

## **Regional Unemployment Rates and Total Economic Growth in Canada, 1953-1968**

### **Les taux de chômages régionaux et la croissance économique générale au Canada : 1953-1968**

Arthur W. Donner

Volume 26, Number 3, 1971

URI: <https://id.erudit.org/iderudit/028250ar>

DOI: <https://doi.org/10.7202/028250ar>

[See table of contents](#)

Article abstract

In this article the author tests the hypothesis that the process of general economic growth in Canada has an unequal impact on regional economic activity.

Publisher(s)

Département des relations industrielles de l'Université Laval

ISSN

0034-379X (print)

1703-8138 (digital)

[Explore this journal](#)

Cite this article

Donner, A. W. (1971). Regional Unemployment Rates and Total Economic Growth in Canada, 1953-1968. *Relations industrielles / Industrial Relations*, 26(3), 721–725. <https://doi.org/10.7202/028250ar>

Tous droits réservés © Département des relations industrielles de l'Université Laval, 1971

This document is protected by copyright law. Use of the services of Érudit (including reproduction) is subject to its terms and conditions, which can be viewed online.

<https://apropos.erudit.org/en/users/policy-on-use/>

# Regional Unemployment Rates and Total Economic Growth in Canada, 1953-1968

Arthur W. Donner

*In this article the author tests the hypothesis that the process of general economic growth in Canada has an unequal impact on regional economic activity.*

This study focuses on and summarizes briefly a statistical test of the doctrine that the process of general economic growth in Canada has an unequal impact on regional economic activity. In general the validity of the hypothesis is treated rather casually, as the public tends to find supporting evidence by comparing changes in regional unemployment rates with total unemployment rate movements. However this approach is deficient since it ignores the mechanism of causality between general economic activity and regional unemployment. This study considers an alternative test of that hypothesis which overcomes the neglect of causality. Thus the relationship between regional unemployment rate changes and general economic growth is explored using multiple regression analysis <sup>1</sup>.

A more controversial aspect of this study may be considered as a corollary proposition ; that those regions which show the closest relationship between total real economic growth and regional unemployment should have the greatest interest in ensuring rapid economic growth through a proper blend of monetary and fiscal poli-

DONNER, A.W., Price and Income Commission, OTTAWA.

<sup>1</sup> The hypothesis tested takes the following form :

$$\Delta u = f \left( \overset{\cdot}{\text{GNP}} \right)_{t-i}$$

$$i = 0-n$$

$\Delta u$  = Canadian or regional seasonally adjusted unemployment rate

$u_t$  = actual one-quarter change in the unemployment rate in period  $t$

$\overset{\cdot}{\text{GNP}}_t$  = quarterly percentage rates of change in real GNP

cies. This proposition is not tested directly, but implications on it may be drawn out from general conclusions on the relationship between economic growth and regional unemployment. This approach also lends itself to an indication of the timing impact that general economic growth has on regional unemployment. One would normally expect that a sharp advance in economic activity would be reflected in a decline in average unemployment rates, but whether the decline is immediate, or is distributed into the future, would depend on the industrial and manpower make-up of the regions involved. Finally, this technique lends itself to analyzing whether the pattern of unemployment across Canada — in particular the employment situation in the Atlantic region — is structurally determined independent of aggregate economic growth trends. The findings from the analysis are set out in the two accompanying tables.

TABLE I

*Regression Equations Showing the Differential Impact of Economic Growth  
On Regional Unemployment Rates*

Quarterly, 1953-1968

$\Delta u$	$\dot{\text{GNP}}_t$	$\dot{\text{GNP}}_{t-1}$	$\dot{\text{GNP}}_{t-2}$	Constant Term	$\bar{R}^2/\text{D.W.}$
All Canada	-.098 (-3.21)	-.113 (-3.67)	-.066* (-2.16)	.324 (5.05)	.35 1.56
Atlantic Provinces	not statistically significant				
Quebec		-.149 (-3.18)	-.173 (-3.71)	.396 (4.39)	.29 1.71
Ontario	-.144 (-4.82)	-.118 (-3.92)		.297 (5.14)	.40 2.18
Prairies	-.058* (-1.70)	-.083 (-2.38)	-.066* (-1.83)	.234 (3.10)	.15 2.02
B. C.	-.213 (-3.66)			.100 (2.49)	.16 1.37

– All coefficients are significant at the 0.01 level except those marked by an asterisk which are significant at the 0.05 level.

–  $\dot{\text{GNP}}$  stands for quarterly percentage changes in real GNP.

–  $\Delta u$  is the actual one quarter change in the seasonally adjusted unemployment rate.

– Figures in brackets indicate t ratios.

TABLE II

*The Analysis of the Impact of Economic Growth  
On Regional Unemployment Rates*

	The Total Impact of a 1 Percentage Point Rise in Real Growth on $\Delta u$	The Quarter In Which the Impact Is Greatest	The Annual Percentage Point Rise in $\Delta u$ when $\dot{G}NP=0$ , and all lagged impacts of past growth have worked out	Response Pattern of a One-Quarter Rise in GNP on $\Delta u$
Canada	$\Delta u = -.27\%$	three month lag	$\Delta u = 1.3\%$	immediate plus two additional quarters
Quebec	$\Delta u = -.32\%$	six month lag	$\Delta u = 1.6\%$	following two quarters
Ontario	$\Delta u = -.26\%$	immediate	$\Delta u = 1.2\%$	immediate & following quarter
Prairies	$\Delta u = -.21\%$	three month lag	$\Delta u = .9\%$	immediate plus two additional quarters
B. C.	$\Delta u = -.21\%$	immediate	$\Delta u = .4\%$	immediate quarter
Atlantic Region	*	*	*	*

\* not statistically significant.

The regression equations in table I, and the implications drawn from them in the following table, tend to support the consensus that the benefits of aggregate economic growth are not only spread out unequally among regions, but also have different timing impacts on regional unemployment. In addition it is clear that a considerable proportion of the variation in regional unemployment is explained by factors other than rates of aggregate economic growth. This study does not deny the relevance of other factors — but it is felt that the interesting question is not what these other factors are — but rather the attempt to isolate and quantify the relationship between total real economic growth and regional unemployment.

The evidence presented here suggests that a once-and-for-all increase in real economic growth has an unemployment rate response which is spread out over an additional six month time span for the country taken as a whole. Regionally, a one-quarter increase in the growth rate has an immediate and strong impact in B.C., a two-quarter strong impact in Ontario, while the timing is diffused over three quarters in the Prairies. Quebec's unemployment rate appears to benefit from total economic growth with a three month lag after Ontario's. There also appears to be no statistical relationship between aggregate economic growth and unemployment rates in the Atlantic provinces — so of course there are no timing implications. Hence the importance of the corollary to the prevailing doctrine. If the Atlantic region does not benefit from total economic growth in the same manner as Quebec and Ontario, the probability is that in a period of economic restraint its unemployment rate will not rise

dramatically either. Should economic growth cease entirely, and once the distributed effects of past growth have worked themselves out, then Quebec, followed closely by Ontario, would register the largest percentage point gain in the unemployment rate. The impact on B.C.'s unemployment rate picture would be the weakest, with the exception of the Atlantic region, whose unemployment rate shows no statistical response to total economic growth.

The stability of the regression coefficients and their timing implications were also tested by breaking the time period roughly in half and repeating the same regression tests. By and large the same conclusions that are set out here hold when this test is performed. For the total Canadian picture the truncating of the time-periods suggests that the three period lagged impact may be shortening in the 1960's. Moreover, the shortening in the lagged impact of economic growth on regional unemployment was most apparent in Quebec, as the data now suggest an immediate unemployment response, followed also by a further two quarter movement in the unemployment rate in the 1960's. B.C.'s picture is less clear cut, and in the 1960's the response of the unemployment rate to total economic growth seems to have lengthened into the following quarter as well.

The symmetry aspect of this hypothesis was not tested directly but may be inferred from the general findings. It was originally suggested that more attention should be focused on the relationship between total economic growth and regional unemployment rates. Should this proposition be valid, then the emphasis placed on the uneven regional impacts of restraining economic policies should be re-examined. If a direct relationship does exist between the goals of economic policies and total economic growth, then the slow growth regions — which do not benefit substantially from the total growth picture — are probably not unduly affected when the pendulum changes direction.

## **LES TAUX DE CHÔMAGE RÉGIONAUX ET LA CROISSANCE ÉCONOMIQUE GÉNÉRALE AU CANADA : 1953-1968**

Le but de cet article est double. D'abord nous tentons d'évaluer d'une façon simple et significative l'hypothèse qui veut que le processus de la croissance économique générale ait un impact différent sur l'emploi selon les cinq régions économiques du Canada (les Provinces de l'Atlantique, le Québec, l'Ontario, les Prairies et la Colombie Britannique). En second lieu, nous tentons d'identifier et de mesurer la synchronisation de l'impact de la croissance économique générale sur les taux de chômage national et régionaux. Le besoin d'une telle étude nous semble évident surtout parce que nous croyons qu'on a généralement traité ce sujet de la mauvaise façon. L'approche traditionnelle se traduit par une étude de l'effet d'une croissance générale dans le chômage national sur les taux de chômage régionaux. Notre technique devrait être plus acceptable vu que notre approche examine la cause économique, c'est-à-dire que nous mettons l'emploi fonction de l'activité économique.

Afin d'examiner ces relations, nous avons établi une régression entre d'une part, les changements trimestriels dans les taux de chômage régionaux et d'autre part, les changements trimestriels procentoriels du produit national brut réel pour tout le Canada et ses cinq régions économiques et ce, de 1953 à 1968. Les résultats de la régression suggèrent qu'une augmentation définitive dans la croissance économique réelle entraîne une réaction du taux de chômage canadien pendant les six mois qui suivent. Cependant les réactions régionales étaient beaucoup plus inégales : une augmentation dans la croissance économique nationale a un impact immédiat et important en Colombie Britannique ; Elle prend deux trimestres pour montrer un impact important en Ontario alors que l'influence de cette croissance est distribuée sur trois trimestres dans la région des Prairies. Quant au taux de chômage québécois, il semble bénéficier d'une croissance économique nationale avec un retard d'un trimestre sur l'Ontario. En plus, il ne semble y avoir aucune relation statistique entre la croissance économique générale et le chômage dans la région Atlantique. Afin de vérifier la stabilité de ces relations, nous avons divisé la période étudiée en deux. À ce moment, les résultats indiquent que l'effet, qui prenait trois trimestres à se réaliser lorsque l'on considère le pays dans son ensemble, pouvait prendre moins de temps dans les années 1960 et plus apparemment au Québec.

L'importance de ces résultats réside tout particulièrement dans le domaine de la politique économique. En effet, s'il existe une relation directe entre les buts de la politique économique nationale et le chômage économique nationale, les régions à croissance lente, qui ne bénéficient pas substantiellement de la situation économique générale, sont probablement moins affectées dans le cas contraire. L'aspect symétrique de cet argument est important et nécessite encore d'autres recherches.

## LE PUBLIC ET L'INFORMATION EN RELATIONS DU TRAVAIL

Introduction, GÉRARD DION – L'information et le public, GÉRARD DION – L'information en relations du travail et le public, PIERRETTE SARTIN – Servitudes et difficultés de l'information, THOMAS SLOAN – L'employeur et l'information du public, GHISLAIN DUFOUR – Les syndicats et l'information du public, RICHARD DAIGNAULT – L'Etat-employeur et l'information du public, B.M. ERB – L'Etat-gouvernement et l'information du public, JEAN BERNIER – Les média et l'information du public : la presse écrite, VINCENT PRINCE – Les média et l'information du public : la presse électronique, GEORGES LAHAISE – La presse et le 24ième congrès annuel des relations industrielles de Laval, JACQUES RIVET et MARCEL GILBERT.

*1 volume, 226 pages – Prix : \$5.50*

**LES PRESSES DE L'UNIVERSITÉ LAVAL**

Case Postale 2447

Québec 10

Tél.: 656-2131