Document généré le 16 juil. 2024 20:53

Relations industrielles
Industrial Relations

Work-Sharing Benefits in Canada: An Effective Employment Stabilization Policy Measure?

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Volume 51, numéro 4, 1996

URI : https://id.erudit.org/iderudit/051136ar
DOI : https://doi.org/10.7202/051136ar

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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

Gray, D. (1996). Work-Sharing Benefits in Canada: An Effective Employment Stabilization Policy Measure? *Relations industrielles / Industrial Relations*, *51*(4), 802–822. https://doi.org/10.7202/051136ar

Résumé de l'article

Avec la réduction de la marge de manœuvre des politiques de gestion de la demande globale, on observe aujourd'hui un intérêt renouvelé pour des stratégies alternatives. Parmi celles-ci, on trouve une gamme de mesures fondées sur le partage de l'emploi. Ces mesures visent à répartir le travail disponible afin de créer davantage d'issues pour des chercheurs d'emploi. Par exemple, on proposait récemment en France de mettre en œuvre une réduction globale de la durée de travail à quatre jours par semaine, ce qui pourrait créer, selon certains, deux millions de nouveaux emplois. Au Canada, un groupe consultatif du ministère du Travail a récemment produit un rapport intitulé Le temps de travail et la répartition du travail, dont une des recommandations est de décourager fortement le recours à des heures supplémentaires au profit de nouvelles embauches.

Un autre exemple canadien est le programme de travail partagé de l'assurance-chômage. Son objectif principal est de réduire le nombre de mises à pied cycliques. Lors d'une baisse de la demande de main-d'œuvre, l'employeur est amené à substituer une réduction de la durée du travail à des licenciements. Les travailleurs qui se retrouvent en partie en chômage reçoivent une indemnité assez importante pour combler leur perte de revenu du travail. Le programme canadien a été lancé en 1982. Son taux d'utilisation a augmenté considérablement, passant de 35 000 semaines de prestations en 1987 à 265 352 en 1991. La relance de l'économie a entraîné une baisse sensible de l'utilisation depuis 1991, mais le programme intéresse toujours un certain nombre d'employeurs et de travailleurs.

Cette étude a pour but d'examiner la relation entre le degré d'utilisation du programme de travail partagé et la conjoncture, à partir de données macroéconomiques canadiennes. On s'attend généralement à ce que les dépenses pour les programmes sociaux affichent une évolution contre-cyclique. Cependant, Milbourne, Purvis et Scoones (1991) ont montré que le taux d'utilisation du programme d'assurance-chômage est demeuré élevé entre 1984 et 1989, malgré la croissance rapide de l'économie. 11 se peut que ce phénomène soit lié aux caractéristiques régionales particulières du système d'assurance-chômage qui permettent à un bénéficiaire de recevoir des prestations de façon récurrente. Dans le livre blanc sur la réforme sociale, déposé par le ministre Axworthy, on a soulevé le point que le système actuel subventionne le développement de l'emploi saisonnier et instable et décourage l'ajustement structurel. En ce qui concerne le programme de travail partagé de l'assurance-chômage, Graves et Dugas (1993), évaluant ce programme, ont montré qu'il était susceptible d'entraîner des effets de persistance qui s'apparentent à ceux observés par Milbourne, Purvis et Scoones (1991).

(Ces auteurs ont observés que si une série chronologique suit un processus caractérisé par la persistance, un choc important sur la valeur actuelle aura des répercussions dans la même direction pour des périodes subséquentes, et ces changements ne s'amenuiseront que très graduellement. Par contre, si une série chronologique suit un processus de réversion, un choc sera contrebalancé par un écart compensateur la période suivante.) Cette étude a pour but d'étendre l'analyse de Graves et Dugas, qui est basée sur des données transversales au niveau de l'entreprise, à une analyse dynamique de l'évolution de l'activité au cours du cycle économique à partir de l'observation de séries chronologiques agrégées. On accorde une attention particulière aux effets saisonniers et à la question de la persistance des effets dans le contexte du problème de l'hystérèse du chômage.

Ces questions ont une incidence sur l'efficacité du programme à jouer son rôle de stabilisateur du chômage cyclique. Les considérations régionales sont également abordées.

On teste les hypothèses à partir de modèles de régression estimés avec des données nationales, régionales et sectorielles. En ce qui concerne la structure de l'utilisation du régime, les résultats montrent des écarts significatifs entre les économies du Québec et de l'Ontario d'une part, basées principalement sur le secteur manufacturier, et les économies de la Colombie- Britannique et des provinces atlantiques d'autre part, qui dépendent surtout du secteur primaire. Malgré la présence des effets saisonniers sur le plan national, on observe en général que les niveaux de participation évoluent de façon contre-cyclique, et qu'ils réagissent aux fluctuations de la production dans de brefs délais. Les effets de persistance ne sont pas significatifs. Il appert que l'effet pervers qui découle du système d'assurance-chômage conventionnel n'intervient guère pour le programme de travail partagé. En fait, à l'exception des effets saisonniers, le programme fonctionne de la façon prévue initialement par ses concepteurs. Toutefois, sa capacité de sauvegarder les emplois demeure inconnue. On observe également qu'il faut une détérioration assez importante de la conjoncture pour engendrer une hausse significative de la participation.

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Work-Sharing Benefits in Canada

An Effective Employment Stabilization Policy Measure?

DAVID GRAY

The topic of this paper is Canada's work-sharing program, which is a special provision of the unemployment insurance program. The time series properties of the national and regional activity levels of this program between 1982 and 1992 are analyzed with the aid of a regression equation. The model estimates the relationship between global work-sharing program activity and the business cycle in search of a countercyclical pattern. Despite evidence of persistence effects in the time series behaviour of the participation levels for the conventional UI program, which have been tied to hysteresis effects for unemployment levels, the participation levels of this program appear to behave countercyclically, as intended. Although there is some anecdotal evidence at the firm level which would suggest instances of repeat usage, persistence effects are not discernible at the macroeconomic level. On the other hand, despite the fact that the program is not to be used in instances of seasonal unemployment, the model does generate seasonal patterns.

As the scope for demand management policies to attenuate high unemployment is reduced, there is renewed interest in alternative strategies. Among these are job-sharing policies, which consist of an array of measures designed to ration an excess quantity supplied of labour among the workers who are willing to work at the going transactions wage. Although employment

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- This project is supported by the Employment Program Analysis Service, Strategic Policies Division of Human Resources Development Canada. I am grateful to Miles Corak, Rose Anne Devlin, John Galbraith, David Green, Gilles Grenier, Jan Kmenta, Soo-bin Park, Pierre Perron, and David Stambrook for helpful comments. Lori Plager provided me with the data set. The usual disclaimer applies.

redistribution schemes have typically been applied as survival measures for individual employers, such as Volkswagen's German operations, in Western Europe there is some discussion about implementing them as an *aggregate* policy measure to combat unemployment.[1]

One measure of this type is subsidized work-sharing benefits (WSB), also known as a short time compensation program. Its primary objective is to reduce the number of cyclical layoffs, thus decreasing the flow of workers into unemployment, by inducing employers who are reducing labour input to reduce working time instead of resorting to layoffs. The participating workers receive some indemnity that often covers much of their income loss. In Canada, the official goal of the program is to "maintain local, regional, and industrial employment levels during periods of short-term adverse economic conditions." (Guest 1991: iii)[2] The Canadian WSB program was created in 1982 as a 'developmental use' of the conventional Unemployment Insurance (UI) program. It experienced a dramatic increase in activity during the last recession, rising from a level of approximately 35,000 benefit weeks in 1987 and 1988 to 265,352 benefit weeks in 1991. The ensuing recovery has led to a decline in usage since 1991, but employers and workers' groups are still interested in the program.[3]

The topic of this study is the relationship between global WSB program activity and the business cycle, which is analyzed by using Canadian macroeconomic data. Although one expects most social insurance programs to exhibit countercyclical patterns, with payments increasing (decreasing) markedly during recession (recoveries), there are notable counterexamples. For instance, Milbourne, Purvis, and Scoones (1991) demonstrate empirically that the activity levels of the UI program remained persistently high in the mid-to-late 1980s despite robust economic growth. This macroeconomic

1. The French government is debating a proposal to implement a four-day work week covering virtually the entire labour force, with a goal of creating up to two million jobs. ("Europeans Consider Shortening the Workweek to Relieve Joblessness", *The New York Times*, page A1, Nov. 22, 1993.) For a descriptive monograph explaining the policy debate and surveying many of the evaluations of the policies designed to reduce working time, see Owen (1989).

2. Further information on the institutional aspects of the program and its early history are contained in Reid (1982) and Reid and Meltz (1984).

3. For example, in November of 1993 Bell Canada applied for up to $30 million in publicly funded WSB benefits to 'top up' the pay of thousands of workers forced into a four-day work week. By implementing this arrangement, the number of permanent layoffs could be reduced from the initial target of 5,000 workers. "The Work Sharing plan, usually used by smaller struggling firms, has suddenly grown popular with restructuring corporate giants...If granted, the request alone would eat up half of the program's funds." ("Bell job plan gets a 'careful look'," *The Globe and Mail*, November 17, 1993, page B1). The request was subsequently denied.

phenomenon may be due to program features such as the regional extended benefits provision of the conventional UI system, which permits the repeat drawing of benefits by the same recipient. The White paper on social policy reform has raised concerns, previously mentioned by the Forget and MacDonald Commissions in the 1980s, that the impact of recurrent use is to subsidize seasonal and unstable employment patterns, which in turn serves to discourage regional and occupational mobility and retraining on the part of workers.[4]

The fundamental question posed by this study is whether analogous usage patterns are present with the WSB program. In an evaluation of the work-sharing program commissioned by Human Resources and Development Canada, Graves and Dugas (1993) find evidence of program usage patterns which might generate persistence effects for the work-sharing program similar to those found by Milbourne, Purvis and Scoones (1991).[5] The objective of this study is to extend their analysis, which is based on firm-level, cross sectional data, to an aggregated, time series analysis of the dynamics of patterns of program activity over an entire business cycle. The key issues are the extent to which either seasonal or persistence effects are discernible at the macroeconomic level. This information has repercussions for the efficacy of the program in meeting its primary role as a stabilizer to address cyclical unemployment, particularly in economies for which the hysteresis hypothesis of unemployment, first attributed to Blanchard and Summers (1986), is thought to apply.[6] A second, related issue is raised at the regional level. Given the disparities in regional usage patterns of conventional UI benefits due to differing eligibility conditions, treated by

4. A similar pattern appears to apply to social assistance expenditures in Ontario during this period ("A Social Strategy: The Past and the Future," *The Globe and Mail*, January 19, 1994, page A1).

5. If a time series exhibits a process characterized by persistence effects, sometimes called inertia or history dependence effects, a large increase or decrease in the current value will have repercussions in the same direction in subsequent time periods, yielding changes that peter out only gradually. In contrast, if a time series exhibits a reversion process, a large shock in the current period will tend to be offset by a counteracting change in the next period.

6. The notion of hysteresis has been applied to analyze the behaviour of unemployment, especially in Western Europe, where it has been observed to exhibit persistence effects. Whereas unemployment used to move countercyclically with respect to the business cycle, it now appears as though an economic downturn tends to ratchet up the unemployment rate. A recession initially triggers an increase in unemployment, but this higher level is quite resilient in the face of economic recovery. According to the hysteresis hypothesis, unemployment no longer displays the traditional, symmetric, countercyclical pattern of declining when a recovery occurs.

Green and Riddell (1993) and Baker and Rae (1993), there might exist correlated effects for the work-sharing regime.

The hypotheses are tested with regression models that are estimated with data at the national level as well as data disaggregated by region and sector. There are some discrepancies in usage patterns discerned between the manufacturing-based economies of Ontario and Quebec and the resource-based economies of the Atlantic provinces and B.C. The broad patterns in the results indicate, however, that although there is evidence of seasonal usage patterns, the usage levels respond to both positive and negative output shocks in a countercyclical fashion within a short pattern of time lags, as intended. As persistence effects are not discerned, the perverse usage patterns that are observed with the provisions of the orthodox UI system do not appear to be playing a large role with this program. Furthermore, there is evidence of a non-linear, threshold effect in usage patterns, as a relatively large negative shock tends to be required to incite participation in the program.

The next section contains a survey of the literature and further discussion of the hypotheses to be tested. The regression model, the data set, and the results are discussed in the following section. Finally, a number of conclusions are set out.

LITERATURE SURVEY AND HYPOTHESES

Many facets of WSB programs have been examined in the literature, such as their impact on labour market efficiency and on industrial relations, and the characteristics of firms and labour forces which determine the likelihood of a firm's participation.[7] Other studies have focussed on the direct impact on employment of such programs. For example, it was estimated that during fiscal years 1989–90 and 1990–91, the Canadian WSB program saved an annual average of 43,200 full-time jobs (Graves and Dugas 1993).

To the author's knowledge, there have been no studies treating the temporal dynamics of the relationship between the program's usage patterns and the business cycle. This issue is important from the perspective of the hysteresis theory of unemployment, recently surveyed by Bean (1994). The basic principle underlying this hypothesis is that temporary, adverse shocks to aggregate output tend to have much longer term, adverse effects on unemployment which countervale a cyclical behavioral pattern. As

7. MaCoy and Morand (1984) and Best (1988) are books devoted to this topic. They contain the results of numerous surveys. The overall tone of these works, which describe and evaluate short-time compensation programs, is very favourable toward them.

economic recoveries fail to generate a decline in unemployment to its pre-recession level, unemployment appears to be subject to a ratchet effect. Among the various behavioural mechanisms which are thought to underlie the hysteresis effect are several which implicate social programs. Indeed, Milbourne, Purvis and Scoones (1991) argue that the persistence patterns which affect the participation levels of the conventional UI program partially explain the hysteresis observed for the unemployment rate in Canada.

If the time series patterns of the work-sharing program's usage levels are essentially countercyclical, then one can argue that the program has served to reduce the magnitude of the initial, recession-induced shock to employment by decreasing the flow into unemployment. This would subsequently dampen the subsequent inertia effects on employment growth that, according to the hysteresis hypothesis, are propagated in labour markets. On the other hand, if a pattern of persistence is discerned for the time series of program activity, the case for this program as a flexible, stabilizing intervention would be weakened.

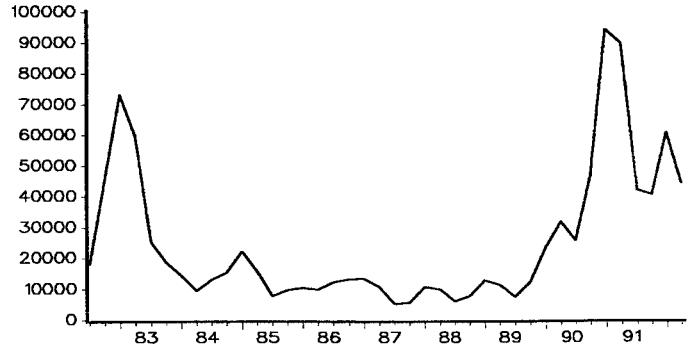
A casual glance at participation patterns over time indicates that they are countercyclical, as program activity levels were high during the recession periods of 1983 and 1990–1992, but were generally quite low otherwise (see Graph 1). The regulations of the program reflect its principal objective, specifying that agreements should last for six months, with one renewal possible for another six months. In order to generate the intended stabilizing effect, participation in the WSB program should meet two conditions. First, it should respond rapidly to the state of the labour market. Second, the fluctuations in the activity levels should be *negatively* correlated with aggregate output shocks.

In contrast to the intended countercyclical objective of the program, however, there may be some reasons to expect some persistence in the dynamics of the time series. Anecdotal evidence in the applied literature on work sharing suggests that a subset of firms may be using work-sharing benefits in situations of structural unemployment where the shock to labour demand is probably permanent.[8] As Pal (1983) suggested shortly after the inception of the program, some work units of distressed firms might have incentives to use it as a palliative measure to delay the imposition of painful layoffs, especially since future eligibility for conventional UI benefits is not reduced if WSB are collected. Based on a fairly high incidence of repeat

8. For anecdotal evidence from France, see *Bilan de l'Emploi* (1988). In Germany, the steel and coal industries are explicitly using work-sharing benefits to address structural unemployment, and the term of the packages for these industries has been extended to three and one-half years. In the former East Germany, where unemployment is mostly structural, employees from all sectors are permitted to benefit on a long-term basis: 25% of the labour force is participating in a work-sharing scheme (Seifert 1993).

GRAPHIQUE 1

Work-Sharing Benefits in Canada :
Number of Benefit Weeks Paid (1982.3–1992.2)



use and of firms carrying out permanent layoffs after having participated in the program, Graves and Dugas (1993) conclude that certain participants use this program to 'subsidize the status quo', i.e., to preserve existing employment arrangements even if they are incompatible with market conditions. This behavioural response is generally unintended and is considered to be a misuse of the program. Indeed, this was the explicit intention of the union and the management of Bell Canada when they applied for these benefits.

A second mechanism which could generate a pattern of persistence is erroneous forecasting of labour demand. It seems probable that firms could initially mistake a permanent negative shock for a temporary one. Indeed, most economic forecasts in 1990 were predicting a recovery much sooner than 1993. Given errors and uncertainty in the expectations for a recovery in labour demand, the incidence of repeat use might increase, weakening the link between the output cycle and the usage cycle for this program. In the empirical analysis, this study seeks to gauge the importance of these effects at the macroeconomic level.

In addition to the questions of timing and direction of responses of WSB utilization to labour market conditions, there is another interesting stylized fact. Vroman (1992) has pointed out that the temporal pattern of WSB claims is more cyclically pronounced than is the pattern of conventional UI claims. Participation increased sharply during the recession years of 1982, 1990, and 1991, and it decreased sharply during the earlier stages of recovery in 1983 to stabilize subsequently at low levels. At the aggregated level, participation in WSB programs might exhibit a non-linear effect, whereby a relatively large shock is required to induce utilization. Indeed,

according to the regulations of the program, firms are supposed to envisage laying off 20% or more of the labour force of a certain unit in order to participate in the program. The existence of these non-linear participation effects is an empirical question that is addressed in the next section.

THE REGRESSION MODEL AND RESULTS

Overview

The approach is to estimate a reduced form, time series regression model of the activity of the work-sharing program as a function of current and lagged values of macroeconomic indicators, particularly aggregate output. The microeconomic foundations for the regression model are drawn from the dynamic framework of labour demand, surveyed in Nickell (1986), which explains adjustments of labour input as a function of changes to output and input adjustment costs. One underlying premise is that the firm, rather than the government or the workers' group, is the primary decision maker.[9] It is also assumed that a firm's propensity to use the WSB program is determined by characteristics of the employer and/or the workforce which do not vary much over the estimation interval. The principal determinant of variation in participation levels of the WSB is thus assumed to be fluctuations in labour market conditions. Given this assumption and the focus of the link between the business cycle and the usage patterns of this program, variables describing characteristics of the work units are excluded from the model.[10]

The dependent variable (WS) for all of the specifications is the number of weeks of work-sharing benefits paid in Canada each quarter between mid-1982 and mid-1992, and it is drawn from the administrative records of Human Resources and Development Canada. The key exogenous variables are unrestricted lagged macroeconomic indicators and lagged values of the dependent variable. The disturbance term should capture idiosyncratic factors that cannot be specified, such as administrative directives or anomalies

9. This conjecture was supported by the administrators of the program at Employment and Immigration Canada. Applications for benefits are rarely turned down if the firm has met the eligibility requirements. (The Bell Canada case mentioned above constitutes an exception, probably because the layoffs were initially declared to be permanent.)

10. An appendix containing a discussion of the cross sectional variables that are thought to influence the decision of a work unit to participate in a work-sharing scheme rather than carrying out conventional layoffs is available from the author upon request. Gray (1995) contains empirical tests of some of these conjectures using French data. A more detailed discussion of the analytical framework appears in Gray (1993).

in implementing the program, information diffusion (learning) effects, and labour force adjustment lags.

The empirical approach has two steps. First, a least squares estimation including current and lagged aggregate output indicators corrected for second order autocorrelation is estimated. In order to test the hypothesis of countercyclical program behaviour, the focus is on the estimated coefficients and the length of the lag structures on these exogenous labour market condition variables. Second, after controlling for the effect of the macroeconomic indicators, the residuals from that equation are analyzed for persistence effects by including lagged dependent variables in an autoregressive scheme. For this specification, the focus is on the signs and the magnitudes of the estimated coefficients of the lagged dependent variables. If the residuals behave randomly, devoid of persistence patterns, most of the parameters should be insignificant.

Labour Market Conditions Variables

The output indicators are designed to reflect shocks in product markets, which are positively correlated with shocks in labour markets. Although the economic model of labour force adjustment stipulates that output indicators be included as levels, on the statistical level the indices are first differentiated to produce growth rates.[11] The regressors are the change in log production ($CHLNQ_t$), the change lagged one period ($CHLNQ_{t-1}$), and the change lagged two periods ($CHLNQ_{t-2}$). These growth rate measures should be negatively related to WSB usage if the program functions in a countercyclical fashion.

A second set of regressors is included to test for the hypothesis of a non-linear, countercyclical effect.[12] Experimentation with the cube of $CHLNQ_t$, the linear growth term, suggested that an exponential form was more appropriate, despite the fact that its coefficient is more difficult to interpret. This variable, $EXPGRQ_t$, is calculated as $EXP(-100*CHLNQ_t)$.[13] The same

11. The statistical issues concerning the integration order of the time series (whether they should appears as level or as first differences) are treated in an appendix available from the author upon request.

12. Another specification was attempted in order to investigate a non-linear functional form. The model was also estimated using the natural logarithm, as opposed to levels, of work-sharing participation as the dependent variable. The results of these estimating equations are qualitatively quite similar to the ones which are presented and discussed in the text.

13. The exponent is multiplied by -1 in order to produce a negative derivative. The direction of the effect is thus the same for the linear growth measure CHLNQ (negative) and EXPGRQ (negative exponential). It is multiplied further by 100 in order to produce the desired amplification effect. Given that the calculation of the variable CHLNQ is in discreet terms, EXPGRQ = (Q_{t-1}**100)/(Q**100). Typical values for CHLNQ at the beginning of recession might be +0.01 followed by -0.01. This will give values of 0.37 followed by 2.7183 for EXPGRQ.

variable appears with one and two lags ($EXPGRQ_{t-1}$,$EXPGRQ_{t-2}$). Note that since all of the production indicators enter in first difference form, the interpretation of the coefficients is that they reflect the partial derivative of work-sharing utilization with respect to the *growth rate* rather than the partial derivative with respect to *levels*. Intuitively, their fluctuations are associated with the uneven growth patterns that occur during recessions and the early phases of recoveries, which in turn trigger large changes in WS. The smoother growth patterns associated with recoveries generate more constant patterns of WSB usage.

In addition to output indicators, employment indicators and the unemployment rate may serve as good proxies for labour market conditions, but on a statistical level they may pose endogeneity problems. The regression model was estimated with an analogous set of employment indicators. As these results were qualitatively similar to those produced by the specifications including the output indicators, the discussion and presentation of results is limited to those latter specifications.

Lagged Dependent Variables

After controlling for business cycle effects on the activity levels of the WSB program by including the series of lagged production indicators, the unexplained variation is analyzed for persistence effects by adding lagged dependent variables into the estimating equation.[14] These variables should capture systematic patterns in program usage, generated by program parameters or other unspecified factors, which are independent of business cycle factors. Even if the program's participation levels behave countercyclically, however, certain autoregressive effects within a two-quarter lag structure are expected given the parameters of the program. The sign of the work-sharing series lagged one period (WS_{t-1}) is expected to be positive (which resembles a persistence effect) as agreements approved in the previous quarter continue into the present one. The sign of the work-sharing series lagged two periods (WS_{t-2}) is expected to be negative as WSB agreements implemented two quarters ago expire, reflecting a reversion effect. If the countercyclical function of the program predominates, one would not expect a significant effect for the third lag (or prior periods) of this series

14. Another method of discerning systematic patterns in the unexplained variation is to examine the residuals of the regression model without the lagged endogenous terms for autocorrelative structures. The advantage of such an approach is that the possibility of endogeneity bias introduced by the inclusion of lagged dependent variables is eliminated. By reducing that difficulty, however, an omitted variable bias might arise. The autoregressive scheme (with lagged dependent variables) was adopted as a less restrictive way of incorporating the short run dynamic effects. The regression results are robust to this change.

(WS_{t-3}), however. A significant positive effect for this measure would indicate the presence of persistence effects. In summary, in light of the program parameters, a persistence effect for a one-quarter lag is expected to be partially countervailed by a reversion effect after two quarters have elapsed. For lags thereafter, one would not expect to discern a statistically significant autoregressive pattern.

Seasonal Factors

Since the program is not designed to indemnify income losses due to seasonal unemployment, one would not expect there to be discernible seasonal patterns in usage. Nevertheless, the finding by Green and Riddell (1993) that, in high unemployment areas of Canada, the regular UI program is altering the distribution of employment spells by encouraging entry into seasonal (or shorter term employment) industries suggests that this point warrants an examination. A group of seasonal dummy variables are included (DQ2, DQ3, DQ4), with the first quarter dummy serving as the omitted category. In addition, several time trend measures were included for the early part of the estimation interval in an attempt to capture information diffusion effects, but they do not have explanatory power. These results are thus not reported.

Estimating Equation

The estimating equation assumes the following general linear form:

$$WS_t = \alpha_o + \alpha_1 * WS_{t-1} + \alpha_2 * WS_{t-2} + \alpha_3 * WS_{t-3} + \alpha_4 * CHLNQ_t + \alpha_5 * CHLNQ_{t-1} + \alpha_6 * CHLNQ_{t-2} \alpha_7 * EXPGRQ_t + \alpha_8 * EXPGRQ_{t-1} + \alpha_9 * EXPGRQ_{t-2} + \alpha_{10} * DQ2 + \alpha_{11} * DQ3 + \alpha_{12} * DQ4 + \varepsilon_t.$$

All of the specifications reflect restrictions to this functional form. The endogenous variable WS enters in levels, and thus it is treated as a stationary variable. The model is estimated using the SHAZAM econometric package over the interval 1982Q4 to 1992Q2, which contains 39 observations.[15] The lag structure spans three quarters because for most of the specifications,

15. The series WS commences in the fourth quarter of 1982, so the specifications including the three lagged endogenous variables have imputed values of 0 as the initial conditions of the program. Part of the earlier recession is thus captured by the model.

initial diagnostics suggest the presence of a second order autocorrelative process.[16]

Regression Results

The results appear in Table 1. The first three columns contain the results of the auto-correlation corrected equations estimated by least squares, from which the lagged dependent variables are omitted. The last three columns contain the results of equations including the lagged dependent variables. Although this change in specification yields qualitatively similar results, there are several reasons to believe that the specifications including the lagged dependent variables may be more appropriate (columns 4, 5, 6 of Table 1).[17] The signs of the coefficients of the lagged dependent variables are as expected. A high degree of correlation among contemporaneous variables (e.g. $EXPGRQ_t$,$CHLNQ_t$) renders the estimation of the countercyclical effects imprecise in the full specifications (columns 1 and 4 of Table 1). In particular, in the fourth column, the signs of some of the linear growth variables are contrary to expectations, although they are insignificant. Nevertheless, the signs of the exponential form variables are mostly positive, as expected, and when the models are estimated with only the exponential terms (columns 3 and 6 of Table 1) and/or with solely the linear terms (columns 2 and 5 of Table 1), the signs do correspond to expectations consistent with countercyclical behaviour.

In order to examine the response of participation to macroeconomic factors, a series of F-tests for the joint relevance of various groupings of the output indicators is carried out for the full specifications in columns 1 and 4 of Table 1. The entire group of macroeconomic indicators has a high level of joint significance. The exponential form variables ($EXPGRQ_t$, $EXPGRQ_{t-1}$, $EXPGRQ_{t-2}$) also have joint explanatory power, but the F-test for the joint relevance of the linear terms ($CHLNQ_t$, $CHLNQ_{t-1}$, $CHLNQ_{t-2}$) is insignificant. Since the estimates for the exponential form are more robust than is the case for the linear variables, subsequent discussion refers to those specifications which exclude the linear growth terms (columns 3 and 6, Table 1).

16. The specifications without the lagged endogenous variables are estimated in order to perform the preliminary diagnostics. Lagrange multiplier tests are applied in order to test for autocorrelated errors. Although the structure of the error terms may be of both the autocorrelative or moving average type, I follow Maddala [1992] and focus on diagnosing the order of the process. To address the possibility that the lagged endogenous variables are correlated with the disturbance term, diagnostics were performed on the residual terms in an attempt to discern a moving average sequence. No significant patterns of autocorrelation were estimated.

17. For the first set of specifications, the Durbin-Watson statistic falls in the inconclusive range, which may suggest that this structure is misspecified. In addition, the fit is tighter for the specifications including the lagged endogenous variables.

TABLE 1

Regression Results for Work-Sharing Activity Model, Canada Dependent Variable: Level of Benefit Weeks Paid (thousands) (WS)

Independent Variables	*1*	*2*	*3*	*4*	*5*	*6*
Con.	16.05	40.96*	17.28*	-8.6	19.3*	3.5
	(15.4)	(6.3)	(7.06)	(7.59)	(4.71)	(3.4)
$CHLNQ_t$	316.05	-309.73		607.9	-297.8	
	(421.2)	(214.4)		(337.7)	(215.6)	
$CHLNQ_{t-1}$	212.6	-791.5*		238.2	-488.4*	
	(447.9)	(239.3)		(367.1)	(247.5)	
$CHLNQ_{t-2}$	-550.21	-459.5*		-97.3	-161.1	
	(368.2)	(210.1)		(300)	(254.5)	
$EXPGRQ_t$	9.26		4.8*	13.8*		6.5*
	(5.3)		(2.6)	(4.6)		(2.36)
$EXPGRQ_{t-1}$	13.64*		11.02*	11*		8.44*
	(5.4)		(2.71)	(5.45)		(3.02)
$EXPGRQ_{t-2}$	-3.17		2.53	-0.22		0.42
	(4.1)		(2.22)	(3.22)		(2.22)
Spring	-2.39	-1.92	-2.7	-8.35*	-10.7*	-9.5*
	(2.9)	(3.04)	(2.88)	(3.83)	(4.76)	(3.88)
Summer	-12.2*	-13.36*	-14.5*	-12.23*	-13.09*	-13.96*
	(3.8)	(3.9)	(3.6)	(4.37)	(5.46)	(4.34)
Fall	-10.3*	-11.83*	-12.2*	-4.76	-3.22	-5.4
	(2.9)	(3.04)	(2.9)	(4.08)	(4.89)	(4.2)
WS_{t-1}				0.84*	1.06*	0.90*
				(0.18)	(0.19)	(0.18)
WS_{t-2}				-0.37*	-0.53*	-0.38*
				(0.20)	(0.24)	(0.20)
WS_{t-3}				0.22	0.23	0.19
				(0.13)	(0.15)	(0.12)
R-bar^2	0.83	0.80	0.82	0.90	0.84	0.89
DW	1.87	1.71	1.91			
rhol	1.06	1.11	1.06			
rho2	-0.33	-0.42	-0.35			

Key to Variables:

CHLNQ: the quarter over quarter change in the log of GDP; mean = 0.0074, std. dev. = 0.0085, min. = -0.011, max.= 0.022

EXPGRQ: the exponential of -100*CHLNQ; mean = 0.676, std. dev. = 0.651, min. = 0.108, max. = 3.176

Notes: standard errors appear in parentheses; * indicates statistical significance at the 95% level of confidence; ** indicates statistical significance at the 99% level of confidence; mean of dependent variable: 25.11; N = 39.

The general pattern of the timing of the countercyclical response is reasonably robust. In particular, the effect for the lag one indicator ($EXPGRQ_{t-1}$) is greater than that of the contemporaneous output shock term ($EXPGRQ_t$), but the lagged two counterpart ($EXPGRQ_{t-2}$) is insignificant, and its estimated magnitude is typically lower. All specifications of the regression model suggest that output shocks occurring more than three quarters ago have little impact on the participation in this program.[18] The empirical regularities obtained for the macroeconomic indicators support the conjecture that the activity levels of the WSB program are negatively correlated with output shocks, and that the countercyclical response appears to have a non-linear form. These findings are robust to the inclusion and exclusion of the lagged dependent variables.

Additional information on persistence effects can be discerned from the estimated coefficients of the lagged dependent variables, which appear to follow a robust pattern. The coefficients of WS_{t-1} suggest a high persistence effect over the first quarter of an agreement, but this effect is countervailed after another quarter has elapsed by strongly significant negative coefficients for WS_{t-2}. These two effects are perfectly consistent with the parameters of the program; workers are either being recalled or laid off permanently after the six month maximum duration of most WSB agreements has been reached. The coefficient for WS_{t-3} is positive and significant in the equations including the output indicators, but the magnitude is relatively low. These findings provide evidence that, on an aggregate level, there is not a lot of inertia extending beyond the prescribed duration of the program. Coupled with the findings for the labour market conditions variables, the evidence suggests that WSB is functioning as a flexible, short term, countercyclical intervention.

The estimates of negative seasonal factors for the spring and summer quarters appear to be quite robust. These negative coefficients are consistent with the conjecture that, to a certain extent, the program is being used in instances of seasonal unemployment.

Regional and Sectoral Regression Models

The goal of this extension is partially to examine the sensitivity of the hypotheses tested at the national level to changes in the sample. Furthermore, in light of regional discrepancies in usage patterns that have been found in the context of other parts of the UI program, this issue is pertinent in its own right.

18. Because $CHLNQ_{t-2} = \log(GDP_{t-2}) - \log(GDP_{t-3})$, shocks which occurred up to three quarters ago may be captured in $CHLNQ_{t-2}$ or $EXPGRQ_{t-2}$ and thus have an impact on WS. Longer lag structures were included in some of the trials, but the effects were never significant. Casual examination of the correlogram of residuals supports this conclusion.

The data set is partitioned into the five primary regions of Canada and into twelve industrial sectors.[19] The regional models were estimated both separately and as a system of seemingly unrelated regressions (SUR). The advantage of the SUR scheme is its ability to incorporate sources of variation that are common to all regions into the estimates. Some of the unspecified components may be due to factors such as programming directives and learning effects, which are likely to be positively correlated across provinces. In addition, time variant factors which influence all cross sectional regions or industries, such as the recession of 1990–1992, are incorporated into the VAR-COV matrix. Indeed, the estimates of the cross equation correlation terms confirm this, and the SUR technique produces a significant increase in the efficiency of the parameter estimates, particularly for the smaller regions (separated regressions not shown).

The estimates for the regional specifications appear in Table 2. A strong seasonal decline is discerned during the summer quarter for all regions. In addition, usage in the Prairie and Atlantic provinces declines in the spring and fall quarters relative to the winter quarter. It is interesting to note that participation in the program is quite rare in resource sectors, such as mining, fishing, and forestry, that one typically associates with seasonal employment patterns. Therefore, the finding of a seasonal usage pattern is not being generated by some of the sectors in which seasonal usage of conventional UI benefits tends to occur.

Although all of the regional equations appear to exhibit countercyclical behaviour, the explanatory power of the macroeconomic variables is strongest in the manufacturing dominated economies of Ontario and Quebec. Furthermore, the response of work-sharing participation to changes in output appears to dissipate more quickly in Ontario and Quebec as the coefficient for $EXPGRQ_{t-2}$ is insignificant only in those two provinces. In British Columbia and the Prairie provinces, the reversion effect (as reflected in WS_{t-2}) that occurs two quarters after the implementation of a work-sharing agreement is weaker, suggesting a relatively higher degree of persistence for these provinces. Despite these apparent discrepancies in the usage patterns between Ontario and Quebec and the other three regions, the statistical inference patterns are qualitatively similar to those obtained at the national level.

19. The regions are Ontario, Quebec, the four Atlantic provinces, British Columbia, and the three Prairie provinces. The sectors are agriculture, fishing, forestry, mining, manufacturing, construction, transportation, wholesaling, retailing, finance/ insurance/real estate, community/business/personal services, and public services. The regression model is estimated only for the manufacturing, wholesaling/retailing, and community/business/personal services sectors because these are the only three that utilize the program in a significant fashion. Manufacturing alone typically accounts for 60–75% of total usage.

TABLE 2

Regression Results for Work-Sharing Activity Model Disaggregated by Region Dependent Variable: Level of Benefit Weeks Paid (thousands) (WS)

Independent Variables	*Ontario*	*Quebec*	*Atlantic*	*B.C.*	*Prairies*
Constant	2.02**	1.12	0.74**	1.29**	2.61**
	(0.71)	(1.06)	(0.24)	(0.40)	(0.519)
$EXPGRQ_t$	1.97**	2.035**	0.116*	0.044	0.19*
	(0.20)	(0.56)	(0.054)	(0.079)	(0.10)
$EXPGRQ_{t-1}$	1.43**	1.39**	0.144**	0.13**	0.59**
	(0.32)	(0.64)	(0.054)	(0.032)	(0.10)
$EXPGRQ_{t-2}$	0.26	-0.071	0.128**	0.106**	0.29**
	(0.38)	(0.13)	(0.052)	(0.031)	(0.12)
Spring	-2.59**	-1.95	-1.1**	-1.43**	-2.65**
	(0.90)	(1.27)	(0.29)	(0.51)	(0.54)
Summer	-4.09**	-4.19**	-0.981**	-1.52**	-3.17**
	(0.94)	(1.33)	(0.33)	(0.56)	(0.63)
Fall	-1.42	0.16	-0.85**	-0.60	-1.09*
	(0.91)	(1.38)	(0.27)	(0.51)	(0.56)
WS_{t-1}	0.94**	1.02**	0.85**	0.88**	0.70**
	(0.11)	(0.11)	(0.11)	(0.10)	(0.11)
WS_{t-2}	-0.52**	-0.54**	-0.45**	-0.34**	-0.097
	(0.10)	(0.15)	(0.17)	(0.149)	(0.13)
WS_{t-3}	0.22**	0.22**	0.39**	0.13	-0.11
	(0.056)	(0.10)	(0.13)	(0.095)	(0.093)
R-bar^2	0.96	0.86	0.80	0.85	0.79
Mean Dept. Variable	10.24	6.83	1.42	2.69	3.92

Notes: standard errors appear in parentheses; ** indicates statistical significance at the 99% level of confidence; * indicates statistical significance at the 95% level; N = 39.

When applied to the sectoral equations, the SUR technique fails to produce more efficient estimates, which is probably a reflection of the fact that the participation levels in manufacturing dwarf those in all other sectors. The results listed in Table 3 are thus those obtained from separate sectoral regressions.

TABLE 3

Regression Results for Work-Sharing Model Disaggregated by Sector
Dependent Variable: Level of Benefit Weeks Paid (thousands) (WS)

Indpt. Vbl.	*Manufacturing*	*Services*	*Ret./Whole.*[a]
Constants	5.67**	0.228	3.67**
	(2.085)	(0.38)	(0.86)
$EXPGRQ_t$	0.215**	0.812**	-21.32
	(0.084)	(0.273)	(21.13)
$EXPGRQ_{t-1}$	0.354**	0.71**	-33.11
	(0.10)	(0.3)	(21.73)
$EXPGRQ_{t-2}$	0.043	0.173	-60.71**
	(0.026)	(0.33)	(22.83)
Spring	-3.84	-0.95**	-3.02**
	(2.36)	(0.40)	(1.021)
Summer	-7.216*	-0.66	-2.81**
	(2.69)	(0.43)	(1.18)
Fall	-0.865	-0.55	-1.47
	(2.757)	(0.385)	(0.99)
WS_{t-1}	0.93**	1.05**	0.98**
	(0.15)	(0.178)	(0.166)
WS_{t-2}	-0.433**	-0.73**	-0.52*
	(0.195)	(0.23)	(0.24)
WS_{t-3}	0.171	0.27	0.41**
	(0.113)	(0.153)	(0.17)
R-bar^2	0.90	0.86	0.80
Mean Dept. Vbl.	16.27	2.19	4.41

[a] The included GDP measures are the linear growth rates rather than the exponential ones for this column.

Notes: standard errors appear in parentheses; ** indicates statistical significance at the 99% level of confidence; * indicates statistical significance at the 95% level; N = 39.

Despite the fact that the output patterns in manufacturing do not exhibit much seasonal variation, a seasonal decline in usage is discerned for the summer quarter in this sector. It is somewhat surprising that no seasonal factor is estimated for the fall quarter in retailing/wholesaling. As might be expected, the countercyclical pattern appears to be much stronger

and more rapid in the manufacturing sector than in the retailing/wholesaling sector. In addition, the non-linear threshold effect which seems so pervasive in most of the other equations is not discerned for this sector.

CONCLUSION

The central thrust of this paper is to evaluate the performance of the Canadian work-sharing program in relation to its primary objective–given an economic downturn, to prevent layoffs in the short run and thus to attenuate the rise in unemployment. To address this issue, a regression model is employed to capture the short-term dynamics of the participation levels of this program. The results indicate that WSB participation responds countercyclically to aggregate production fluctuations within two or three quarters. Participation in the WSB program also appears to exhibit a non-linear pattern, whereby economic shocks of relatively large magnitude, such as those associated with recessions and early stages of recoveries, incite fluctuations. In addition, despite the presence of regulations preventing the explicit use of this program in instances of seasonal unemployment, a seasonal decline in usage in the spring and summer quarters is discerned at the national and regional level.

The program evaluation study (Graves and Dugas 1993) suggests that there is evidence that work-sharing benefits are being used by certain firms as a palliative measure to subsidize the preservation of existing employment patterns in instances where the downturn in labour demand is probably permanent. The regression results of this study indicate that this misuse does not translate into pervasive effects at the aggregate level. Given the absence of inertia or persistence effects in the time series of program participation, it is unlikely that this program would contribute to a hysteresis effect for unemployment analogous to that treated by Milbourne, Purvis and Scoones (1991) for the conventional UI program. Another implication is that given the current program parameters and regulations, it does not appear as though this program is an appropriate means of providing long-term income maintenance in instances where permanent layoffs, and hence long-term participation in the WSB program, are envisaged.

Although this study has indicated that this program has time series properties that are appropriate for its objective, the actual estimated impact of this policy instrument on aggregate employment is unknown. To what extent does it actually preserve jobs? It is feasible to address this issue within an empirical framework that specifies employment levels as a function of lagged output indicators and participation levels in the work-sharing program. This broader context might capture feedback effects with other sectors of the economy, such as costs associated with the financing, and

the impact of the WSB program on labour demand and supply conditions. To my knowledge, these effects have never been treated empirically, perhaps due to a lack of tractability.

REFERENCES

ABRAHAM, K. and S. HOUSEMAN. 1993. "The Effects of Job Security on Labour Adjustment." *Job Security in America: Lessons from Germany.* K. Abraham and S. Houseman, eds. Washington: Brookings Institute.

BAKER. M. and S. RAE. 1993. "Employment Spells and Unemployment Insurance Eligibility Requirements." Working paper No. 9309. Department of Economics, University of Toronto.

BEAN, C. 1994. "European Unemployment: A Survey." *Journal of Economic Literature*, Vol. 32, No. 2, 573–619.

BEST, F. 1988. *Reducing Workweeks to Prevent Layoffs: The Economic and Social Impacts of Unemployment Insurance-supported Work Sharing.* Philadelphia: Temple University Press.

BILAN DE L'EMPLOI. 1988. *Dossiers de Statistiques du Travail et de l'Emploi*, No. 43–44.

BLANCHARD, O. and L. SUMMERS. 1986. "Hysteresis and the European Unemployment Problem." *NBER Macroeconomics Manual.* S. Fisher, ed. Cambridge, Mass.: MIT Press.

BURDETT, K. and R. WRIGHT. 1989. "Unemployment Insurance and Short Time Compensation: The Effects of Layoffs, Hours per Worker, and Wages." *Journal of Political Economy*, Vol. 97, No. 6, 1479–1495.

GRAVES, F. and T. DUGAS. 1993. "Work Sharing Evaluation: Final Report." Program Evaluation Branch, Strategic Policy and Planning, Employment and Immigration Canada.

GRAY, D. 1993. "Work-sharing Benefits in Canada: A Time Series Approach." Working paper No. 9316E. Department of Economics, University of Ottawa.

GRAY, D. 1995. "Work Sharing Versus Conventional Layoffs: Evidence from the Short Time Compensation Program in France." Mimeo. Department of Economics, University of Ottawa.

GREEN, D. and C. RIDDELL. 1993. "Qualifying for Unemployment Insurance: An Empirical Analysis." Working paper No. 93–33. Department of Economics, University of British Columbia.

GUEST, C. 1991. "A Pre-Evaluation Assessment of the Work Sharing Program." Employment and Immigration Canada, Insurance Programs Division, Ottawa.

MACOY, R. and M. MORAND, eds. 1984. *Short Time Compensation: A Formula for Work Sharing.* Elmsford, N.Y.: Pergamon Press.

MILBOURNE, R., D. PURVIS, and D. SCOONES. 1991. "Unemployment Insurance and Unemployment Dynamics." *Canadian Journal of Economics*, Vol. 24, No. 4, 805–825.

MADDALA, G. 1992. *Introduction to Econometrics.* Second edition. New York: MacMillan Publishing Company.

NICKELL, S. 1986. "Dynamic Models of Labour Demand." *Handbook of Labour Economics.* O. Ashenfelter and R. Layard, eds. Amsterdam: North Holland Press, chapter 9.

OWEN, J. 1989. *Reduced Working Hours: Cure for Unemployment or Economic Burden?* Baltimore: Johns Hopkins Press.

PAL, L. 1983. "The Fall and Rise of Developmental Uses of UI Funds." *Canadian Public Policy*, Vol. 9, No. 1, 81-93.

PERRON. P. 1989. "The Great Crash, the Oil Price Shock, and the Unit Root Hypothesis." *Econometrica.* Vol. 57, 1361-1402.

REID, F. 1982. "UI-Assisted Work Sharing as an Alternative to Layoffs: The Canadian Experience." *Industrial and Labor Relations Review*, Vol. 35, No. 3, 319-329.

REID, F. and N. MELTZ. 1984. "Canada's STC: A Comparison with the California Version." *Short Time Compensation: A Formula for Work Sharing.* R. MaCoy and M. Morand, eds. Elmsford, N.Y.: Pergamon Press.

SEIFERT, H. 1993. "Short-Time Work and Training." Mimeo. Economic and Social Research Institute of the German Trade Union Federation, Dusseldorf, Germany.

VROMAN, W. 1992. "Short Time Compensation in the U.S., Germany, and Belgium." Mimeo. The Urban Institute, Washington, D.C.

RÉSUMÉ

Le partage du travail au Canada : une mesure efficace de stabilisation de l'emploi ?

Avec la réduction de la marge de manœuvre des politiques de gestion de la demande globale, on observe aujourd'hui un intérêt renouvelé pour des stratégies alternatives. Parmi celles-ci, on trouve une gamme de mesures fondées sur le partage de l'emploi. Ces mesures visent à répartir le travail disponible afin de créer davantage d'issues pour des chercheurs d'emploi. Par exemple, on proposait récemment en France de mettre en œuvre une réduction globale de la durée de travail à quatre jours par semaine, ce qui pourrait créer, selon certains, deux millions de nouveaux emplois. Au Canada, un groupe consultatif du ministère du Travail a récemment produit un rapport intitulé *Le temps de travail et la répartition du travail*, dont une des recommandations est de décourager fortement le recours à des heures supplémentaires au profit de nouvelles embauches.

Un autre exemple canadien est le programme de travail partagé de l'assurance-chômage. Son objectif principal est de réduire le nombre de

mises à pied cycliques. Lors d'une baisse de la demande de main-d'œuvre, l'employeur est amené à substituer une réduction de la durée du travail à des licenciements. Les travailleurs qui se retrouvent en partie en chômage reçoivent une indemnité assez importante pour combler leur perte de revenu du travail. Le programme canadien a été lancé en 1982. Son taux d'utilisation a augmenté considérablement, passant de 35 000 semaines de prestations en 1987 à 265 352 en 1991. La relance de l'économie a entraîné une baisse sensible de l'utilisation depuis 1991, mais le programme intéresse toujours un certain nombre d'employeurs et de travailleurs.

Cette étude a pour but d'examiner la relation entre le degré d'utilisation du programme de travail partagé et la conjoncture, à partir de données macroéconomiques canadiennes. On s'attend généralement à ce que les dépenses pour les programmes sociaux affichent une évolution contre-cyclique. Cependant, Milbourne, Purvis et Scoones (1991) ont montré que le taux d'utilisation du programme d'assurance-chômage est demeuré élevé entre 1984 et 1989, malgré la croissance rapide de l'économie. Il se peut que ce phénomène soit lié aux caractéristiques régionales particulières du système d'assurance-chômage qui permettent à un bénéficiaire de recevoir des prestations de façon récurrente. Dans le livre blanc sur la réforme sociale, déposé par le ministre Axworthy, on a soulevé le point que le système actuel subventionne le développement de l'emploi saisonnier et instable et décourage l'ajustement structurel. En ce qui concerne le programme de travail partagé de l'assurance-chômage, Graves et Dugas (1993), évaluant ce programme, ont montré qu'il était susceptible d'entraîner des effets de persistance qui s'apparentent à ceux observés par Milbourne, Purvis et Scoones (1991). (Ces auteurs ont observés que si une série chronologique suit un processus caractérisé par la persistance, un choc important sur la valeur actuelle aura des répercussions dans la même direction pour des périodes subséquentes, et ces changements ne s'amenuiseront que très graduellement. Par contre, si une série chronologique suit un processus de réversion, un choc sera contrebalancé par un écart compensateur la période suivante.)

Cette étude a pour but d'étendre l'analyse de Graves et Dugas, qui est basée sur des données transversales au niveau de l'entreprise, à une analyse dynamique de l'évolution de l'activité au cours du cycle économique à partir de l'observation de séries chronologiques agrégées. On accorde une attention particulière aux effets saisonniers et à la question de la persistance des effets dans le contexte du problème de l'hystérèse du chômage. Ces questions ont une incidence sur l'efficacité du programme à jouer son rôle de stabilisateur du chômage cyclique. Les considérations régionales sont également abordées.

On teste les hypothèses à partir de modèles de régression estimés avec des données nationales, régionales et sectorielles. En ce qui concerne

la structure de l'utilisation du régime, les résultats montrent des écarts significatifs entre les économies du Québec et de l'Ontario d'une part, basées principalement sur le secteur manufacturier, et les économies de la Colombie-Britannique et des provinces atlantiques d'autre part, qui dépendent surtout du secteur primaire. Malgré la présence des effets saisonniers sur le plan national, on observe en général que les niveaux de participation évoluent de façon contre-cyclique, et qu'ils réagissent aux fluctuations de la production dans de brefs délais. Les effets de persistance ne sont pas significatifs. Il appert que l'effet pervers qui découle du système d'assurance-chômage conventionnel n'intervient guère pour le programme de travail partagé. En fait, à l'exception des effets saisonniers, le programme fonctionne de la façon prévue initialement par ses concepteurs. Toutefois, sa capacité de sauvegarder les emplois demeure inconnue. On observe également qu'il faut une détérioration assez importante de la conjoncture pour engendrer une hausse significative de la participation.

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Canadian Industrial Relations Association (CIRA)

L'ACRI est une organisation volontaire à but non lucratif. Fondée en 1963, elle a pour objectif la promotion de la recherche, les discussions et l'éducation dans le domaine des relations industrielles au Canada. Les membres se recrutent dans les milieux syndicaux, patronaux, gouvernementaux, chez les arbitres, les enseignants, les chercheurs, les conseillers et autres spécialistes de relations industrielles. L'ACRI organise son congrès annuel dans le cadre des conférences des Sociétés savantes du Canada. La cotisation annuelle à l'ACRI inclut l'abonnement à la revue *Relations industrielles/Industrial Relations*, organe officiel de l'ACRI.

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