Document généré le 18 sept. 2024 01:50

Relations industrielles
Industrial Relations

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Volume 51, numéro 3, 1996

URI : https://id.erudit.org/iderudit/051116ar
DOI : https://doi.org/10.7202/051116ar

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Éditeur(s)

Département des relations industrielles de l'Université Laval

ISSN

0034-379X (imprimé)
1703-8138 (numérique)

Découvrir la revue

Citer cet article

Martinello, F. (1996). Correlates of Certification Application Success in British Columbia, Saskatchewan and Manitoba. *Relations industrielles / Industrial Relations*, *51*(3), 544–562. https://doi.org/10.7202/051116ar

Résumé de l'article

Pour assurer sa force et sa viabilité, le mouvement syndical doit continuellement organiser les travailleurs de nouvelles entreprises. Même en temps de stabilité économique, les employeurs ouvrent et ferment continuellement des usines et déménagent dans d'autres juridictions. Alors, les syndicats sont en organisation continuelle de nouvelles unités afin de maintenir leur membership et leur densité. Le nombre de travailleurs organisés est fonction a) du nombre de requêtes en accréditation déposées, b) de la proportion des requêtes accueillies et c) de la taille des unités de négociation accréditées.

Ici, nous étudions quelques uns des déterminants du taux de succès des requêtes en accréditation. Nous utilisons des régressions pour estimer les effets des conditions économiques, des changements dans la législation du travail et l'environnement politique sur la proportion des requêtes en accréditation accordées.

Quant aux conditions économiques, le taux d'inflation, les taux de changement du taux d'inflation et de l'emploi, et le changement au carré dans l'emploi font partie de l'analyse. L'environnement politique est représenté par des variables dichotomiques reflétant le parti politique au pouvoir et les principaux changements dans la politique publique. Nous recourons aussi à des variables dichotomiques pour illustrer l'effet des modifications majeures dans la législation du travail.

Nous utilisons des données annuelles sur les requêtes en accréditation déposées auprès des conseils de relations du travail de la Colombie- Britannique, de la Saskatchewan et du Manitoba de 1951 à 1992. Nous avons fait des régressions séparées pour chaque province retenue. Les estimés démontrent que les conditions économiques, la législation du travail et l'environnement politique ont des effets différents sur la proportion de requêtes en accréditation accueillies dans chaque province. Les variables indépendantes expliquent une grande partie de la variation dans le succès obtenu lors d'une requête en accréditation. Cela est vrai à un niveau moindre en Colombie-Britannique et à un niveau pratiquement nul au Manitoba.

Les révisions majeures de la législation du travail, par contre, influencent le taux de succès des requêtes en accréditation dans les trois provinces. Les impacts estimés confirment les attentes quant aux révisions prosyndicales et celles qui ne le sont pas. En outre, les modifications dans la législation du travail ont un impact beaucoup plus important sur la proportion des requêtes accueillies que les changements dans les conditions économiques ou dans l'environnement politique. La variable « législation du travail » semble donc ici la plus importante.

Le régime, ou l'environnement politique, semble être important en Colombie-Britannique. Par exemple, les estimés démontrent que le passage du Crédit social en 1973 à des gouvernements NPD a accru le taux de succès des requêtes en accréditation de 3,7 points de pourcentage, les effets des changements dans la législation du travail ayant été contrôlés. Cependant, les changements de gouvernement des libéraux, aux conservateurs, au NPD ne semblent pas avoir d'importance en Saskatchewan et au Manitoba. Cela n'est guère surprenant, considérant que la Colombie-Britannique est caractérisée par un climat politique polarisé et par de grands écarts dans l'idéologie des gouvernements. Il est probable que le parti au pouvoir affecterait le succès des requêtes en accréditation en Saskatchewan ou au Manitoba si ces provinces connaissaient des changements aussi drastiques dans leur idéologie que ceux vécus en Colombie-Britannique.

L'impact général des conditions économiques est très modeste. Même lorsque nos estimés sont significatifs sur le plan statistique, d'importants changements dans les conditions économiques semblent avoir des effets étonnamment petits sur le succès en accréditation. Une plus grande inflation est reliée à des taux de succès plus élevés en Colombie-Britannique alors que des taux élevés de changement dans l'inflation sont associés à des taux de succès plus grands en Saskatchewan. Nous avons estimé que la croissance dans l'emploi n'est importante qu'en Saskatchewan où de très hauts et très bas taux de croissance dans l'emploi sont associés avec des taux de succès plus grands. Selon nos estimés, aucune des variables économiques n'influence le succès de l'accréditation au Manitoba.

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Correlates of Certification Application Success in British Columbia, Saskatchewan and Manitoba

FELICE MARTINELLO

Time series data are used to estimate the effects of labour legislation, the political regime, and economic conditions on the proportion of certification applications granted. Applications filed with the British Columbia, Saskatchewan, and Manitoba Labour Relations Boards (1951-92) are considered and analyzed separately. Changes in labour legislation have the largest impact on certification application success in all three provinces. The political environment is estimated to be important in British Columbia, but not in Saskatchewan or Manitoba. Economic conditions affect certification success in Saskatchewan and to a lesser extent in British Columbia, but not in Manitoba. Large changes in economic conditions are estimated to have only small effects on the proportion of applications granted.

The labour movement must continually organize new establishments to maintain its strength and viability. Even in a stable economy, employers are continuously opening and closing plants and moving to other jurisdictions. Union representation usually ends when an establishment is closed; and new establishments usually open without union representation. Thus there is continuous erosion of union coverage, and new bargaining units must be organized to maintain union membership and density. The number of workers organized depends on (a) the number of certification applications filed, (b) the proportion of the applications that are successful, and (c) the size of the bargaining units that are certified.

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- I would like to thank Bill Matheson, Les Robb, Joseph Rose, and Bill Veloce for their helpful comments and suggestions; and Lisa Stanwick for excellent research assistance. Financial support from SSHRC grant 410-94-0608 is gratefully acknowledged.

This paper investigates some of the correlates of (b), the success rate of certification applications. Time series data are used to estimate the effects of economic conditions, labour legislation, and the political environment on the proportion of certification applications granted. Certification applications filed with the British Columbia, Saskatchewan, and Manitoba Labour Relations Boards during 1951–92 are considered and analyzed separately. These provinces are interesting because they all had New Democratic Party (NDP) and conservative governments (Social Credit in B.C. and Progressive Conservative (PC) in Manitoba and Saskatchewan). This variation in the governing party is used to estimate the impact of different political environments on certification application success. The provinces are also interesting because they made major changes in the legislation concerning unions. Finally, long time series of data are available for these provinces.

There is strong support for specifying legal, political, and economic factors as potential determinants of certification application success. Weiler (1983), Meltz (1985), and Bain (1978), among others, argue that labour legislation is an important determinant of certification success and the extent of union coverage. Maki (1982) and Bruce (1989) argue that the party in power and the overall political configuration are also important. Finally, Bain (1978) and a large U.S. literature (see, for example, Roomkin and Juris (1978) and the studies cited below) argue that economic factors, such as the business cycle and inflation, affect certification activity and success. This paper attempts to verify these claims empirically and estimate the relative size and importance of these sets of factors.

Changes in labour legislation and the political environment are clearly related. New governments enact labour legislation that reflects their attitudes towards organized labour. Thus it may be difficult to separate the impact of the political regime from the impact of the legislation it subsequently passes. This paper attempts to estimate the separate effect of the political environment (due to accompanying publicity about unions, for example) by including controls for the effects of its labour legislation.

SURVEY OF THE EMPIRICAL LITERATURE

There is a large U.S. literature on this topic. Most studies use regression analysis to relate a measure of certification success (e.g., whether the application was granted or dismissed, percentage voting for the union, or number of workers organized) to variables reflecting the business cycle (e.g., unemployment or average wage change), the political climate, right to work laws, labour force and bargaining unit characteristics, delays in the process, or percentage already organized. Typical studies include Ellwood and Fine (1987), Seeber and Cooke (1983), Cooke (1983), and Lawler and

Hundley (1983) in the private sector and Zax and Ichniowski (1990 and 1991) in the public sector. (See Lawler (1990) for a survey.)

For Canada, Piliotis (1975) examines Ontario's 1971 increase in the support required for certification without a vote (from 55% to 65%) and reports that the increase inhibited unions' efforts to organize new workers. Piliotis (1975) also considers the reduction in the support required for a representation vote (from 45% to 35%) and reports that it did not affect the number of applications filed. However, each change in legislation is analyzed separately, with no adjustments for other factors (such as changes in economic conditions) and no tests for statistical significance.

Maki (1982) reports that the political party forming the provincial government affects the rate of change of union membership in the province. However there is no work examining the effects of political factors on certification activity.

Gilson, Spencer and Wadden (1991) use Nova Scotia data (1979–88) to investigate the impact of the size and type of union, union leadership change, industry, year, and bargaining unit size and location on certification application success. They find that the size and type of union and union democracy (as measured by leadership change) significantly affect certification success. However, each factor is considered separately using univariate analysis, so there are no adjustments for simultaneous or related effects or other factors.

Thomason (1994) uses data on individual certification applications, filed in Ontario in 1982–89, to estimate the effects of unfair labour practices, worker petitions, delays in application processing, bargaining unit size, other bargaining unit characteristics, and other control variables on worker support for the union and the probability that the certification is granted. Delay, bargaining unit size, employee petitions, part-time employees, and local affiliation with a parent union decrease support for the union and the probability that the application will be granted. Unfair labour practices affect worker support for the union, but have a statistically insignificant impact on the probability of certification success. Thomason (1994) specifies that the economic, political and legal environments are important determinants of union certifications, but the short time series- cross section data limit the estimation of their effects.

BASELINE SPECIFICATION

The proportion of certification applications granted depends upon (i) workers' demands for union coverage, (ii) the supply of applications by unions and the resources put into the applications, and (iii) employers'

responses to the applications. All of these interact with one another and are affected by the legal, political, and economic environments. A (mostly) first order approximation to the reduced form of this system is specified. The parameters provide estimates of the net effects of the economic, political, and legal variables on the probability of certification application success.

Specify the following regression equation

$$F^{-1}(p_t) = X'_t\beta + \varepsilon_t \qquad (1)$$

where F( ) is the standard normal cumulative distribution function, p_t is the proportion of certification applications granted in period t (winrate), X_t is a vector of independent variables, β is the vector of coefficients to be estimated, and ε_t is the (random and unknown) difference between the true and sample (transformed) proportions at time t. Weighted least squares are used to estimate β yielding minimum chi-square estimates. (See Maddala (1983) for details.)

Worker demand for coverage and employer resistance to organizing are likely affected by the tightness of the labour market and the levels of economic growth. Include the rate of change of employment (dEmp) in equation 1 to estimate the effect of the business cycle on certification success. Cooke (1983) reports a non-linear relationship between support for the union and the level of economic activity so employment growth squared (dEmpsq) is included to allow that possibility. The inflation rate (Infl) and the rate of change of inflation (dInfl) are also included. The inflation variables may reflect the business cycle as Bain (1978) suggests but they more likely reflect the levels of uncertainty and instability in the economy. Workers' demands for coverage may increase in periods of high and rising inflation as workers seek greater protection against high and variable inflation.

Labour legislation revisions usually affect all participants so worker demand, employer resistance, and union organizing effort should all be affected. Unfortunately, new or amended labour legislation usually changes a large number of the rules and procedures. Since all of the changes occur at the same time, the separate effects of each change cannot be identified or estimated. However the net effect of the whole package of changes can be estimated by including a dummy variable for each legislative revision.

The political environment may affect certification success through increased publicity, for or against unions, that is generated by the party in power. A relatively small change in public attitudes can alter the outcome of a government election and cause a large change in the attention given to organized labour. A higher profile for organized labour (again, positive or negative) may affect worker demands for coverage; management resistance; and union organizing effort, intensity and enthusiasm. A change in the

political regime may also affect the certification process or the administration of labour legislation in ways that are not fully specified by the legislation.

Separating the effects of the political environment and labour legislation can be difficult. Changes in labour legislation usually lag new governments by two to three years so there are usually four to six observations that will identify their separate effects. This is sufficient, but not a cause for great confidence. The following strategy is used to minimize this difficulty. Equation 1 is estimated with the economic and political variables included and the legal variables excluded. If the political variables have no discernible effect (including, in this case, any effects from the changes in legislation) then one can confidently conclude that they have no effect and exclude them from the final specification. The same procedure is used for the legislation variables. If the legal and political variable are both found to be significant in their separate regressions, then they are both included in a final regression to estimate their separate impact, controlling for the effects of the other.

DATA

The data consist of annual observations on certification applications granted and disposed, labour legislation revisions, governing political party, and economic conditions in British Columbia, Saskatchewan and Manitoba, from 1951 to 1992. The dependent variable (winrate) is the proportion of certification applications granted by the provincial Labour Relations Board. Figure 1 plots winrate for B.C. (1949-93), Saskatchewan (1949-92) and Manitoba (1950-92), respectively.[1] At the time of writing, 1993 data had not been released in Manitoba or Saskatchewan. Table 1 provides definitions of the variables and Table 2 reports their descriptive statistics.

Data on certification applications granted and disposed were taken from the annual reports of the provincial labour relations boards and the reporting periods were the boards' fiscal years. The political variables were constructed from data in Dyck (1991) and O'Handley (1994). The economic variables were constructed from standard Statistics Canada sources. Provincial labour legislation data were gathered from secondary sources such as Adams (1985), Carrothers, Palmer and Rayner (1986), Lyon (1977), and Labour Canada publications.[2]

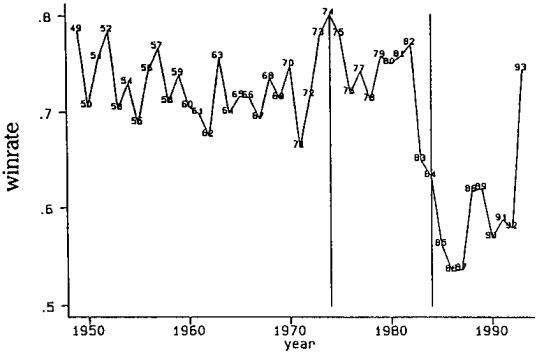
1. The 1949 and 1950 observations are used to calculate the rate of change of the inflation rate in the regression analysis.

2. A detailed description of the data and their sources is available from the author.

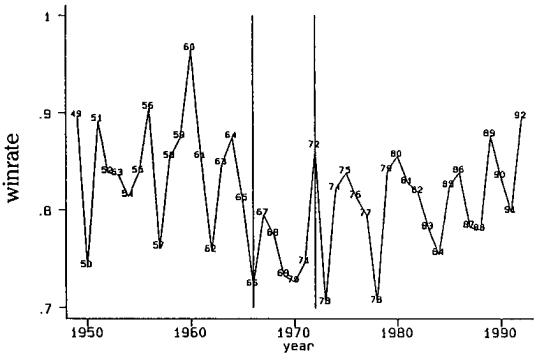
FIGURE 1

Proportion of Applications Granted

British Columbia



Saskatchewan



Manitoba

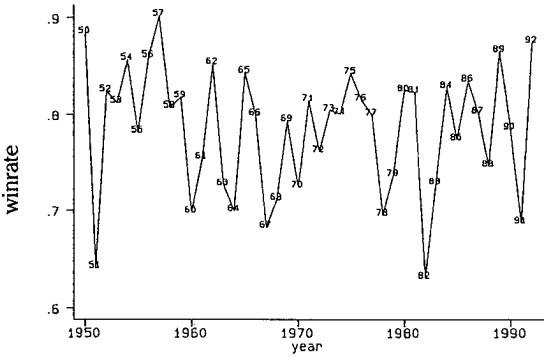


TABLE I

Definition of Variables

Dependent Variable

winrate = proportion of successful certification applications (number of certification applications granted divided by the number disposed)

Economic Variables

dEmp = proportionate rate of change in employment
$dEmp_t = (Emp_t - Emp_{t-1})/Emp_{t-1}$

dEmpsq = dEmp squared

Infl = inflation rate (proportionate change in the all items consumer price index for Canada 1951–78, and the province 1979–92)

dInfl = proportionate rate of change of inflation
$dInfl_t = (Infl_t - Infl_{t-1})/Infl_{t-1}$

Legal Variables

*LegXX = 1 in that year and subsequent years if a major labour legislation change is enacted in year XX

Political Variables

*Libgov = 1 if the Liberal party forms the provincial government

*NDPgov = 1 if the NDP forms the provincial government

*neoCon = if the B.C. Social Credit party's policies are shifted to the right

The variables preceded by a * are dummy variables that equal one if the condition is satisfied and zero otherwise. The dummy variables are adjusted for part years when the condition starts or ends.

TABLE 2

Descriptive Statistics

British Columbia

Variable	*Obs*	*Mean*	*Standard Deviation*	*Min*	*Max*
winrate	42	.6984	.0710	.5351	.8019
dEmp	42	.0319	.0255	-.0535	.0704
dEmpsq	42	.0017	.0014	0	.0050
Infl	42	.0463	.0353	-.0089	.1426
dInfl	42	.2330	1.529	-1.673	8.985
Leg74	42	.4524	.5038	0	1
Leg77	42	.3631	.4820	0	1
Leg84	42	.2062	.4027	0	1
NDPgov	42	.1048	.2973	0	1
neoCon	42	.2107	.4090	0	1

TABLE 2 (Continued)

Saskatchewan

Variable	Obs	Mean	Standard Deviation	Min	Max
winrate	42	.8155	.0572	.7041	.9646
dEmp	42	.0166	.0211	-.0315	.0539
dEmpsq	42	.0007	.0008	0	.0029
Infl	42	.0459	.0337	-.0089	.1178
dInfl	42	.2251	1.535	-1.673	8.985
Leg66	42	.6388	.4826	0	1
Leg72	42	.4940	.5015	0	1
Libgov	42	.1726	.3764	0	1
NDPgov	42	.6007	.4832	0	1

Manitoba

Variable	Obs	Mean	Standard Deviation	Min	Max
winrate	42	.7829	.0650	.6308	.9024
dEmp	42	.0139	.0181	-.0218	.0423
dEmpsq	42	.0005	.0005	0	.0018
Infl	42	.0461	.0331	-.0089	.1118
dInfl	42	.2211	1.529	-1.673	8.985
Leg70	42	.5476	.5038	0	1
Leg73	42	.4721	.5019	0	1
Leg76	42	.3810	.4915	0	1
Leg85	42	.1905	.3974	0	1
NDPgov	42	.3417	.4729	0	1

BRITISH COLUMBIA

British Columbia Specification

In B.C., the Social Credit party formed the government for most of the sample. The two exceptions are the fourth quarter of 1972 to the end of 1975, and late 1991 to the present were the NDP formed the government. Let a Social Credit government be the base case and include a dummy variable (NDPgov) to represent the periods of NDP government.

Another shift in the political environment in B.C. is included in the analysis. In 1983, coincident with a provincial election, the policies of the Social Credit government became much more conservative.[3] Dyck (1991:

3. See Dyck (1991: 585–6, 602) and the references cited therein.

585) writes that in 1983: "British Columbia experienced an unanticipated and unprecedented excursion into neo-conservatism, ... generally more extreme than that practiced by Ronald Reagan or Margaret Thatcher." Another dummy variable (neoCon) is included in equation 1 to capture the effects of this shift to the right. neoCon equals one from 1983 until the defeat of the Social Credit party in 1991.

Major revisions to B.C. labour legislation occurred in 1974, 1977, and 1984 and their effects are estimated with the dummy variables Leg74, Leg77 and Leg84.[4] The 1974 and 1984 revisions are marked with vertical lines in Figure 1. The 1974 legislation, passed by the NDP government, supported organized labour. Among the most important changes, the legislation: reduced the support required to obtain a representation vote to 35%; included first contract arbitration and duty of fair representation clauses; prohibited professional strikebreakers; explicitly gave the board power to certify a bargaining unit if it felt that unfair labour practices prevented workers from expressing their true preferences, changed the election rule to majority of votes cast from majority of eligible voters; and expanded the range of workers covered by the act.

A Social Credit government replaced the NDP and its 1977 legislation reversed some of the 1974 changes. Support required for certification without a vote was increased from 50% to 55%, support required to obtain a representation vote was increased from 35% to 45%, and a minimum turnout of 55% of the bargaining unit was required in representation votes, among other changes.

In 1984 another Social Credit government passed legislation that was consistent with their new, more conservative, philosophy. The most important change, for our purposes, was the elimination of certification without a representation vote (except in construction). The current NDP government's labour legislation came into effect in January 1993. Data for 1993 are available and are shown in Figure 1. Unfortunately the 1993 data must be excluded from the estimation since the effects of the 1993 legislation would be identified by only one observation.

British Columbia Results

The estimated B.C. coefficients are reported in Table 3. The legal and political variables are statistically significant in their separate regressions. Thus all the variables are included in a third regression to attempt to disentangle their effects and the discussion focuses on the estimates from

4. The 1974 legislation was passed by the NDP in November 1973 and proclaimed in bits and pieces in 1974. Some parts of the legislation were never proclaimed.

TABLE 3

Estimated Regression Coefficients

	British Columbia				*Saskatchewan*			*Manitoba*	
dEmp	-.4578	-.5077	-.4203	dEmp	-12.58**	-12.77**	dEmp	.3247	-1.198
	(.62)	(.71)	(.60)		(12.8)	(11.2)		(.11)	(.41)
dEmpsq	12.40	3.567	3.365	dEmpsq	217.62**	299.35**	dEmpsq	-82.07	-10.32
	(.90)	(.26)	(.25)		(4.35)	(6.52)		(.84)	(.11)
Infl	1.971**	1.157**	1.232*	Infl	1.107	-.6466	Infl	-2.894	-.9617
	(3.16)	(2.63)	(1.81)		(1.13)	(.74)		(1.57)	(.90)
dInfl	.0018	.0072	.0063	dInfl	.0339**	.0371**	dInfl	.0235	.0193
	(.18)	(.70)	(.63)		(2.29)	(2.28)		(1.03)	(.85)
Leg74	.0180		-.0046	Leg66	-.4043**		Leg70	-.1463	
	(.30)		(.08)		(3.68)			(1.10)	
Leg77	-.1253**		-.0216	Leg72	.1972*		Leg73	.3632*	
	(2.23)		(.30)		(1.90)			(1.88)	
Leg84	-.3118**		-.2789**	NDPgov		.1067	Leg76	-.1872	
	(3.84)		(2.54)			(1.27)		(1.49)	
NDPgov		.1050**	.1100*	Libgov		-.0779	Leg85	.0082	
		(2.25)	(1.88)			(.68)		(.06)	
neoCon		-.3687**	-.1322	constant	1.162**	.9843**	NDPgov		-.0310
		(6.36)	(1.34)		(17.8)	(12.2)			(.40)
constant	.5452**	.5741**	.5737**				constant	1.048**	.9901**
	(16.4)	(16.4)	(16.8)					(12.9)	(15.1)
R^2	.6475	.6283	.6787	R^2	.9176	.8983	R^2	-.0209	-.0507
DW	2.23	1.34	2.09	DW	1.70	1.48	DW	1.67	1.53

* indicates significant at the 90% confidence level. ** indicates significant at the 95% confidence level. Absolute value of the estimated t statistics are in parentheses.

that regression. Dropping the insignificant variables (such as Leg74, dEmp, or dEmpsq) raises the t-values on some of the remaining estimates but does not alter the qualitative results.

The business cycle (as measured by the rate of growth of employment and the rate squared), the rate of change of the inflation rate, and the 1974 and 1977 labour law revisions have no discernible effect on the probability of certification application success. The hypotheses that these variables have no effect, singly or jointly, cannot be rejected at any reasonable significance level.

Higher levels of inflation are associated with higher success rates although the estimated coefficient is different from zero at only the 92% confidence level in the final specification. At the mean of the sample, a 5 percentage point increase in the inflation rate is estimated to increase the proportion of certification applications granted by 2.09 percentage points.

The results suggest that both the political environment and labour legislation are important, even after controlling for the effects of the other. The experience in the 1970s suggests that the political environment is important. Figure 1 shows that the 1973–5 increase in winrate started in 1973 — when the NDP was elected — and before the 1974 legislation was passed. Further, winrate returned to historical levels in 1976–7 when the Social Credit regained power and the legislation was still in effect. The estimated coefficient on NDPgov is positive but different from zero at only the 93.1% confidence level in the final specification, after controlling for the effects of labour legislation. Evaluated at the mean of the sample, an NDP government is estimated to increase winrate by 3.7 percentage points. The high inflation rate in the middle 1970s also explains part of the 1973–5 increase in winrate.

The 1974 legislation is not estimated to have a significant impact on winrate in any of the specifications. The 1977 legislation has a negative impact on winrate when the political variables are excluded, but its effect is statistically insignificant after controlling for the political environment.

The experience in the 1980s and 90s suggests that legislation is also important. Figure 1 shows that winrate fell significantly in 1983 (coincident with the Social Credit shift to the right), but winrate fell further when the 1984 legislation was passed. Further, winrate stayed low after the NDP formed the government in 1991 and did not return to historical levels until after the 1993 legislation was passed. The 1993 legislation allows certification without a representation vote if there is 55% support at the time of the application. The legislation also replaced the Industrial Relations Council, which had been boycotted by organized labour. Thus the 1993 legislative appears to have a significant impact on winrate. Recall that 1993 cannot be

included in the regression analysis because the effect of the legislation would be identified by only one observation.

The 1984 legislation has a negative impact on winrate and it is different from zero at the 98.4% confidence level. Given the 1977 legislation and evaluating the economic variables at their means, the 1984 legislation is estimated to decrease winrate by 10.3 percentage points. The estimated impact of neoCon is negative and significantly different from zero when the legal variables are excluded, but statistically insignificant when controls for labour legislation are included.

The Durbin Watson statistic, a runs test, and skewness and kurtosis tests for normality all indicate that the estimated residuals are very well behaved and show no indication of misspecification.[5]

SASKATCHEWAN

Saskatchewan Specification

The political environment in Saskatchewan is more varied, but less extreme, than B.C. The NDP formed the government in 1949–63, 1971–82, and from 1991 to the present. The Liberal party governed in 1964–71 and the Progressive Conservatives in 1982–90. Let a Progressive Conservative government be the base case and define dummy variables to represent the Liberal (Libgov) and NDP governments (NDPgov).

There were major labour law revisions in 1966 and 1972 and these are marked with vertical lines in Figure 1. Define two dummy variables, Leg66 and Leg72, to estimate their effects. In 1966 the support required for certification without a vote was increased from 50% to 60%, the support required to obtain a representation vote was increased from 25% to 40%, strike votes were made mandatory, and employers were allowed to state their opinions during certification drives. In 1972, the support required for certification without a vote and the support required to obtain a representation vote were restored to their pre-1966 levels of 50% and 25% respectively, technical change clauses were made mandatory, and coverage was extended to include independent contractors and a wider range of managers.

There were major changes in the construction labour relations legislation in 1992. These affected the bargaining structure but not the certification procedure. Further, no applications were filed under the new legislation in 1992 so no variables are included to reflect this revision.

5. The Durbin-Watson test exhibits good power for detecting AR(2), MA(1) or even more general processes as well as testing for AR(1). See Harvey (1990: 210–1).

The Saskatchewan Labour Relations Board covers a much higher proportion of public sector workers than the Manitoba or B.C. boards. There are no a priori expectations about how this difference should affect certification success. Since each province is analyzed separately, however, any differences will be captured by the estimates.

Saskatchewan Results

The estimated coefficients for Saskatchewan are reported in Table 3. The hypothesis that the political environment has no effect cannot be rejected, even when the legal variables are excluded and the political variables include the effects of legislative revisions. Thus there is no need to separate the effects of the legal and political environments and the discussion focuses on the estimates with only economic and legal variables included. Including all the variables in one regression yields results that are very similar to those reported below.

The 1966 legislation has a large, statistically significant, negative impact on the likelihood of certification application success. Given the pre-1966 legislation and evaluating the economic variables at their means, the 1966 legislation is estimated to decrease the success rate by 11.0 percentage points. The 1972 reforms are estimated to have a positive effect on winrate, but the estimate is different from zero at only the 93.4% confidence level. Given the 1966 legislation, the 1972 changes are estimated to increase winrate by 5.9 percentage points.

The business cycle (as measured by employment growth) is statistically significant and affects winrate in a non-linear fashion. When employment growth is less than 2.9% (representing about 70% of the observations) higher employment growth decreases winrate. For employment growth greater than 2.9%, further increases in employment growth increase the predicted success rate. Thus the predicted success rate is lowest when employment growth is 2.9%, and higher when employment growth is significantly above or below 2.9%. This is the same sort of relationship reported by Cooke (1983). At the mean of the sample a decrease in employment growth from 2.9% to zero is estimated to increase winrate by 4.5 percentage points. It is easy to speculate about reasons for this non-linear relation. At low or negative rates of employment growth, workers may have a greater desire for the protection and job security of union coverage and this may wane as the labour market improves. With high levels of employment growth workers may view unions as a good vehicle for asserting their bargaining power in a tight labour market, or employer resistance may be lower.

The rate of growth (but not the level) of inflation has a small, but statistically significant, positive effect on the success rate. At the mean of

the sample a doubling of the rate of change of the inflation rate yields a 0.2 percentage point increase in winrate. The level of inflation has statistically insignificant effects on the rate of certification application success.

The estimated residuals are well behaved and do not indicate misspecification. The hypothesis of no serial correlation cannot be rejected by the Durbin Watson or runs test and the hypothesis of normally distributed errors cannot be rejected by a skewness/kurtosis test at conventional significance levels.

MANITOBA

Manitoba Specification

In Manitoba, the Liberal-Progressive party governed from 1950 to 1958. According to Dyck (1991: 385, 410), the Liberal Progressives were neither liberal nor progressive and their ideology and policies were basically conservative. NDP and Progressive Conservative governments alternated thereafter with the PCs forming the government in 1958–69, in 1978–81 and from 1988 to the time of writing. The NDP formed the government in 1969–77 and in 1982–88. Define a Progressive Conservative government as the base case and include a dummy variable (NDPgov) for NDP governments. The conservative Liberal-Progressive governments are counted as PC governments. Including a separate variable for the Liberal Progressive governments leaves the results presented below unchanged.

Major legislative revisions occurred in 1970, 1973, 1976 and 1985 and dummy variables are defined for each revision. The 1957 revision focused mainly on refining definitions and improving administrative procedures so it is excluded from the analysis.

In 1970 the NDP government changed the rule for winning a representation vote from the majority of those in the bargaining unit to the majority of those voting. In 1973 the NDP government passed legislation that supported organized labour. Coverage was expanded to include some dependent contractors and professionals, technical change provisions and compulsory checkoff were made mandatory, terms and conditions of employment were frozen from the filing of the certification application to its final disposition, a certification application could be filed with 35% support of the bargaining unit, and the Labour Relations Board had to order a representation vote if support was between 35 and 50%.

The 1976 amendments reversed some of the 1973 changes. The level of support required to file a certification application was restored to its previous level of 50% and the LRB regained the authority to order a

representation vote when it was unsure there was majority support. An early form of first contract arbitration was also passed at that time.

In 1985 the support required for certification without a vote increased from 50% to 55%, a representation vote became mandatory if support was 45–55% and cards signed at the time of the application indicated the level of support. Duty of fair representation clauses and strike votes were made mandatory, professional strikebreakers were prohibited, and replacement workers could only be hired for the duration of the stoppage. A major revision was enacted on January 1, 1993, but the 1993 data had not been released at the time of writing.

Manitoba Results

The estimated coefficients for Manitoba are reported in Table 3. As with Saskatchewan, the political environment has statistically insignificant effects even with no controls for legislation. The legislation variables explain more of the variation in winrate, so the discussion focuses on the estimates with only economic and legal variables included. Including all of the variables in one regression does not alter the results.

Unlike the other provinces, employment growth and inflation coefficients are very insignificant and the hypothesis that they have no effect cannot be rejected at any conventional significance level. The 1970, 1976 and 1985 legislative changes are also estimated to be statistically insignificant. It is not surprising that the 1970 amendment had no effect. The amendment affected only the election rule and few certification applications result in a vote. The 1985 revision made certification more difficult but also included other items that supported labour. This mixture of changes may explain why its net effect is not significantly different from zero.

The 1973 revision contained the strongest package of pro-labour reforms and it has a positive effect on certification application success. However the estimate is different from zero at only the 93.1% confidence level. Evaluated at the mean of the economic variables, the 1973 legislation is estimated to increase winrate 9.2 percentage points over its pre-1973 level.

Overall, the legal, economic and political variables do a very poor job of explaining the variation in winrate. The hypothesis that all of the variables have zero coefficients cannot be rejected at any conventional significance level in a joint hypothesis test.

The residuals are well behaved and do not indicate misspecification. The hypothesis of no serial correlation cannot be rejected by the Durbin Watson or runs test and the hypothesis of normally distributed errors cannot be rejected by a skewness/kurtosis test at conventional significance levels.

CONCLUSION

The impact of economic conditions, labour legislation and the political environment on the proportion of certification applications granted is different in each of the provinces studied. The economic, political, and legal variables explain a great deal of the variation in certification success in Saskatchewan and they have moderate success in British Columbia. However, they explain virtually none of the variation in Manitoba.

Changes in labour legislation do affect certification success in all three provinces. The estimated impacts confirm expectations about which revisions facilitated organizing and which did not. Changes in labour legislation are estimated to have a much larger impact on the proportion of applications granted than changes in economic conditions or the political environment. Thus labour legislation appears to be a much more important factor in certification success than economic conditions or the political environment.

The political regime or environment is estimated to be important in British Columbia but not in Saskatchewan or Manitoba. This is not too surprising given the polarized political climate in B.C. and the very wide swings in the governments' ideologies. It is plausible that the political environment would affect certification success in Saskatchewan or Manitoba if they experienced the same dramatic swings in governing ideology.

The overall impact of economic conditions is quite modest. Employment growth and inflation are estimated to be important in Saskatchewan, while only inflation affects winrate in B.C., and none of the economic variables are estimated to influence certification success in Manitoba. Even where the estimates are statistically significant, the estimated impacts of large changes in economic conditions are surprisingly small.

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RÉSUMÉ

Les déterminants du succès des requêtes en accréditation en Colombie-Britannique, en Saskatchewan et au Manitoba

Pour assurer sa force et sa viabilité, le mouvement syndical doit continuellement organiser les travailleurs de nouvelles entreprises. Même en temps de stabilité économique, les employeurs ouvrent et ferment continuellement des usines et déménagent dans d'autres juridictions. Alors, les syndicats sont en organisation continuelle de nouvelles unités afin de maintenir leur membership et leur densité. Le nombre de travailleurs organisés est fonction a) du nombre de requêtes en accréditation déposées, b) de la proportion des requêtes accueillies et c) de la taille des unités de négociation accréditées.

Ici, nous étudions quelques uns des déterminants du taux de succès des requêtes en accréditation. Nous utilisons des régressions pour estimer les effets des conditions économiques, des changements dans la législation du travail et l'environnement politique sur la proportion des requêtes en accréditation accordées.

Quant aux conditions économiques, le taux d'inflation, les taux de changement du taux d'inflation et de l'emploi, et le changement au carré dans l'emploi font partie de l'analyse. L'environnement politique est représenté par des variables dichotomiques reflétant le parti politique au pouvoir et les principaux changements dans la politique publique. Nous recourons aussi à des variables dichotomiques pour illustrer l'effet des modifications majeures dans la législation du travail.

Nous utilisons des données annuelles sur les requêtes en accréditation déposées auprès des conseils de relations du travail de la Colombie-Britannique, de la Saskatchewan et du Manitoba de 1951 à 1992. Nous avons fait des régressions séparées pour chaque province retenue.

Les estimés démontrent que les conditions économiques, la législation du travail et l'environnement politique ont des effets différents sur la proportion de requêtes en accréditation accueillies dans chaque province. Les variables indépendantes expliquent une grande partie de la variation dans le succès obtenu lors d'une requête en accréditation. Cela est vrai à un niveau moindre en Colombie-Britannique et à un niveau pratiquement nul au Manitoba.

Les révisions majeures de la législation du travail, par contre, influencent le taux de succès des requêtes en accréditation dans les trois provinces. Les impacts estimés confirment les attentes quant aux révisions pro-syndicales et celles qui ne le sont pas. En outre, les modifications dans la

législation du travail ont un impact beaucoup plus important sur la proportion des requêtes accueillies que les changements dans les conditions économiques ou dans l'environnement politique. La variable « législation du travail » semble donc ici la plus importante.

Le régime, ou l'environnement politique, semble être important en Colombie-Britannique. Par exemple, les estimés démontrent que le passage du Crédit social en 1973 à des gouvernements NPD a accru le taux de succès des requêtes en accréditation de 3,7 points de pourcentage, les effets des changements dans la législation du travail ayant été contrôlés. Cependant, les changements de gouvernement des libéraux, aux conservateurs, au NPD ne semblent pas avoir d'importance en Saskatchewan et au Manitoba. Cela n'est guère surprenant, considérant que la Colombie-Britannique est caractérisée par un climat politique polarisé et par de grands écarts dans l'idéologie des gouvernements. Il est probable que le parti au pouvoir affecterait le succès des requêtes en accréditation en Saskatchewan ou au Manitoba si ces provinces connaissaient des changements aussi drastiques dans leur idéologie que ceux vécus en Colombie-Britannique.

L'impact général des conditions économiques est très modeste. Même lorsque nos estimés sont significatifs sur le plan statistique, d'importants changements dans les conditions économiques semblent avoir des effets étonamment petits sur le succès en accréditation. Une plus grande inflation est reliée à des taux de succès plus élevés en Colombie-Britannique alors que des taux élevés de changement dans l'inflation sont associés à des taux de succès plus grands en Saskatchewan. Nous avons estimé que la croissance dans l'emploi n'est importante qu'en Saskatchewan où de très hauts et très bas taux de croissance dans l'emploi sont associés avec des taux de succès plus grands. Selon nos estimés, aucune des variables économiques n'influence le succès de l'accréditation au Manitoba.