in the U.S. has been the growth of nonunion competition in some traditionally strong union sectors, e.g., construction, trucking and bituminous coal (Kochan, 1980). In some cases, this has been in response to deregulation and, in others, a result of dissatisfaction with collective bargaining outcomes. For example, in the construction industry, strikes and rising labor costs prompted many union contractors to establish nonunion subsidiaries ("double-breasting") to remain competitive. The open-shop movement has progressed to the point where most new construction is done nonunion. In Canada, nonunion construction has not made much headway (although there are some signs of growth) because most labor laws prevent "double-breasting" and public policy has promoted such employer goals as wider-area bargaining (Rose, 1980). On a more general level,

government intervention in the marketplace has historically been more pervasive in Canada and there has been little impetus to promote competition by deregulating industry.

(4) Union Structure

It has been suggested that American unions in general have outmoded structures that limit their organizing to narrow jurisdictions (Industrial Relations, 1983). Moreover, a highly fragmented, "tradition-bound" labor movement has prevented fuller use of coordinated organizing campaigns. As Craft and Extejt (1983) note: "Traditional union autonomy, rivalries and jurisdictional disputes appear to make it more difficult to induce unions into pooled resources and cooperative strategies" (p. 21). Among the Canadian unions, fragmentation and rivalry are predominant characteristics, with rival federations, a plethora of small unions and overlapping jurisdictions between Canadian unions and Canadian sections of international unions (Rose, 1983; Chaison, 1982). However, smallness, rivalry and the growing autonomy of Canadian unions may be sources of vitality and strength. They may result in a higher priority being placed on union organizing and the allocation of greater resources to that end. Union growth in Canada may depend less on coordinated organizing and more on forms of competitive organizing. In many cases, competition involves new organizing and is aimed at preventing rivals from becoming the dominant union in a jurisdiction.

(5) The Desire and Ability to Organize

In recent years, the desire and ability of American unions to organize has been questioned. It has been suggested that organizing policies are often unclearly stated and unions seldom conduct cost-benefit analyses of their organizing activities because the highest priority is given to short-term needs of the present membership (Craft and Extejt, 1983). Union growth will require new organizing strategies and tactics to attract a younger and better

educated workforce and to overcome increasingly sophisticated management strategies. American unions face an additional organizing dilemma. In recent years, some larger unions have been forced to lay off organizing staff. This exacerbates membership declines by reducing the potential for future union growth through new unit organizing (List, 1983a, 1983b; Labor Relations Reporter, 1982).

Freeman (1983) found that the decline in union organizing effort (in terms of real expenditures per member in organizing) has contributed significantly to the lowered union density in the U.S. About a third of the decline in union success in NLRB elections may be accounted for by reduced union organizing activity.

Some Canadian unions, particularly Canadian sections of international unions, may face major difficulties in finding organizing resources. However, this may result in an increased motivation to organize to gain influence within the parent union, increase the prestige of Canadian leaders and justify expanded services from the international (Thompson and Blum, 1983). Furthermore, the extensive rivalry in Canada, plus the large number of small unions may serve as incentives to organize. In some cases, the motivation may be institutional survival and, in others, it involves attempts to provide basic services to the membership.

(6) Union and Worker Militancy

Recent reports point to increased militancy on the part of Canadian workers and the Canadian sections of international unions. Since 1966, strike activity has been higher in Canada than the U.S. (reversing a historical pattern). Between 1973 and 1982, Canada lost 914 man-days per 1,000 workers (yearly average), compared to 396 man-days lost in the U.S. (Bagnell, 1983). Another manifestation of militancy has been the rejection in Canada of concessionary bargaining promoted by parent U.S. unions, e.g., the widely

publicized Chrysler strike.

The Canadian unions reject givebacks because they believe such concessions hurt members without enhancing job security; their leaders' generally leftist political orientation leads them to disparage what they term American "business unionism" with its focus on specific economic objectives rather than broad social concerns (Martin, 1983, p. 2e)

It is also possible that Canadian workers believe that concession bargaining should be resisted because the government has an unstated policy of coming to the aid of large companies (and their workers) faced by severe economic difficulties (Martin, 1983).

This militancy, as well as intensified nationalism, has also stimulated demands for greater union autonomy in Canada. Thompson and Blum (1983) observed that membership growth may not only be a cause of greater autonomy, but may also result from such change. Granting autonomy appears to have increased Canadian membership levels by increasing the resources available to Canadian sections.

Canadian section autonomy can represent more than a structural rearrangement. It may at times be a manifestation of the more militant view of organized workers toward their unions - particularly what they perceive of as the union's political and social roles. In effect, this militancy or activism might both increase the desire of Canadian unions to organize while making them more attractive to unorganized workers. While there is little comparative research in this area, recent union structural changes and collective bargaining outcomes point to a higher degree of worker militancy in Canada. The link between such militancy and union growth requires further investigation.

Conclusion

Our analysis demonstrates that the Canadian labor movement has outperformed its U.S. counterpart in terms of union growth, union density and

certification outcomes. The influence of labor and product market factors, although difficult to clearly isolate and compare, does not appear to be a major contributing factor. Our data, coupled with the studies of Freeman (1983) and Weiler (1983), attribute the decline in unionization in the U.S. to both public policy and increased employer resistance. The U.S. labor law is said to present a framework which is conducive to legal and illegal manifestations of increased employer resistance to union organizing. However, it would be an oversimplification to use the increasing rate of unionization in Canada and the Canadian tendency to certify unions without elections as evidence of the detrimental impact of the U.S. labor law's philosophy and procedures. Union related variables - militancy, structure and the desire and ability to organize - may also be critical in explaining the divergent union trends. Further research is clearly needed to fully delineate the roles of these factors as well as to arrive at additional ones. It is argued here that a better perspective on the state of U.S. unions requires the simultaneous examination of a labor movement which is significantly different, yet shares enough common elements for meaningful comparison. The Canadian labor movement is the obvious, though often overlooked, choice for such a comparison.

Footnotes

1. Union density figures for specific industries should be interpreted cautiously because of data limitations. For example, the U.S. series is based on union estimates of the proportion of their total membership (U.S. and Canadian) in general industry categories rather than on specific U.S. membership figures.
2. The industrial classifications included: mining; manufacturing; construction; transportation, communication and utilities; trade, finance, insurance and service; and public administration (government). U.S. union density is slightly higher in some narrow classifications, e.g., trade.
3. The federal jurisdiction includes inter-provincial industries such as transportation, ~~communications~~ and banking.
4. The sources include: (Canada Department of Labour, 1970-1980; Ontario Ministry of Labour, 1970-1981; British Columbia Department of Labour, 1970-1973; and British Columbia Labour Relations Board, 1974-1981).
5. These results are consistent with a six-province survey covering 1978 and 1979 (Bain, 1981).
6. Data on election outcomes are not as comprehensive as overall certification results. The election results reported here are for British Columbia (1974-1981) and Ontario (1971-1981).
7. This estimate is based on four provinces. Bain suggests the average is 70 percent, but the weighted average for those provinces with data covering all industries is closer to 80 percent.
8. The higher proportion of first agreements in British Columbia may be related to the labor board's authority to impose a first contract. In addition, the construction industry accounts for a larger proportion of certification cases than in the U.S. and construction contracts

frequently are concluded prior to certification.

REFERENCES

- Adams, R.J. "The Unorganized: A Rising Force?" Faculty of Business Research and Working Paper Series No. 201, McMaster University, April, 1983.
- Anderson, John C., Busman, Gloria and O'Reilly III, Charles A. "What Factors Influence the Outcome of Decertification Elections." CII Monthly Labor Review. (November 1979), 32-36.
- Anderson, John C., O'Reilly III, Charles A. and Busman, Gloria. "Union Decertification in the U.S.: 1947-1977." XIX Industrial Relations. (Winter 1980), 100-107.
- Bagnell, James. "Now We're Tops in Strikes." Financial Post. (September 3, 1983), 1-2.
- Bain, George Sayers. Certifications, First Agreements and Decertifications: An Analytical Framework. Ottawa: Supply and Services Canada, 1981.
- British Columbia Department of Labour. Annual Reports. Victoria: British Columbia Department of Labour, 1970-1973.
- Canada Department of Labour, Annual Reports. Ottawa: Queen's Printer, 1970-1980.
- Chaison, Gary. "Unions: Growth, Structure and Internal Dynamics." In Anderson, J.C. and Gunderson, M. (eds.). Union-Management Relations in Canada. Don Mills, Ontario: Addison-Wesley, 1982, 147-170.
- "Changes in Bargaining." Labor Relations Reporter. December 15, 1982, 9.
- Cooke, William N. "Determination of the Outcomes of Union Certification Elections." Industrial and Labor Relations Review, XXXVI (April, 1983), 402-414.
- Craft, James A. and Extejt, Marian M. "New Strategies in Union Organizing." Journal of Labor Research. IV (Winter, 1983), 19-32.
- Dickens, William T. "The Effect of Company Campaigns on Certification Elections: Law and Reality Once Again", Industrial and Labor Relations Review, XXXVI (July, 1983), 560-575.
- Ellwood, David T. and Glenn A. Fine. "The Impact of Right-to-Work Laws on Union Organizing." Working Paper No. 1116, National Bureau of Economic Research, Cambridge, Mass., May, 1983.
- Feuille, Peter and Anderson, John C. "Public Sector Bargaining: Policy and Practice." Industrial Relations. XIX (Fall, 1980), 309-324.
- Fiorito, Jack and Greer, Charles R. "U.S. Unionism: Past Research and Future Needs." Industrial Relations. XXI (Winter, 1982), 1-32.
- Freeman, Richard B. "Why Are Unions Fairing Poorly in NLRB Representation Elections?" Paper Presented at the MIT/Union Conference, Cambridge, Mass., June 19-21, 1983.

- Getman, Julius G., Goldberg, Stephen B. and Herman, Jeanne B. Union Representation Elections: Law and Reality. New York: Russel Sage Foundation, 1976.
- Greenhouse, Steven, "Labor Board Stirs up a Storm", New York Times, February 5, 1984, p. 4F.
- Heneman, Herbert G. III and Marcus H. Sandver. "Predicting the Outcome of Union Certification Elections: A Review of the Literature." Industrial and Labor Relations Review, XXXVI (July, 1983), 537-559.
- Kistler, Alan. "Trends in Union Growth." Labor Law Journal. XXVIII (August, 1977), 539-544.
- Kochan, Thomas A. Collective Bargaining and Industrial Relations. Homewood: Richard D. Irwin, Inc., 1980.
- Krislov, Jospeh. "Decertification Elections Increase But Remain No Major Burden to Unions." Monthly Labor Review. CII (November, 1979), 30-31.
- Labour Canada. Directory of Labour Organizations in Canada. Ottawa: Supply and Services Canada, 1980 and 1982.
- Lawler, John. "Labor-Management Consultants in Union Organizing Campaigns: Do They Make a Difference?" Proceedings of the Thirty-Fourth Annual Meeting of the Industrial Relations Research Association. (Madison, Wisconsin: Industrial Relations Research Association, 1982), 374-380.
- List, Wilfred. "Union Devastated by Staff Layoffs." Toronto Globe and Mail. (February 7, 1983), B2.
- List, Wilfred. "U.S. Unions Struggle to Cope With Decline." Toronto Globe and Mail. (February 22, 1983), 1-2.
- "Management Consultants: The Union Buster's Shadowy World." AFL-CIO News. XXVII (December 11, 1982), 2.
- Martin, Douglas. "A Bleak Reality Tempers Canada's Union Militancy." New York Times. (January 2, 1982), 2E.
- Meltz, Noah. "Canada and the U.S.: Are the Labor Movements Really that Different?" Paper Presented at the MIT/Union Conference, Cambridge, Mass., June 19-21, 1983.
- Mills, D. Quinn. "Flawed Victory in Labor Law Reform." Havard Business Review. LVII (May-June, 1979), 92-102.
- National Labor Relations Board. Annual Reports of the National Labor Relations Board. Washington, D.C.: U.S. Government Printing Office, 1970 and 1980.
- Nova Scotia Department of Labour. Annual Reports. Halifax: Queen's Printer, 1977-1981.

Prosten, Richard. "The Longest Season..." Proceedings of the Thirty-First Annual Meeting of the Industrial Relations Research Association. (Madison, Wisconsin: Industrial Relations Research Association, 1978), 240-249.

Roomkin, Myron and Bloch, Richard N. "Case Processing Time and the Outcome of Representation Elections: Some Empirical Evidence." University of Illinois Law Review. MCMXXXI (No. 1, 1981), 75-97.

Roomkin, Myron and Juris, Hervey A. "Unions in the Traditional Sectors: The Midlife Passage of the Labor Movement." Proceedings of the Thirty-First Annual Meeting of the Industrial Relations Research Association. (Madison, Wisconsin: Industrial Relations Research Association, 1978), 212-222.

Rose, Joseph B. "Growth Patterns of Public Sector Unions." Faculty of Business Working Paper Series No. 200, McMaster University, February 28, 1983.

_____. Public Policy, Bargaining Structure and The Construction Industry. Toronto: Butterworth's, 1980.

_____. "Some Notes on the Building Trades -- Canadian Labor Congress Dispute." Industrial Relations. XXII (Winter, 1983), 87-93.

Seeber, Ronald L. and Cooke, William N. "The Decline in Union Success in NLRB Representation Elections." Industrial Relations. XXII (Winter, 1983), 34-44.

Swan, Kenneth P. "Public Bargaining in Canada and the U.S." Industrial Relations. XIX (Fall, 1980), 272-291.

"The Future of Industrial Relations." Industrial Relations. XXII (Winter, 1983), 125-131.

Thompson, Mark and Blum, Albert A. "International Unionism in Canada: The Move to Local Control." Industrial Relations. XXII (Winter, 1983), 71-86.

Weiler, Paul. Reconcilable Differences. Toronto: The Carswell Company Limited, 1980.

_____. "Promises to Keep: Securing Workers' Rights to Self-Organization Under the NLRA." Harvard Law Review, XCVI (June, 1983), 1769-1827.

Faculty of Business
McMaster University

WORKING PAPER SERIES

101. Torrance, George W., "A Generalized Cost-effectiveness Model for the Evaluation of Health Programs," November, 1970.
102. Isbester, A. Fraser and Sandra C. Castle, "Teachers and Collective Bargaining in Ontario: A Means to What End?" November, 1971.
103. Thomas, Arthur L., "Transfer Prices of the Multinational Firm: When Will They be Arbitrary?" (Reprinted from: Abacus, Vol. 7, No. 1, June, 1971).
104. Szendrovits, Andrew Z., "An Economic Production Quantity Model with Holding Time and Costs of Work-in-process Inventory," March, 1974.
111. Basu, S., "Investment Performance of Common Stocks in Relation to their Price-earnings Ratios: A Text of the Efficient Market Hypothesis," March, 1975.
112. Truscott, William G., "Some Dynamic Extensions of a Discrete Location-Allocation Problem," March, 1976.
113. Basu, S. and J.R. Hanna, "Accounting for Changes in the General Purchasing Power of Money: The Impact on Financial Statements of Canadian Corporations for the Period 1967-74," April 1976. (Reprinted from Cost and Management, January-February, 1976).
114. Deal, K.R., "Verification of the Theoretical Consistency of a Differential Game in Advertising," March, 1976.
- 114a. Deal, K.R., "Optimizing Advertising Expenditures in a Dynamic Duopoly," March, 1976.
115. Adams, Roy J., "The Canada-United States Labour Link Under Stress," [1976].
116. Thomas, Arthur L., "The Extended Approach to Joint-Cost Allocation: Relaxation of Simplifying Assumptions," June, 1976.
117. Adams, Roy J. and C.H. Rummel, "Worker's Participation in Management in West Germany: Impact on the Work, the Enterprise and the Trade Unions," September, 1976.
118. Szendrovits, Andrew Z., "A Comment on 'Optimal and System Myopic Policies for Multi-echelon Production/Inventory Assembly Systems'," [1976].
119. Meadows, Ian S.G., "Organic Structure and Innovation in Small Work Groups," October, 1976.

Continued on Page 2...

120. Basu, S., "The Effect of Earnings Yield on Assessments of the Association Between Annual Accounting Income Numbers and Security Prices," October, 1976.
121. Agarwal, Naresh C., "Labour Supply Behaviour of Married Women - A Model with Permanent and Transitory Variables," October, 1976.
122. Meadows, Ian S.G., "Organic Structure, Satisfaction and Personality," October, 1976.
123. Banting, Peter M., "Customer Service in Industrial Marketing: A Comparative Study," October, 1976. (Reprinted from: European Journal of Marketing, Vol. 10, No. 3, Summer, 1976).
124. Aivazian, V., "On the Comparative-Statics of Asset Demand," August, 1976.
125. Aivazian, V., "Contamination by Risk Reconsidered," October, 1976.
126. Szendrovits, Andrew Z. and George O. Wesolowsky, "Variation in Optimizing Serial Multi-State Production/Inventory Systems, March, 1977.
127. Agarwal, Naresh C., "Size-Structure Relationship: A Further Elaboration," March, 1977.
128. Jain, Harish C., "Minority Workers, the Structure of Labour Markets and Anti-Discrimination Legislation," March, 1977.
129. Adams, Roy J., "Employer Solidarity," March, 1977.
130. Gould, Lawrence I. and Stanley N. Laiken, "The Effect of Income Taxation and Investment Priorities: The RRSP," March, 1977.
131. Callen, Jeffrey L., "Financial Cost Allocations: A Game-Theoretic Approach," March, 1977.
132. Jain, Harish C., "Race and Sex Discrimination Legislation in North America and Britain: Some Lessons for Canada," May, 1977.
133. Hayashi, Kichiro. "Corporate Planning Practices in Japanese Multinationals." Accepted for publication in the Academy of Management Journal in 1978.
134. Jain, Harish C., Neil Hood and Steve Young, "Cross-Cultural Aspects of Personnel Policies in Multi-Nationals: A Case Study of Chrysler UK", June, 1977.
135. Aivazian, V. and J.L. Callen, "Investment, Market Structure and the Cost of Capital", July, 1977.

136. Adams, R.J., "Canadian Industrial Relations and the German Example", October, 1977.
137. Callen, J.L., "Production, Efficiency and Welfare in the U.S. Natural Gas Transmission Industry", October, 1977.
138. Richardson, A.W. and Wesolowsky, G.O., "Cost-Volume-Profit Analysis and the Value of Information", November, 1977.
139. Jain, Harish C., "Labour Market Problems of Native People in Ontario", December, 1977.
140. Gordon, M.J. and L.I. Gould, "The Cost of Equity Capital: A Reconsideration", January, 1978.
141. Gordon, M.J. and L.I. Gould, "The Cost of Equity Capital with Personal Income Taxes and Flotation Costs", January, 1978.
142. Adams, R.J., "Dunlop After Two Decades: Systems Theory as a Framework For Organizing the Field of Industrial Relations", January, 1978.
143. Agarwal, N.C. and Jain, H.C., "Pay Discrimination Against Women in Canada: Issues and Policies", February, 1978.
144. Jain, H.C. and Sloane, P.J., "Race, Sex and Minority Group Discrimination Legislation in North America and Britain", March, 1978.
145. Agarwal, N.C., "A Labour Market Analysis of Executive Earnings", June, 1978.
146. Jain, H.C. and Young, A., "Racial Discrimination in the U.K. Labour Market: Theory and Evidence", June, 1978.
147. Yagil, J., "On Alternative Methods of Treating Risk," September, 1978.
148. Jain, H.C., "Attitudes toward Communication System: A Comparison of Anglophone and Francophone Hospital Employees," September, 1978.
149. Ross, R., "Marketing Through the Japanese Distribution System", November, 1978.
150. Gould, Lawrence I. and Stanley N. Laiken, "Dividends vs. Capital Gains Under Share Redemptions," December, 1978.
151. Gould, Lawrence I. and Stanley N. Laiken, "The Impact of General Averaging on Income Realization Decisions: A Caveat on Tax Deferral," December, 1978.
152. Jain, Harish C., Jacques Normand and Rabindra N. Kanungo, "Job Motivation of Canadian Anglophone and Francophone Hospital Employees, April, 1979.
153. Stidsen, Bent, "Communications Relations", April, 1979.
154. Szendrovits, A.Z. and Drezner, Zvi, "Optimizing N-Stage Production/ Inventory Systems by Transporting Different Numbers of Equal-Sized Batches at Various Stages", April, 1979.

Continued on Page 4...

155. Truscott, W.G., "Allocation Analysis of a Dynamic Distribution Problem", June, 1979.
156. Hanna, J.R., "Measuring Capital and Income", November, 1979.
157. Deal, K.R., "Numerical Solution and Multiple Scenario Investigation of Linear Quadratic Differential Games", November, 1979.
158. Hanna, J.R., "Professional Accounting Education in Canada: Problems and Prospects", November, 1979.
159. Adams, R.J., "Towards a More Competent Labor Force: A Training Levy Scheme for Canada", December, 1979.
160. Jain, H.C., "Management of Human Resources and Productivity", February, 1980.
161. Wensley, A., "The Efficiency of Canadian Foreign Exchange Markets", February, 1980.
162. Tihanyi, E., "The Market Valuation of Deferred Taxes", March, 1980.
163. Meadows, I.S., "Quality of Working Life: Progress, Problems and Prospects", March, 1980.
164. Szendrovits, A.Z., "The Effect of Numbers of Stages on Multi-Stage Production/Inventory Models - An Empirical Study", April, 1980.
165. Laiken, S.N., "Current Action to Lower Future Taxes: General Averaging and Anticipated Income Models", April, 1980.
166. Love, R.F., "Hull Properties in Location Problems", April, 1980.
167. Jain, H.C., "Disadvantaged Groups on the Labour Market", May, 1980.
168. Adams, R.J., "Training in Canadian Industry: Research Theory and Policy Implications", June, 1980.
169. Joyner, R.C., "Application of Process Theories to Teaching Unstructured Managerial Decision Making", August, 1980.
170. Love, R.F., "A Stopping Rule for Facilities Location Algorithms", September, 1980.
171. Abad, Prakash L., "An Optimal Control Approach to Marketing - Production Planning", October, 1980.
172. Abad, Prakash L., "Decentralized Planning With An Interdependent Marketing-Production System", October, 1980.
173. Adams, R.J., "Industrial Relations Systems in Europe and North America", October, 1980.

174. Gaa, James C., "The Role of Central Rulemaking In Corporate Financial Reporting", February, 1981.
175. Adams, Roy J., "A Theory of Employer Attitudes and Behaviour Towards Trade Unions In Western Europe and North America", February, 1981.
176. Love, Robert F. and Jsun Y. Wong, "A 0-1 Linear Program To Minimize Interaction Cost In Scheduling", May, 1981.
177. Jain, Harish, "Employment and Pay Discrimination in Canada: Theories, Evidence and Policies", June, 1981.
178. Basu, S., "Market Reaction to Accounting Policy Deliberation: The Inflation Accounting Case Revisited", June, 1981.
179. Basu, S., "Risk Information and Financial Lease Disclosures: Some Empirical Evidence", June, 1981.
180. Basu, S., "The Relationship between Earnings' Yield, Market Value and Return for NYSE Common Stocks: Further Evidence", September, 1981.
181. Jain, H.C., "Race and Sex Discrimination in Employment in Canada: Theories, evidence and policies", July 1981.
182. Jain, H.C., "Cross Cultural Management of Human Resources and the Multinational Corporations", October 1981.
183. Meadows, Ian, "Work System Characteristics and Employee Responses: An Exploratory Study", October, 1981.
184. Zvi Drezner, Szendrovits, Andrew Z., Wesolowsky, George O. "Multi-stage Production with Variable Lot Sizes and Transportation of Partial Lots", January, 1982.
185. Basu, S., "Residual Risk, Firm Size and Returns for NYSE Common Stocks: Some Empirical Evidence", February, 1982.
186. Jain, Harish C. and Muthuchidambram, S. "The Ontario Human Rights Code: An Analysis of the Public Policy Through Selected Cases of Discrimination In Employment", March, 1982.
187. Love Robert F., Dowling, Paul D., "Optimal Weighted ℓ_p Norm Parameters For Facilities Layout Distance Characterizations", April, 1982.
188. Steiner, G., "Single Machine Scheduling with Precedence Constraints of Dimension 2", June, 1982.
189. Torrance, G.W. "Application Of Multi-Attribute Utility Theory To Measure Social Preferences For Health States", June, 1982.

190. Adams, Roy J., "Competing Paradigms in Industrial Relations", April, 1982.
191. Callen, J.L., Kwan, C.C.Y., and Yip, P.C.Y., "Efficiency of Foreign Exchange Markets: An Empirical Study Using Maximum Entropy Spectral Analysis." July, 1982.
192. Kwan, C.C.Y., "Portfolio Analysis Using Single Index, Multi-Index, and Constant Correlation Models: A Unified Treatment." July, 1982
193. Rose, Joseph B., "The Building Trades - Canadian Labour Congress Dispute", September, 1982
194. Gould, Lawrence I., and Laiken, Stanley N., "Investment Considerations in a Depreciation-Based Tax Shelter: A Comparative Approach". November 1982.
195. Gould, Lawrence I., and Laiken, Stanley N., "An Analysis of Multi-Period After-Tax Rates of Return on Investment". November 1982.
196. Gould, Lawrence I., and Laiken, Stanley N., "Effects of the Investment Income Deduction on the Comparison of Investment Returns". November 1982.
197. G. John Miltenburg, "Allocating a Replenishment Order Among a Family of Items", January 1983.
198. Elko J. Kleinschmidt and Robert G. Cooper, "The Impact of Export Strategy on Export Sales Performance". January 1983.
199. Elko J. Kleinschmidt, "Explanatory Factors in the Export Performance of Canadian Electronics Firms: An Empirical Analysis". January 1983.
200. Joseph B. Rose, "Growth Patterns of Public Sector Unions", February 1983.
201. Adams, R. J., "The Unorganized: A Rising Force?", April 1983.
202. Jack S.K. Chang, "Option Pricing - Valuing Derived Claims in Incomplete Security Markets", April 1983.
203. N.P. Archer, "Efficiency, Effectiveness and Profitability: An Interaction Model", May 1983.
204. Harish Jain and Victor Murray, "Why The Human Resources Management Function Fails", June 1983.
205. Harish C. Jain and Peter J. Sloane, "The Impact of Recession on Equal Opportunities for Minorities & Women in The United States, Canada and Britain", June 1983.
206. Joseph B. Rose, "Employer Accreditation: A Retrospective", June 1983.

- 207. Min Basadur and Carl T. Finkbeiner, "Identifying Attitudinal Factors Related to Ideation in Creative Problem Solving", June 1983.
- 208. Min Basadur and Carl T. Finkbeiner, "Measuring Preference for Ideation in Creative Problem Solving", June 1983.
- 209. George Steiner, "Sequencing on Single Machine with General Precedence Constraints - The Job Module Algorithm", June 1983.
- 210. Varouj A. Aivazian, Jeffrey L. Callen, Itzhak Krinsky and Clarence C.Y. Kwan, "The Demand for Risky Financial Assets by the U.S. Household Sector", July 1983.
- 211. Clarence C.Y. Kwan and Patrick C.Y. Yip, "Optimal Portfolio Selection with Upper Bounds for Individual Securities", July 1983.
- 212. Min Basadur and Ron Thompson, "Usefulness of the Ideation Principle of Extended Effort in Real World Professional and Managerial Creative Problem Solving", October 1983.
- 213. George Steiner, "On a Decomposition Algorithm for Sequencing Problems with Precedence Constraints", November 1983.
- 214. Robert G. Cooper and Ulrike De Brentani, "Criteria for Screening Industrial New Product Ventures", November 1983.
- 215. Harish C. Jain, "Union, Management and Government Response to Technological Change in Canada", December 1983.
- 216. Z. Drezner, G. Steiner, G.O. Wesolowsky, "Facility Location with Rectilinear Tour Distances", March 1984.
- 217. Latha Shanker and Jack S.K. Chang, "The Hedging Performance of Foreign Currency Options and Foreign Currency Futures: A Comparison", March 1984.
- 218. Ulrike de Brentani and Robert G. Cooper, "New Product Screening Decisions in High Technology Firms: An Empirical Study", March 1984.
- 219. Paul D. Dowling and Robert F. Love, "Bounding Methods for Facilities Location Algorithms", March 1984.
- 220. George Steiner, "A Decomposition Approach for Finding the Setup Number of a Partial Order", April 1984.

Jnnis

REF

HB

74.5

. R47

no. 221

1235881