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CANADIAN RESOURCE REALLOCATION: INTERPROVINCIAL LABOUR MIGRATION, 1966 - 1971

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Résumé — En se fiant aux données publiées et inédites de recensement canadien de 1971, on a examiné la migration du travail en tenant compte du lieu de naissance, de la langue parlée, du métier de l'éducation. Dans la mesure de possible on à fait des comparaisons avec les données du recensement de 1961. On à incorporé le Programme de la Mobilité professionnelle du Gouvernement Fédéral dans le modéle de la migration. De cette étude découlent les conclusions suivantes qui peuvent avoir des implications politiques: les taux migration sont inversement apparentés au revenu relatif et à la condition du chômage d'une province; la mobilité augmente avec la connaissance deux langues officielles; les taux de migration sont les plus élevés entre les provinces qui sont géographiquement proches; les émigrants non-résidants de l'Ontario rencontrent des taux de chômage relativement élevés; les travailleurs des industries primaires ont des taux de migration relativement bas; les taux de migration augmentent avec le niveau d'instruction; et la formation professionnelle améliore la mobilité.

Abstract—Relying on published and unpublished data from Canada's 1971 Census, interprovincial labour migration is examined by birthplace, language spoken, occupation, and education. Where possible, comparisons are made with findings from the 1961 Census. The federal government's Manpower Mobility Programme is incorporated into the migration pattern. The following policy-related conclusions come out of the study: migration rates are inversely related to a province's relative income and unemployment rank; mobility increases with knowledge of both official languages; migration rates are highest between geographically close provinces; Ontario's out-migrants experience relatively high unemployment rates; workers in primary industries have relatively low migration rates; migration rates rise with formal education; and vocational training improves mobility.

Key Words—**worker mobility, unemployment, interprovincial migration**

Introduction

One of the byproducts of Canada's growth and development since at least 1900 has been disparities in regional incomes among the ten provinces. In their second annual review, the Economic Council of Canada recognizes that this fact is both a cause and a result of population movements among these provinces. The Council also believes that part of the disparities is a result of productivity differences between provinces. The growth rate of productivity may be adversely affected if population is prevented from shifting to better economic opportunities in other provinces. For this reason, the federal government is interested in reducing or eliminating barriers to interprovincial labour resource reallocation.

Freedom of movement within Canada is not denied and between 1966 and 1971 many thousands of persons left one province and went to another, some of these no doubt changing their residence more than once over the interval. Since labour resources are scarce and enter the production functions of all goods and services, the extent and direction of these flows is important to all provinces. As well, the federal government has an interest in regional development and is likewise interested in the manpower needs of regions and the resource shifts which take place over time.

Because of these considerations, the period 1966 to 1971 saw a milestone in federal policy

Some Out-migration Rates

If the sizes of the populations in the sending and receiving provinces influence interprovincial flows of people, then the gross flows should be normalized for this factor before provincial comparisons are made. Everything else being equal, total out-migration from Ontario is absolutely larger than from Newfoundland simply because the former province has a larger population, and a valid comparison of the two outflows requires that they be "corrected" for these different population sizes. Also, people are attracted to provinces with larger populations for this factor alone, and so gross flows should be normalized for the size of the receiving province's population. Because of these considerations, most of the data in this paper are rates rather than gross or net flows by themselves; gross flows are the number of persons who move into or out of a province while net flows are the difference between the number of persons who move into and out of a province. In other words, the gross flows are divided either by the population of the sending province if we are looking at total outflows from one province to all others or by the product of the sending and receiving provinces' populations if flows between two provinces are examined; each table makes clear which normalization is used.

The 1971 census deals with interprovincial migration from 1966 to 1971. While in theory it might be better to normalize by 1966 populations because they represent starting population stocks, the census of that year contained no information by province on occupational classification. Thus, all gross flows are normalized by the 1971 populations which apply to the particular migration group. This method may increase the range or spread of the migration rates and thus stress differences in them if a province with relatively large gross outflows also has a relatively low population growth rate between 1966 and 1971 and vice versa for a province with a low gross outflow.

The geographic size of a province may also influence out-migration. There appear to be three aspects to this consideration. First, larger sized provinces have greater populations and therefore larger migrant outflows. The normalization procedure described above takes account of this problem. Second, since some of the intraprovincial migration for a large province would be interprovincial migration for a small province, outflows from the latter are in some sense over-represented. Third, provinces bordering an ocean or an international boundary may have less out-migration than one that does not. While these aspects are noteworthy, the study of interprovincial rather than interregional migration is useful in its own right. Since Canada comprises ten provinces, there is a difference between moving from Toronto to Ottawa vs. from Halifax to Moncton because the one is interprovincial which introduces political considerations. Provincial governments pride themselves and sometimes argue that they get elected by keeping people in their province; a net outflow or a large out-migration rate means political problems for the government. For this reason, while recognizing the geographic aspects, the focus here is interprovincial rather than interregional migration.

Table 1 presents out-migration rates for the Canadian population and the ten provinces for all migrants, fifteen years and older on June 1, 1971, and by birthplace and knowledge of the official languages. The table includes all out-migrants irrespective of whether they are independent decision-makers or not; this means that not all of this migration is an attempt by the migrant to improve his or her economic position, for example spouses, children, and retirees. While total out-migration is 4.28 per cent of Canada's 1971 population, 15 years and older, the provincial rates vary around this national rate from a low of 2.53 per cent for Ontario to a high of 12.44 per cent for Saskatchewan. The provincial rates fall into three general groups: 1) greater than 9 per cent, Prince Edward Island, Manitoba, Saskatchewan; 2) between 6 per cent and 9 per cent, Newfoundland, Nova Scotia, New Brunswick, Alberta; 3) less than 6 per cent, Quebec, Ontario, British Columbia. If migration is viewed as an attempt

The second hypothesis comes from the fact that certain aspects of the programme are geared to agricultural workers and the unemployed; any worker 18 years or older who is unemployed, underemployed, or about to become unemployed is eligible for a grant. If these aspects are successful, then provinces with relatively high unemployment rates and/or a relatively high proportion of their labour in agriculture should be affected. The growth rate of the out-migration rate should be highest for Newfoundland, Nova Scotia, New Brunswick, Manitoba, and Saskatchewan. Note that the second hypothesis relates to the growth rate rather than the absolute level of the out-migration rates since these same provinces experience high out-migration rates because of their relatively poor economic performance. A calculation of these growth rates shows that Newfoundland (136 per cent), P.E.I. (38 per cent), New Brunswick (30 per cent), Manitoba (36 per cent), and Saskatchewan (51 per cent) surpass the rates for Ontario, Alberta, British Columbia, and Nova Scotia. The latter province is an exception to the second hypothesis. Also, Quebec has a relatively high growth rate of mobility; Table 1 indicates that this may be due to the relatively high out-migration rate of those who converse only in English from that province. While it cannot be proven from published data, the political "problems" in Quebec in the late 1960s may have had an effect on mobility. In actual fact, the average annual unemployment rate in Quebec from 1967 to 1970 was 6.65 per cent, which is surpassed only by the same rate for the Atlantic provinces. Therefore, the high growth rate of the out-migration rate for Quebec supports the second hypothesis.

The rates for the Canadian- and foreign-born represent an interesting contrast. Since the foreign-born have already moved at least once they may have a greater propensity to migrate than the Canadian-born. But on the other hand, over half of all the foreign-born live in one province, namely Ontario which is the province with relatively high incomes and a low unemployment rate, and so the foreign-born may have less incentive to move than the Canadian-born. Table 1 shows that the latter effect must be stronger since the foreign-born have a lower overall migration rate than the Canadian-born. Looking at each province and comparing the two birthplace groups, it is interesting to note that for provinces east of Ontario the foreign-born have higher migration rates than the Canadian-born while for Ontario and the provinces west of Ontario the opposite is true. The foreign-born show greater out-mobility than the Canadian-born from the Maritimes and Quebec which have relatively low per capita incomes; this points to the effect noted above that once having moved the foreign-born are more likely to leave relatively poor economic areas for "better" provinces. The high out-migration from Quebec by the foreign-born may also reflect that province's cultural milieu which may be less conducive to the non-French-speaking immigrant than that found in other provinces. Part of the recent debate on Canadian immigration centres on the concentration of immigrants in a few geographical areas and suggests a wider dispersion of them among the provinces. The data in Table 1 suggest that the only way to facilitate this in the short run, at least for eastern Canada, is to use inducements of a nature different from any that existed between 1966 and 1971.

This table also examines migration rates by the language in which the person converses and divides the total into three groups, namely converse in English only, converse in French only, converse in both English and French. A fourth group which converses in neither English nor French is small and is not dealt with here. Recall from the notes of Table 1 that to "converse" means an ability to carry on a conversation of some length in either of the official Canadian languages. The reader should be aware here that the migrant population and the sending province's population for the group which converses in French only for Newfoundland and P.E.I. are less than 300 in total. Looking at Canada as a whole, those who converse in English only have the lowest out-migration rate while those who converse in French only have the highest rate. The difference between Quebec's English-and French-speaking groups is noteworthy; while Quebec, in general, has a relatively low out-migration rate, the rate for those

interprovincial migration and the well documented inverse relationship between distance and migration rates.

Class of Worker and Labour Force Activity

This section examines flows for those persons who in 1971 were in the labour force as either employed or unemployed and worked for salaries, wages, or commissions, worked without pay in a family business or farm, or were self-employed. Table 3 contains information on migration rates by province for these labour force classifications. The rate for the Canadian labour force is slightly higher at 4.75 per cent than for the population, age 15 and over on June 1, 1971 at 4.28 per cent (from Table 1); this is true for all provinces. The ranking of provinces by their rates is also the same as for the population, age 15 and over, and so will not be repeated. Note only that the labour forces of Newfoundland, P.E.I., Nova Scotia, New Brunswick, Manitoba, and Saskatchewan are relatively mobile having a total out-migration of 10 per cent or more of the sending population. In terms of migration rates between provinces, the same three conclusions may be drawn for the labour force as for the total population as represented in Table 2; they need to be recalled but not repeated.

TABLE 3 TOTAL OUT-INTERPROVINCIAL MIGRATION RATE BY CLASS OF WORKER, 1966-1971

	Total Labour Force	Total Employed Population, 15 Years and Over	Total Unemployed Population, 15 Years and Over
		(per cent)	
Canada	4.75	4.72	5.05
Nfld.	10.67	10.82	9.17
P.E.I.	11.78	11.67	13.51
N.S.	9.45	9.45	9.45
N.B.	10.09	10.16	9.30
P.Q.	3.32	3.38	2.78
Ont.	2.62	2.54	3.75
Man.	10.03	9.89	12.08
Sask.	14.60	14.35	18.86
Alb.	7.01	6.82	9.83
B.C.	3.86	3.91	3.41

Note: Normalized by sending provinces' 1971 population which corresponds in each case.

Source: Special Census tabulations.

A comparison of the employed and unemployed is interesting in view of the fact that while the unemployed should perhaps have a greater incentive to migrate, they also may not be able to bear the costs associated with doing so. Table 3 shows that the unemployed have a higher

unemployment rates than the provincial averages in 1971; the opposite is the case if they migrated further afield to Ontario or further west. At this level of aggregation then no clear evidence in favour of accepting the hypothesis is possible.

Migration by Occupation

The occupations which are considered in the tables are the major groups found in the 1971 census. Occupations are classified according to the Canadian Classification and Dictionary of Occupations. Recall that the data refer to occupation as of June 1971; as such, the rates are only a rough approximation to the actual occupational reallocations since the migrant may have changed his or her occupation after migrating.

Table 5 contains the migration rates for each major occupation for Canada and each province. Looking at the Canada-wide rates, the reader can rank the occupations by their migration rates from religion and mining down to fishing and farming. The primary industries of farming, fishing, and forestry generally have relatively low migration rates; however, mining and quarrying, in the same class, has a relatively high migration rate. Relatively high rates are also found among the white-collar occupations of natural sciences, social sciences, religion, teaching, medicine. The manufacturing-related and construction trade occupations generally have relatively low migration rates. The clerical, sales, and service occupations are intermediate to these high and low groups. This white-collar/blue-collar difference is interesting and suggests certain barriers to mobility in the latter occupations. Continuing a comparison with data from the census of 1961, Stone also found relatively low migration rates for the primary occupations and for the so-called blue-collar occupations (Stone, 1969: 88-100).

At the provincial level, a rate in excess of 20 per cent appears significant; it indicates that more than a fifth of a province's 1971 occupational group left the province between 1966 and 1971. At the one extreme is Saskatchewan with several occupations meeting this criterion; there has clearly been a major outflow from this province for all but a few industries in the primary sector. On the other hand, there is Quebec and British Columbia where each has only one occupation in the double digit category. While Nova Scotia, New Brunswick, and Manitoba have only a few occupations with rates over 20 per cent, they have several with rates between 10 per cent and 20 per cent. P.E.I. is more like Saskatchewan than it is to any other province.

While out-migration rates are meaningful from the viewpoint of labour mobility, they say nothing directly about the gain or loss to a province via interprovincial migration. Perhaps the ideal statistic would be the ratio of total net migration to the change in the labour force for an occupation by province, 1966 to 1971. However, it is impossible to calculate the change in an occupation's labour force between 1966 and 1971. Table 6 is a second best approximation; for each occupation the total net migration for a province is calculated, and this is expressed as a percentage of the same province's 1971 labour force in the occupation. A negative number indicates that the province lost labour on net for that occupation, and vice versa for a positive number. The larger the number, the greater the net gain or loss relative to the province's 1971 labour force in that occupation.

British Columbia is the only province which is a net gainer in all occupational groups, followed closely by Ontario and Alberta which each show losses in three groups, namely religion, fishing, and forestry. Of these three provinces, the absolute values for Ontario appear to be the lowest, so of the net gainers that province's occupational labour force was likely affected the least. In most occupations, British Columbia's relative net gains are larger than Alberta's, although natural science-engineering-mathematics is an exception.

The other seven provinces appear generally to be net losers, with Quebec losing via

TABLE 6 TOTAL NET FLOWS (VIEWED FROM SENDING PROVINCE), 1966-1971, RELATIVE TO THE PROVINCE'S 1971 POPULATION

	Nfld.	P.E.I.	N.S.	N.B.	P.Q.	Ont.	Man.	Sask.	Alb.	B.C.
					(per cent)					
Managerial, Administrative	-5.2	-6.6	-1.3	-5.2	-2.5	2.4	-4.1	-12.9	1.4	4.5
Natural Sc., Eng., Math.	-4.1	-2.4	-4.1	-7.9	-3.5	2.4	-5.5	-27.8	6.9	3.9
Social Sc.	-4.1	-10.7	0.6	-4.2	-2.9	2.5	-9.4	-25.2	4.1	8.0
Religion	7.3	11.1	-0.5	1.9	-0.1	-0.3	-1.7	-2.3	-8.3	7.7
Teaching	1.9	3.1	-0.6	-2.8	-2.8	2.2	-2.8	-18.9	5.5	5.6
Medicine and Health	-10.0	-6.1	-4.0	-5.2	-2.1	1.6	-4.5	-19.8	5.0	10.3
Artistic, Literary	-7.6	-7.0	0.2	1.9	-3.9	2.3	-7.2	-13.0	0.3	7.8
Clerical	-16.0	-9.4	-6.0	-7.2	-2.0	1.6	-4.9	-19.2	4.3	8.1
Sales	-3.3	-1.5	-1.2	-1.3	-2.2	0.6	-6.5	-13.3	2.7	8.7
Service	-9.4	-1.1	-0.1	-3.1	-2.2	0.3	-4.7	-11.7	3.2	9.0
Farming, Horticultural	-5.8	1.2	-0.1	-2.9	-1.3	0.3	-0.5	-0.5	0.3	4.5
Fishing, Hunting, Trapping	0.6	5.7	0.8	1.2	-2.8	-21.1	-3.2	1.9	-15.2	2.1
Forestry, Logging	-0.7	-8.0	0.8	3.8	-2.8	-1.2	-13.3	-15.2	-9.4	4.9
Mining	-7.3	-45.5	-4.8	-2.3	-10.2	5.1	20.8	-32.8	6.1	8.1
Processing	-8.2	-0.2	-1.9	-1.3	-1.6	1.2	-3.8	-21.8	1.2	6.5
Machining	-31.1	-29.2	-4.7	-7.8	-1.8	1.5	-3.3	-19.7	4.3	4.9
Fabricating, Assembling	-19.3	-16.5	-6.3	-5.8	-0.7	0.9	-2.8	-16.3	2.0	8.1
Construction Trades	-2.1	-4.6	1.3	0.1	-2.1	0.3	-3.9	-19.3	4.4	7.2
Transport Equipment	-2.0	-4.1	-0.9	-0.5	-0.8	0.1	-2.1	-9.6	2.5	4.8
Materials Handling	-22.8	-17.4	-6.6	-4.3	-2.3	2.1	-2.9	-16.4	3.0	6.0
Other Crafts	-7.6	-13.6	-3.1	-3.1	-1.1	0.8	-4.6	-10.6	4.8	5.4

Source: Special Census tabulations.

Migration by Educational Level

Students of migration are interested in flows by educational level as well, and the study turns now to this migration. Table 7 may be divided into migration rates by level of formal education and migration rates for those with vocational training; of course the same person may have vocational training as well as formal education.

One hypothesis is: migration rates rise with the level of formal education. This may be rationalized on the grounds that more education makes a person more aware of job opportunities because of more complete information about the labour market. Also, the labour market for those with more formal education may be nation-wide rather than local or provincial. The opportunity cost of not migrating in terms of foregone earnings may be greater with more education. Looking at Table 7, the Canadian data bear out the hypothesis in that migration rates rise generally with higher formal education. The "highest grade 13" group

TABLE 8 TOTAL NET FLOWS (VIEWED FROM SENDING PROVINCE), 1966-1971, RELATIVE TO THE PROVINCE'S 1971 POPULATION BY EDUCATIONAL LEVEL

	Nfld.	P.E.I.	N.S.	N.B.	P.Q.	Ont.	Man.	Sask.	Alb.	B.C.
					(per cent)					
M.A. or Ph.D. Degree	5.1	9.9	-1.5	0.2	-3.4	3.9	-9.4	-18.5	-0.2	4.1
B.A. or 1st Professional	-3.2	-0.5	-0.7	-6.9	-4.4	3.3	-6.6	-22.6	5.1	5.5
Some University	-4.5	-2.7	-0.5	-3.5	-3.3	1.8	-3.0	-14.0	3.9	6.3
Highest Grade 13	-2.7	-5.9	-2.4	-2.3	-5.0	0.2	-5.7	-3.9	0.1	2.4
Highest Grade 12	-13.4	-3.8	-1.8	-3.1	-0.8	0.2	-2.2	-7.1	0.9	3.6
Highest Grade 11	-3.8	-0.6	-0.9	-0.7	-1.1	1.1	-3.1	-6.5	1.5	5.4
Highest Grade 9 or 10	-4.5	-1.0	-1.1	-1.4	-0.9	0.5	-2.4	-6.3	1.4	5.1
Highest Grade 5 to 8	-2.4	-0.7	-0.6	-0.4	-0.5	0.4	-1.7	-3.4	0.7	4.3
Less than Grade 5	-0.6	-0.8	-0.2	0.0	-0.3	0.3	-0.5	-1.8	0.0	2.8
Vocational Training:										
Finance & Business	-8.1	-9.6	-1.9	-5.3	-1.0	0.9	-3.8	-10.0	-0.3	5.6
Technical, N.E.C.	-3.5	-5.8	-3.4	-4.7	-1.8	0.9	-3.7	-17.0	3.6	6.6
Social Work, Religion, Teaching	-7.7	-55.0	-4.9	-0.3	-0.7	0.7	-2.6	-3.2	2.0	4.4
Health Field	-10.8	-6.1	-7.5	-2.4	-1.8	0.7	-3.4	-12.8	2.8	7.0
Arts, Sports, Communication	-4.2	7.4	-19.7	3.4	-2.0	1.3	-3.8	-17.3	1.7	6.0
Office, Secretarial	-9.1	-5.6	-3.8	-2.1	-3.5	1.7	-4.9	-13.2	3.5	7.3
Salesmanship	-25.0	0.0	2.3	-5.6	-0.1	-1.4	-7.0	-23.1	-7.7	8.5
Service	-8.2	-3.2	-1.1	-6.4	-0.9	0.5	-5.5	-17.8	3.5	6.8
Primary Industries	0.0	0.0	-2.0	1.4	-2.9	2.3	-3.5	-6.8	0.8	4.8
Processing	-6.7	11.1	-6.8	6.0	-1.3	0.1	-5.6	-2.6	1.7	4.1
Machinist's	-11.7	8.0	-1.4	-0.5	-1.3	-0.1	-4.7	-13.4	2.9	6.1
Manuf., Repairing	-5.8	-3.4	-0.5	-1.0	-1.1	0.3	-6.3	-13.7	1.5	7.4
Construction	-10.6	0.7	0.7	-0.6	-2.4	0.7	-3.1	-22.4	0.8	6.9
Transport Field	-14.4	4.0	-4.7	-2.5	-1.3	0.7	-3.5	-7.0	1.0	4.3
Equip. Operation	-3.9	0.0	-1.8	-1.9	-2.0	0.3	-5.4	-6.5	4.8	3.6

Source: Special Census tabulations.

of it. With only one exception, namely social work, religion, teaching, the migration rates for those with vocational training are higher than for those with elementary and secondary school. Since the vocationally trained are also in the elementary and secondary school group, those in the latter without vocational training have even lower migration rates than Table 7 shows. Therefore, vocational training increases interprovincial mobility. As those with vocational training have lower migration rates than those with university training, an overall ranking of mobility by educational level in ascending order would be: elementary school, secondary school, one of these plus vocational training, university training. Without going into the details of Table 7, this policy conclusion is true for all the provinces.

While interprovincial mobility is one aspect of the human capital reallocation, another is the net gain or loss in this capital via inflows and outflows from each province. Table 8 presents the net flows relative to the province's 1971 population in each particular educational category. Looking first at formal education, Ontario and British Columbia are net gainers at all levels with the percentages being larger for British Columbia; Alberta shows net gains for all levels except "M.A. or Ph.D. degree." Manitoba and Saskatchewan are net losers in all educational levels, but more important is the decline in the percentages from "M.A. or Ph.D. degree" to "Less than grade 5." Interprovincial migration is reducing the stock relatively at the highest levels of education. The four Atlantic provinces are also net losers in general, except that Newfoundland, P.E.I., and New Brunswick are net gainers for "M.A. or Ph.D. degree."

_____ .1975 Internal Migration and Immigrant Settlement. Ottawa: Information Canada.

Canada, Dominion Bureau of Statistics. Population Age Groups (92-542). Ottawa: The Queen's Printer, 1961 Census.

Economic Council of Canada. 1965. Second Annual Review: Towards Sustained and Balanced Economic Growth. Ottawa: The Queen's Printer.

_____ .1968. Fifth Annual Review: The Challenge of Growth and Change. Ottawa: The Queen's Printer.

_____ .1971. Eighth Annual Review: Design for Decision Making. Ottawa: Information Canada.

George, M. V. 1970. Internal Migration in Canada. Ottawa: The Queen's Printer.

Statistics Canada. Internal Migration (92-719). Ottawa: Information Canada, 1971 Census.

_____ .The Labour Force (71-001). Ottawa: Information Canada, September 1971.

_____ .Labour Force Activity by Sex (94-703). Ottawa: Information Canada, 1971 Census.

_____ .Income of Individuals (94-761). Ottawa: Information Canada, 1971 Cenus.

Stone, Leroy O. 1969. Migration in Canada. Ottawa: The Queen's Printer.

Young, G. 1975. The Choice of Dependent Variable for Cross-section Studies of Migration. The Canadian Journal of Economics 8:93-100.

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