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The Effect of Changes in Minimum Wage Rates on Provincial Unemployment Rates, 1970-77
Les effets des modifications du salaire minimum sur les taux de chômage provinciaux

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Aller au sommaire du numéro

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Résumé de l'article

Cet article présente les résultats d'une tentative en vue de déterminer dans quelle mesure les différences dans les taux de chômage provinciaux sont attribuables aux différences du taux du salaire minimum par rapport aux taux moyens des salaires. Les opinions relatives à l'effet théorique du salaire minimal y sont revisées, en notant que la conclusion de théories générales sophistiquées d'équilibre est que l'effet apparaît indéterminé, c'est-à-dire qu'il s'agit d'une question empirique. L'auteur présente un modèle d'équilibre plus simple et partiel comme un guide pour en arriver à une équation estimative en vue de mesurer cet effet.

On y établit l'estimation au moyen d'un projet regroupé (par province) de données tirées des séries chronologiques (observations annuelles de 1970' à 1977) pour mettre au point une équation où le logarythme du taux de chômage est régressé sur le rapport entre le salaire minimal et la moyenne des gains, le rapport entre les prestations d'assurance-chômage et le taux des salaires moyens, sur le taux de disqualification aux prestations d'assurance-chômage, sur le pourcentage des changements dans l'indice d'emploi, cette variable étant reculée d'un an, sur le taux de participation et d'autres variables propres à chacune des provinces (cela, afin de cerner toutes les autres causes de variation dans les taux de chômage parmi les provinces, causes demeurées constantes au cours de la période étudiée).

Tous les coefficients sont significatifs considérés d'un point de vue statistique suivant les mesures ordinaires, l'élasticité du taux de chômage en regard du rapport entre le tarif minimal et les gains moyens s'établissant à 0.56.

Des calculs furent ensuite effectués pour calculer le taux de chômage pendant la période 1970-1977, calculs qui auraient été obtenus pour chaque province selon l'hypothèse que dans chaque province les valeurs nationales moyennes des différentes variables indépendantes étaient identiques. Les résultats de cet exercice ont indiqué que, à l'île du Prince-Edouard, en Nouvelle-Ecosse, au Manitoba et en Saskatchewan, les taux de chômage auraient été moindres que les valeurs réelles. Tandis qu'à Terre-Neuve, en Ontario, en Alberta et en Colombie-Britannique, ils auraient été plus élevés. Quant au Québec et au Nouveau-Brunswick, la différence n'a dépassé 0.8 de point et elle excédait 0.5 dans deux provinces seulement.

La conclusion qui se dégage de cette étude, c'est que le tarif du salaire minimal affecte les taux de chômage, mais que l'ampleur de cet effet n'est pas marquée.

The Effect of Changes in Minimum Wage Rates on Provincial Unemployment Rates, 1970-77

Dennis R. Maki

This paper estimates the effect of different minimum wage to average wage ratios among provinces on differences in provincial unemployment rates. The effect is found to be statistically significant, but small in magnitude.

The unemployment effects of minimum wages have been discussed in the economics literature for decades, a number of empirical studies using aggregate data have been conducted in the United States,[1] and a number of studies utilizing employer questionnaires have been conducted in Canada[2]. To the author's knowledge, however, there have been no empirical studies in Canada directed to the question of how provincial minimum wage differences may have affected differences in provincial unemployment rates[3]. In part, this hiatus in published research may be due to the ambiguous nature of the theoretical prediction regarding the unemployment effect of minimum wages. It may also be due in part to the fact that most previous studies in Canada have concluded that minimum wages have little, if any,

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1 A recent example is by Jacob MINCER, "Unemployment Effects of Minimum Wages", *Journal of Political Economy*, Vol. 84, August 1976, pp. S87-104. Some comments on the relevance of this research for Canada are provided by E. G. WEST, "The Minimum Wage Debate - Some New Developments", *The Labour Gazette*, Vol. 77, March 1977, pp. 106-108.

2 Canadian and some United States studies are reviewed in BRITISH COLUMBIA DEPARTMENT OF LABOUR, RESEARCH AND PLANNING BRANCH, "Minimum Wages: A Survey of Policy and Issues", Part I, *Labour Research Bulletin*, Vol. 2, December 1974, pp. 15-25; and Part II, *Labour Research Bulletin*, Vol. 3, April 1975, pp. 17-33; AYKROYD, Colin, *A Survey of Recent Canadian Minimum Wage Research*, Victoria, Ministry of Labour, Province of British Columbia, 1977, 60 pp.; and CANADA, DEPARTMENT OF LABOUR, "A Review of Major Empirical Studies of Minimum Wages", *The Labour Gazette*, Vol. 76, September 1976, pp. 489-92.

3 MAPHANGOH, Steve, "Increased Minimum Wages Don't Necessarily Mean More Unemployment", *The Labour Gazette*, Vol. 76, September 1976, pp. 487-89 has investigated minimum wage effects in Canada using an aggregative model.

effect on unemployment; hence they could hardly affect provincial differences in unemployment rates. In any event, the current paper is devoted to analyzing this effect. The following section presents relevant theoretical considerations, with the remaining sections of the paper being devoted to obtaining an empirical estimate of the effect of interest.

THEORETICAL CONSIDERATIONS

If one considers a partial equilibrium situation of only one neoclassical labour market with an upward sloping supply curve and a downward sloping demand curve, the imposition of a minimum wage greater than the equilibrium wage will unambiguously cause unemployment. Demand falls relative to equilibrium employment and supply rises, and both effects lead to unemployment. If one considers a two sector model with a covered sector and an uncovered sector, the result is no longer unambiguous, since the excess supply in the covered sector resulting from an effective (above equilibrium) minimum wage can choose to work (presumably at sub-minimum wage rates) in the uncovered sector rather than opting for unemployment. The effect of the imposition of a minimum wage on unemployment in such a model depends upon the relative efficiency of job search while unemployed to that while employed, the probabilities of obtaining employment in each of the sectors, the difference in wages (and other aspects of work) between the two sectors, and the absolute level of wages in the uncovered sector (if it is very low, leisure may be a preferred alternative).

Even this two sector model ignores some general equilibrium effects, however, since the effective minimum wage will increase the wages and purchasing power of those who find employment paying that wage, and thus, depending upon the elasticities, may increase aggregate demand and employment. The effects of minimum wages in general equilibrium models have been investigated by H. Johnson[4] and more recently by E. Tower[5]. Johnson showed, using a two-good model, that if a minimum wage law is passed applying only to the capital-intensive sector, there exist combinations of the elasticity of substitution and elasticities of demand for the two goods where labour in *both* sectors can be better off after the minimum

4 JOHNSON, Harry G., "Minimum Wage Laws: A General Equilibrium Analysis", *Canadian Journal of Economics*, Vol. 2, November 1969, pp. 599-604.

5 TOWER, Edward, "The Ambiguous Effect of Minimum Wages and Unions on Employment When Labor Need Not Be Unemployed to Search for a Better Job", Duke University, December 1977, mimeo.

wage than before. On the other hand, if the minimum wage is universal or is applied to all sectors except those regarded as constituting a "subsistence sector", the "traditional conclusion can be rigorously demonstrated",[6] i.e. the minimum wage causes some persons to become unemployed and/or to work at lower wages in the "subsistence sector". Tower's contribution was to analyze the unemployment effect of minimum wages in a context where workers may search for work while employed, so that all unemployment consists of the voluntary substitution of leisure for work, using a general equilibrium framework. He found that aggregate employment could rise or fall when a minimum wage is applied to one sector, depending upon the assumptions made. Indeed, he found that there is not even a "presumption" about how aggregate employment will change with the introduction of a minimum wage. He did find, "that aggregate employment will necessarily fall is a fortiori true if we replace a binding minimum wage with a sufficiently large one..."[7].

Thus, the theoretically expected effect of minimum wages on unemployment is strictly speaking indeterminate, though in a country such as Canada where coverage is extensive in all jurisdictions, job search is probably more efficient while unemployed than while employed, and minimum wage levels are effective in a large number of jobs, there is at least a "presumption", in Tower's terms, that an increase in minimum wages would lead to some unemployment. Whether the magnitude of such unemployment is substantial enough to be measureable is essentially an empirical question.

The theory, as reviewed thus far, does not suggest the form of the empirical model which should be used to attempt to measure the effect of interest. Mincer has argued strongly that there is a "substantive distinction between minimum-wage effects on employment and those on unemployment", and concluded on the basis of his empirical work for the United States that "no more than a third of the employment loss in the covered sector appears as unemployment, while the bulk withdraws from the labor force"[8]. The implication is that if one wishes to fully understand the effects of minimum wages on labour markets one should obtain the demand and supply effects separately, and compute the unemployment effects from these[9]. However, such "full understanding" is not one of the goals of this

6 JOHNSON, *Op. Cit.*, p. 599.

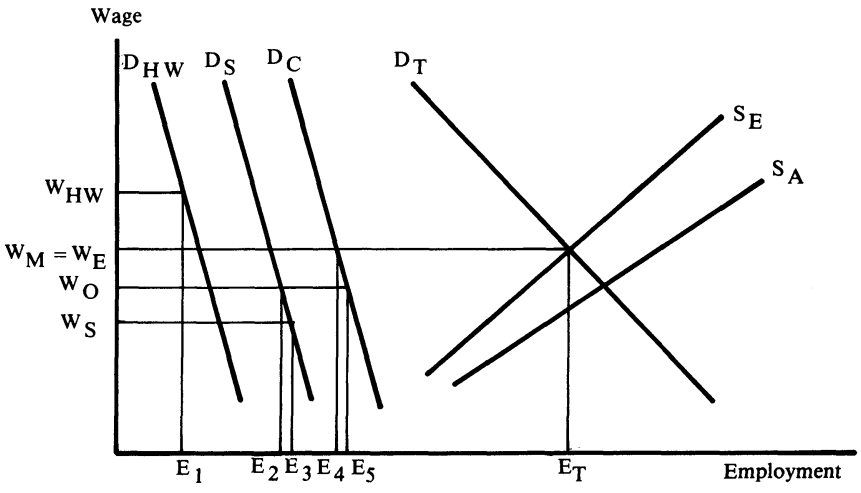
7 TOWER, *Op. Cit.*, p. 12.

8 MINCER, *Op. Cit.*, pp. S87-8.

9 MAPHANGOH, *Op. Cit.*, also uses a two equation approach to estimate the overall effect of minimum wages.

paper, interest resides solely in provincial differences in unemployment rates. Using the principle of Occam's razor, a simpler, reduced-form, model is employed.

Figure 1



The main assumptions of this model can be illustrated with reference to Figure 1. It is assumed there are three sectors in the economy, employing a given homogeneous type of labour; (i) a high wage sector with demand curve D_{HW}, where because of the actions of trade unions or other causes (such as above market wages for government employees due to an absence of regional wage discrimination) wages are so high that minimum wages are not effective, (ii) a "subsistence" sector, uncovered by minimum wage legislation, with demand curve D_S, and (iii) a "covered" sector, where the minimum wage is effective, with demand curve D_C. For simplicity, the three demand curves are drawn parallel,[10] and D_T is the horizontal summation of these three curves, or total labour demand. The S_E curve is the effective supply curve of labour, representing the amount of labour willing and able to work in available jobs at different wage rates; and the S_A curve is

10 The relative placement of the three demand curves along the horizontal axis is arbitrary and does not affect the discussion. MINCER, *Op. Cit.*, discusses the effects of differing demand elasticities in a two-sector (covered and non-covered) model.

the apparent supply curve of labour, representing effective supply plus voluntary unemployment due to job search activity[11]. If this labour market, including all three sub-sectors, was fully competitive, the equilibrium wage rate would be W_E and total employment would be E_T. The imposition of an above-equilibrium wage W_{HW} in the high wage sector would decrease employment in that sector to E_1. If labour supply were totally wage-inelastic, the wage in the subsistence and covered sectors would fall to W_O, where $(W_E - W_O) = 1/2 (W_{HW} - W_E)$, and employment in the two sectors would rise to E_2 and E_5, respectively. In this case, the sum of E_1, E_2 and E_5 would still equal E_T. Finally, assume a minimum wage of W_M is applied to the covered sector[12]. This will cause employment in the covered sector to fall to E_4 and employment in the subsistence sector to rise to E_3, with a fall in subsistence sector wages to W_S, where $(W_E - W_O) = (W_O - W_S)$, still assuming completely wage-inelastic labour supply. In this circumstance, the sum of E_1, E_3 and E_4 still equals E_T.

If there is some wage elasticity to the supply of labour schedule, as shown by the upward sloping S_E and S_A curves in Figure 1, the comparative statics change as follows. Some of the workers displaced by the imposition of W_{HW} in the high wage sector might opt for unemployment and job search rather than accepting jobs in the other two sectors, causing the wage in these sectors to fall by less than $(W_E - W_O)$ and total employment to be less than E_T. Some additional workers who where not part of the labour force when the maximum wage available was W_E may also be induced to join the labour force to search for jobs in the high wage sector, further increasing unemployment. The minimum wage imposition has similar results. Some of the workers displaced from the covered sector may opt for unemployment and job search rather than accepting jobs in the subsistence sector, causing wages in the latter to fall by less than $(W_O - W_S)$, and total employment to fall still further.

Two points relevant for empirical work emerge from this analysis. First, the effect of the minimum wage on unemployment depends upon the relation between the minimum wage and the entire structure of wages. The number of persons displaced from the covered sector by the imposition of

11 The distinction is similar to that made by Melvin REDER, "The Theory of Frictional Unemployment", *Economica*, Vol. 36, February 1969, pp. 1-28. See also Z. A. SPINDLER and Dennis R. MAKI, "More on the Effects of Unemployment Compensation on the Rate of Unemployment in Great Britain", Simon Fraser University, April 1978, mimeo.

12 W_M is shown in Figure 1 as equal to W_E to avoid cluttering the graph. The effect is as discussed as long as $W_O < W_M < W_{HW}$.

W_M who choose unemployment and search depends upon W_{HW} as well as W_S. In the absence of more detailed information about the structure of wages, the ratio of minimum to average wages seems a reasonable way to capture this dependence in an empirical model. The second point is that none of the comparative static effects noted above involve shifting of the S_E or S_A curves; rather, what is involved is movements along these curves. Hence, since recorded unemployment is given by the horizontal distance between the D_T and S_A curves (a fuzzy concept in a labour "market"[13] where multiple wage rates are obtained, one should include shift variables for S_E and S_A, and for S_A relative to S_E, in the empirical model if such shifts are thought to have occurred.

The model specified in the following section includes variables to account for shifts in demand, shifts in supply, and shifts in apparent supply relative to effective supply. It does not contain any variable to account for the influence of unions or other non-competitive elements which maintain wages in some subsector above the equilibrium level, an effect suggested by H. Grubel[14] as being potentially important. It is not clear what would be an appropriate variable to pick up this effect, but the analysis of the simple model associated with Figure 1 suggests it should be largely independent of and additive to the effect of minimum wages. Hence omission of a variable measuring the influence of unions and other non-competitive elements should not seriously bias estimation of the minimum wage effect. Finding an appropriate variable or variables is a potentially interesting topic for future research.

THE MODEL, VARIABLES AND DATA

The model utilized is a pooled cross-section time series approach, using ten cross-sectional observations by province and eight time series observations covering the period 1970-77. Unemployment rates for Prince Edward Island have only been published since 1975, so there are a total of 75 observations available for estimation. The period covered by the time series was dictated by a desire to use the most current data available, and the fact that Statistics Canada has provided adjusted Labour Force Survey data (adjusted to current definitions) only back to 1970.

13 The word market is in quotes because a common definition of a market requires that a single price obtain. The construct depicted in Figure 1 is a "market" only in the sense of having a single supply schedule.

14 GRUBEL, Herbert G., "Whither the Natural Rate of Unemployment?", Simon Fraser University, April 1978, mimeo.

The specification of the model is a reduced form equation using the natural logarithm of the unemployment rate as the dependent variable, following the formulation in Grubel, Maki and Sax[15]. Cyclical variations in unemployment are assumed to be captured by the percentage change in the employment index (equivalent to the percentage change in employment), which also captures secular demand-side differences between provinces. Variables are included measuring the effects of the unemployment insurance program, since these have previously been argued to affect interprovincial unemployment rate differences[16]. The aggregate labour force participation rate is included as a proxy for secular supply side effects and to capture differences between provinces in supply behaviour. The effect of interest, the minimum wage effect, is captured by the ratio of minimum wages to average wages, as suggested by the theoretical arguments in the preceding section. Finally, dummy variables are included for each province, capturing whatever other interprovincial differences in unemployment rates have remained constant over the time period considered. These dummy variables also alleviate heteroscedasticity problems. The precise definitions of the mnemonic variable labels used, data sources, and adjustments made to the data are relegated to an appendix.

Estimation was performed using ordinary least squares on the single equation, despite the fact that a reasonable argument could be made that some of the explanatory variables are really endogenous. The labour force participation rate (LFPR), in particular, has long been argued to be a function of the unemployment rate, although no clear consensus has emerged on the sign of the partial derivative. Further, a comparison of the OLS and 2SLS results in Grubel, Maki and Sax[17] discloses that the coefficients of the LFPR terms in the unemployment equation are biased in OLS estimation. The same results disclose, however, that the coefficients of other variables in the equation (excluding the intercept) are essentially unaffected by this bias. On the basis of this evidence, and the fact that the simple correlation between the minimum wage to average wage ratio and LFPR is low ($r = .10$), it is argued that OLS yields reasonable estimates of all parameters except the coefficient of LFPR in the current estimation. Although results are computed in Table 1 for the effects of LFPR differences, these should not be viewed as reliable estimates.

15 GRUBEL, H. G., MAKI, D., and S. SAX, "Real and Insurance-Induced Unemployment in Canada", *Canadian Journal of Economics*, Vol. 8, May 1975, pp. 174-91.

16 *Ibid.*

17 *Ibid.*, p. 183.

ESTIMATION RESULTS

The estimated equation (t values in parentheses) is:

$$\begin{aligned}\text{Ln URATE} = {} & 0.583\ \underset{(1.94)}{\text{UCB/AWW}} + 0.012\ \underset{(2.10)}{\text{MW/AWW}} - 0.023\ \underset{(-4.84)}{\text{PCEI}} - 0.017\ \underset{(-3.83)}{\text{PCEI}_{-1}} \\ & -0.006\ \underset{(-6.47)}{\text{DSQLR}} + 0.080\ \underset{(6.93)}{\text{LFPR}} - 1.958\ \underset{(-4.14)}{\text{NFLD}} - 3.110\ \underset{(-5.48)}{\text{PEI}} \\ & -2.912\ \underset{(-5.44)}{\text{NS}} - 2.644\ \underset{(-5.09)}{\text{NB}} - 3.091\ \underset{(-5.43)}{\text{QUE}} - 3.759\ \underset{(-6.02)}{\text{ONT}} \\ & -3.667\ \underset{(-6.22)}{\text{MAN}} - 3.663\ \underset{(-6.42)}{\text{SASK}} - 3.783\ \underset{(-5.92)}{\text{ALTA}} - 3.132\ \underset{(-5.21)}{\text{BC}} \qquad (1)\end{aligned}$$

$$R^2 = 0.94$$

It should be noted that the high R^2 is due in large part to the nature of pooled cross-section time series data, a point which can be illustrated by noting that regressing Ln URATE on only the ten dummy variables would yield an R^2 of 0.74. The coefficients of all six non-dummy variables are statistically significant at the .05 level, one-tailed test. The coefficients of the dummy variables have no useful interpretation. They represent the value of Ln URATE if all other variables in the equation (including LFPR) are zero, and hence exponentiating the coefficients of the dummies should yield values very close to zero. In fact, all of the coefficients are strongly statistically different from zero, but the largest value, for Newfoundland, represents an unemployment rate of only 0.1 per cent.

INTERPRETATION OF RESULTS

The elasticity of the unemployment rate with respect to MW/AWW, measured at the mean of the latter (46.5 per cent) is 0.56. The magnitude of the estimated effect can be illustrated with hypothetical numbers. If some province with a minimum wage of $3.00 per hour and average weekly wages of $250 and an unemployment rate of 8 per cent were to increase its minimum wage to $3.50, ceteris paribus, its unemployment rate would increase to 8.7 per cent.

Since the ratio of minimum to average wages displays considerable time series variation within provinces due to the discrete nature of minimum wage level changes, any comparisons of minimum wage effects between provinces should be done using averages over some time period. Given the short time period analyzed in this paper, the only analysis presented consists of computing the difference in the unemployment rate averaged over the 8 year period which would have resulted if the average minimum to average wage ratio for the province had been equal to the average minimum to average wage ratio in the entire sample. Results are presented in Table 1, and the means of calculation noted in the source information of that table.

Table 1

Changes in Average Unemployment Rate for 1970-77 if Value of Variable for Province had been at Mean for Entire Sample

Province	*LFPR*	*MW/AWW*	*UCB/AWW*	*DSQIR*	*PCEI*	*PCEILAG*
Newfoundland	13.4	0.6	0.2	-1.2	-0.2	-0.1
Prince Edward Island	1.5	-0.8	-0.3	-1.6	-0.1	-0.3
Nova Scotia	2.5	-0.2	-0.1	-0.6	-0.1	-0.1
New Brunswick	4.5	-	-	-0.9	-0.1	-
Quebec	0.1	-	-	-0.4	-0.2	-0.1
Ontario	-1.8	0.2	-	0.1	-	-
Manitoba	-1.0	-0.2	-	0.6	-0.1	-0.1
Saskatchewan	-0.2	-0.2	-	0.3	0.1	-
Alberta	-2.1	0.1	-	1.1	0.3	0.2
British Columbia	-1.4	0.4	0.2	-0.1	0.2	0.2

Source: Computed as $\bar{U}_j^* - \bar{U}_j$, where $Ln(\bar{U}_j^*) = Ln(\bar{U}_j) + b_i(\bar{X}_i - \bar{X}_{ij})$, and $\bar{U}_j$ is the mean of the unemployment rates for province j over the period 1970-77, the b_i are the coefficients for variable i from equation 1, $\bar{X}_i$ is the mean for variable i over the 75 observations in the sample, and $\bar{X}_{ij}$ is the mean for variable i for province j over the period 1970-77. Since unemployment rates for P.E.I. were only available for 1975-77, all means for this province (including $\bar{X}_i$) were computed over this period only.

Notes: A "-" in the table indicates the value is less than 0.05 in absolute value.

Confining attention to the MW/AWW variable, it is noted that British Columbia, Alberta, Ontario and Newfoundland would have had somewhat high unemployment rates if they had average minimum to average wage ratios, with the reverse for Prince Edward Island, Nova Scotia, Manitoba and Saskatchewan. In no province does the difference reach one percentage point, indeed the Prince Edward Island estimate is suspect since it is based on only three data points, and the largest difference for the other nine provinces is only 0.6 percentage points.

Turning briefly to the other variables in the equation, the elasticity of the unemployment rate with respect to UCB/AWW is only 0.23, evaluated at the mean of the latter (0.399), which is considerably lower than the elasticity estimate of 0.94 previously obtained[18]. It is also noted from Table 1 that the benefit-wage ratio does not explain much of the interprovincial differences observed in unemployment rates. The disqualification rate for unemployment benefits appears to be a much more powerful variable in explaining unemployment rate differences. No explanation is provided here for the differences in estimated elasticities of UCB/AWW between the current and previous studies, except to note that the result is apparently not due to the consideration of minimum wages. The coefficient of UCB/AWW is virtually unaffected if MW/AWW is removed from the equation. The employment change terms indicate, as expected, that unemployment rates in Alberta and British Columbia are lower than they would be if these provinces had experienced only average employment growth, with the reverse for the Atlantic provinces. The maximum differential, between Alberta and Prince Edward Island, is still slightly less than one percentage point.

CONCLUSIONS

Differences between minimum to average wage ratios among provinces were found to be statistically significant determinants of differences in provincial unemployment rates. The absolute magnitudes of the effects estimated are not very large, but they are still larger than found in previous studies for Canada[19]. The preliminary findings presented here suggest the impact of minimum wages on unemployment may be non-negligible.

18 *Ibid.*

19 MAPHANGOH, *Op. Cit.*, estimated that a 10 per cent increase in the minimum wage would decrease total employment by 0.1 per cent. The estimates herein would imply a change of about four times that, though the results are not directly comparable due to consideration of supply effects.

APPENDIX

Variable Definitions and Data Sources

URATE -The aggregate unemployment rate for the province. Data for 1970-75 from Statistics Canada, "The Labour Force, Historical Series, Annual Averages, 1970-75" (mimeo); 1976 from Statistics Canada, 71-001, December, 1976; 1977 from Statistics Canada, 71-001, December, 1977.

UCB -Average unemployment compensation benefits per week. Data for 1970 from Statistics Canada, 73-001, January, 1971; 1971-72 from Statistics Canada, 73-001, December, 1972; 1973-74 from Statistics Canada, 73-001, December, 1974, 1975-76 from Statistics Canada, 73-001, December, 1976; 1977, January - September year-to-date average, computed from Statistics Canada, 73-001, various 1977 issues.

AWW -Average weekly wages and salaries for the industrial composite. Data for 1970 from Statistics Canada, 11-505; 1971-72 from Statistics Canada, 11-003, March, 1974; 1973 from Statistics Canada, 11-003, July, 1975; 1974-75 from Statistics Canada, 11-003, December, 1975, 1976-77 from Statistics Canada, 11-003, December, 1977 (1977 figure is for July, not annual average).

MW/AWW -The ratio of minimum to average wages. Data for 1970-76 provided by Mr. Colin Aykroyd, Research Officer, Research and Planning Branch, British Columbia Department of Labour (mimeo). Data represent a weighted average of the general minimum wage rates in effect in a given year, multiplied by 40 hours per week, expressed as a percentage of AWW. 1977 figures calculated by author in the same manner.

PCEI -Percentage change (year-over-year) in the employment index. Data on employment index from: 1970, Statistics Canada, 11-505; 1971-72, Statistics Canada, 11-003, December, 1973; 1973-74, Statistics Canada, 11-003, December, 1975; 1975-77, Statistics Canada, 11-003, December, 1977. (1977 figure is seasonally adjusted figure for September, 1977, not annual average). $PCEI_{-1}$ is PCEI lagged one year.

DSQLR -A disqualification rate for unemployment insurance benefits, calculated as disqualifications and disentitlements per 1,000 weeks compensated. Data on disqualifications and disentitlements from Statistics Canada, 73-001, various monthly issues (1977 figures are January - September totals). Weeks compensated calculated as total benefit payments divided by UCB. Data on total benefit payments for 1970-76 from Statistics Canada, 73-001, December, 1976; for 1977 from Statistics Canada, 73-001, various 1977 issues (1977 figures are January - September totals).

LFPR -The aggregate labour force participation rate for the province. Data for 1970-75 from Statistics Canada, "The Labour Force, Historical Series, Annual Averages, 1970-75" (mimeo); 1976 from Statistics Canada, 71-001, December, 1976; 1977 from Statistics Canada, 71-001, December, 1977.

NFLD, PEI, NS, NB, QUE, ONT, MAN, SASK, ALTA, BC - dummy variables taking the value of unity for all years for the province in question, and zero otherwise.

All variables are measured province and time period specific.

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Les effets des modifications du salaire minimum sur les taux de chômage provinciaux

Cet article présente les résultats d'une tentative en vue de déterminer dans quelle mesure les différences dans les taux de chômage provinciaux sont attribuables aux différences du taux du salaire minimum par rapport aux taux moyens des salaires. Les opinions relatives à l'effet théorique du salaire minimal y sont revisées, en notant que la conclusion de théories générales sophistiquées d'équilibre est que l'effet apparaît indéterminé, c'est-à-dire qu'il s'agit d'une question empirique. L'auteur présente un modèle d'équilibre plus simple et partiel comme un guide pour en arriver à une équation estimative en vue de mesurer cet effet.

On y établit l'estimation au moyen d'un projet regroupé (par province) de données tirées des séries chronologiques (observations annuelles de 1970 à 1977) pour mettre au point une équation où le logarythme du taux de chômage est regressé sur le rapport entre le salaire minimal et la moyenne des gains, le rapport entre les prestations d'assurance-chômage et le taux des salaires moyens, sur le taux de disqualification aux prestations d'assurance-chômage, sur le pourcentage des changements dans l'indice d'emploi, cette variable étant reculée d'un an, sur le taux de participation et d'autres variables propres à chacune des provinces (cela, afin de cerner toutes les autres causes de variation dans les taux de chômage parmi les provinces, causes demeurées constantes au cours de la période étudiée).

Tous les coefficients sont significatifs considérés d'un point de vue statistique suivant les mesures ordinaires, l'élasticité du taux de chômage en regard du rapport entre le tarif minimal et les gains moyens s'établissant à 0.56.

Des calculs furent ensuite effectués pour calculer le taux de chômage pendant la période 1970-1977, calculs qui auraient été obtenus pour chaque province selon l'hypothèse que dans chaque province les valeurs nationales moyennes des différentes variables indépendantes étaient identiques. Les résultats de cet exercice ont indiqué que, à l'Île du Prince-Édouard, en Nouvelle-Écosse, au Manitoba et en Saskatchewan, les taux de chômage auraient été moindres que les valeurs réelles. Tandis qu'à Terre-Neuve, en Ontario, en Alberta et en Colombie-Britannique, ils auraient été plus élevés. Quant au Québec et au Nouveau-Brunswick, la différence n'a dépassé 0.8 de point et elle excédait 0.5 dans deux provinces seulement.

La conclusion qui se dégage de cette étude, c'est que le tarif du salaire minimal affecte les taux de chômage, mais que l'ampleur de cet effet n'est pas marquée.