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An Analysis of Canadian Regional Economic Characteristics with Special Emphasis on Regional Unemployment Rates

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AN ANALYSIS OF CANADIAN REGIONAL ECONOMIC CHARACTERISTICS WITH SPECIAL EMPHASIS ON REGIONAL UNEMPLOYMENT RATES

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1. Introduction

This paper is part of a larger study designed to investigate regional economic variation and to assess the extent to which the available avenues of adjustment are serving to eliminate these regional differentials. However, in order to form a judgment on whether or not the process of regional adjustment is operating adequately it is necessary to be familiar with the degree of regional variation. A poorly functioning interregional adjustment mechanism is less cause for concern when regional economic variation is slight. The purpose of this paper is to present an overview of regional economic disparities. There are many ways this can be done. Focus can be directed toward regional income variation, regional unemployment rates, regional wage differentials, etc. The focus here is predominantly on regional unemployment rates although some information on wages, poverty and income by region is also presented.

In this paper and throughout the study the definition of region employed is the familiar (though not necessarily the best) one. The five regions are Atlantic, Quebec, Ontario, Prairie and British Columbia. The Northwest Territories and the Yukon are not treated. We make no distinction between "Atlantic Provinces", "Atlantic Region" and the "Maritimes". All are used

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interchangeably to refer to the four provinces east of Quebec. Whenever data permit, however, we shall revert to an analysis of the 10 provinces rather than the 5 regions.

The first section presents an overview of regional unemployment rates and also focuses on the cyclical nature of unemployment by age and industry as well as by region. Next, focus is directed toward a thorough study of the interrelationship between regional unemployment and age, education, sex, industry and occupation composition of the labor force. Section IV investigates the duration of unemployment for the various regions. An analysis of regional income differentials follows with some data relating to the regional incidence of poverty as well. In the Appendix to the paper data from Unemployment Insurance statistics are used to provide further information on regional unemployment rates.

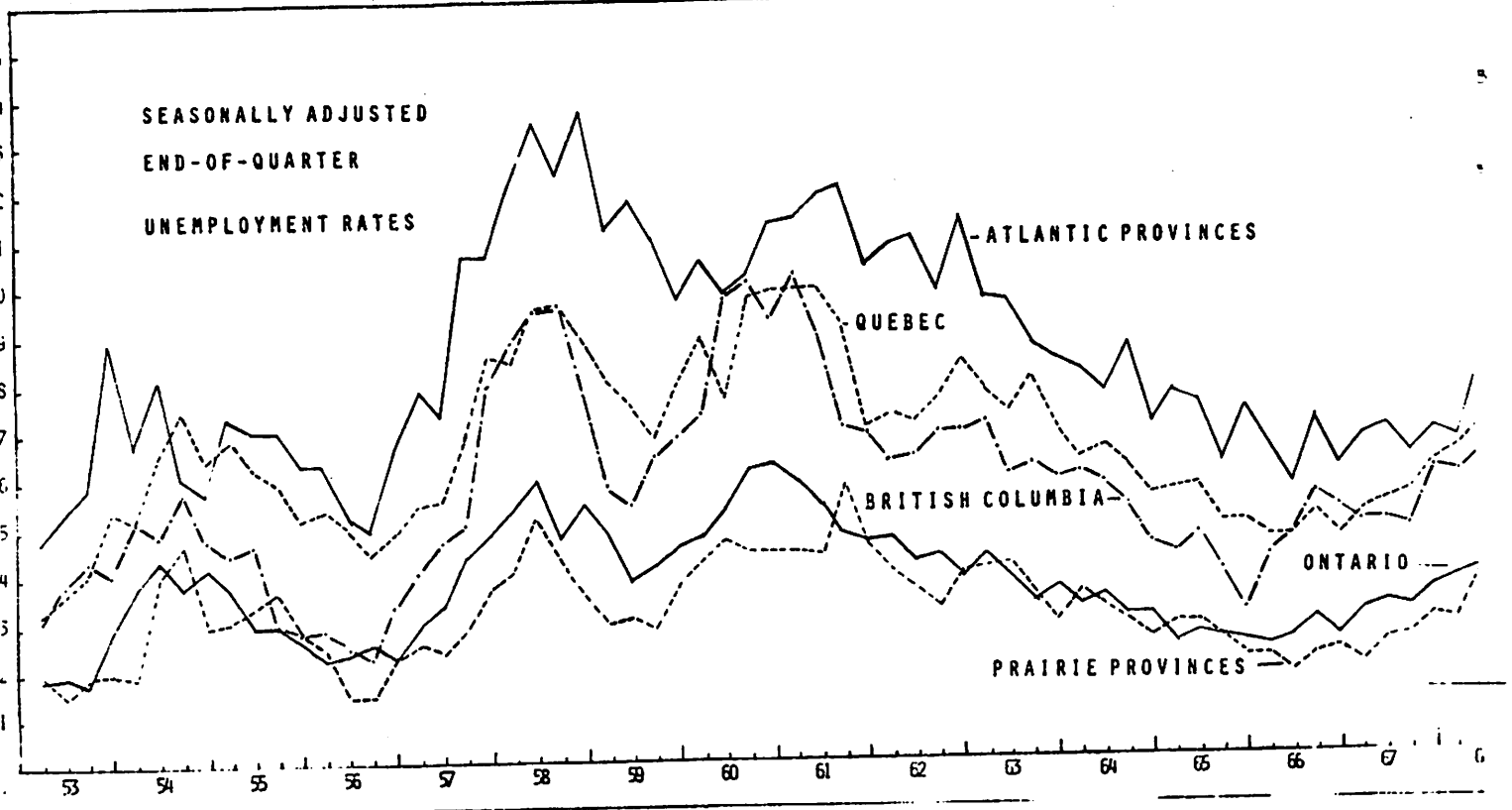
2. Regional Unemployment Rates: An Overview

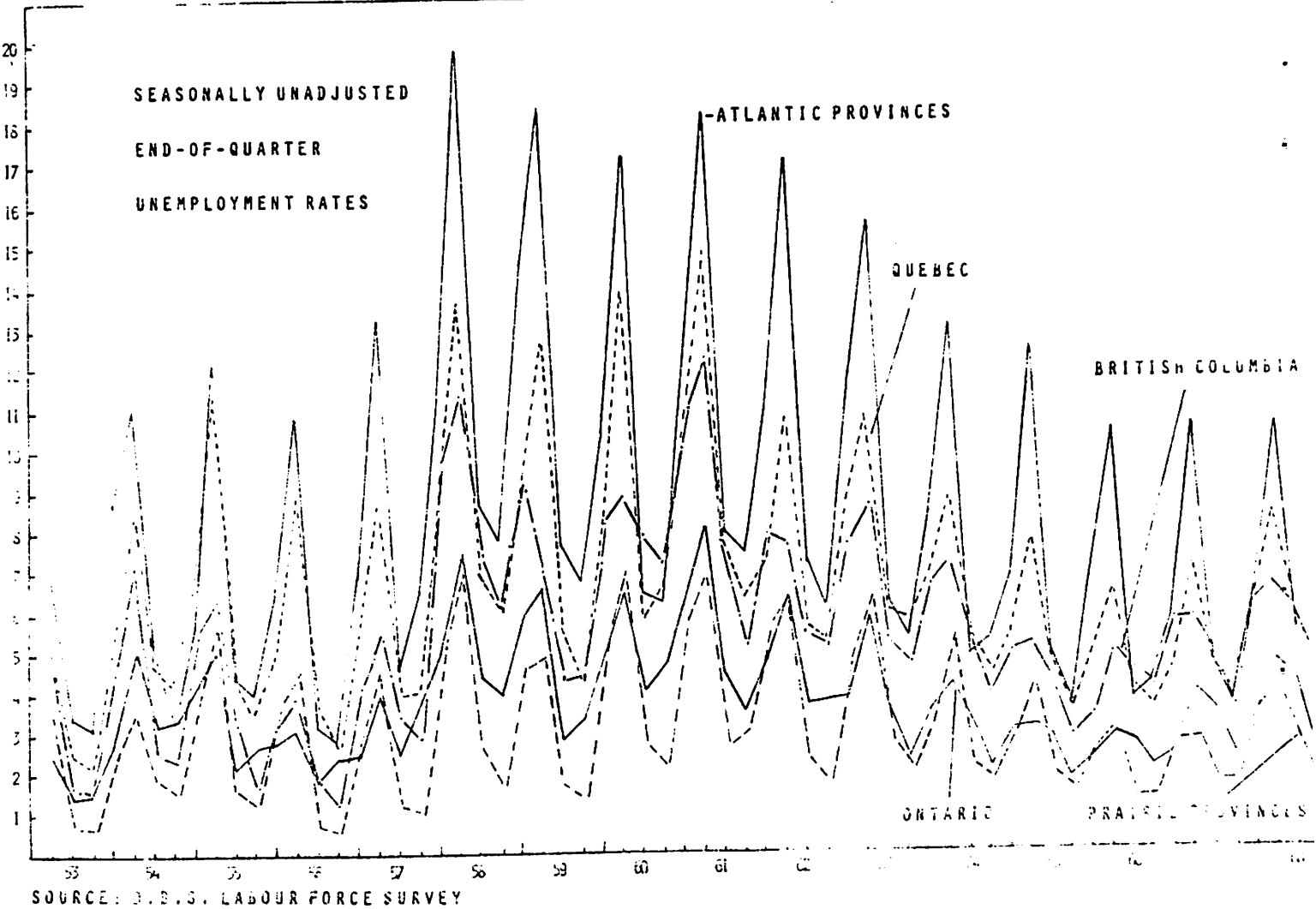
Chart I graphs adjusted and unadjusted regional unemployment rates from 1953 to 1968. The regional differences in unemployment are clearly evident. Except for two quarters in 1954, the Atlantic provinces have had the highest unemployment rates throughout the 1953-1968 period. For most of the interval from 1958 to 1962 the Maritime unemployment rate was over 11%. In 1958 it reached nearly 14%. Quebec has the second highest unemployment rate although on some occasions it dips beneath the rate for British Columbia. After the 1955-56 period of generally low unemployment rates, the rate for British Columbia has remained consistently above that for Ontario and the Prairies. When the Canadian unemployment rate (not shown) is low, Ontario and the Prairies have similar unemployment rates. When conditions slacken somewhat, as from 1957 to 1961 and from 1966 onward, the Prairie rate is below that for Ontario.

CHART I

REGIONAL UNEMPLOYMENT RATES IN CANADA

QUARTERLY 1953-1968





SOURCE: D.B.S. LABOUR FORCE SURVEY

Overall, the ranking is clear: from highest to lowest, Maritimes, Quebec, British Columbia, Ontario, and the Prairies.

The seasonal variations in unemployment are even more disparate. In 1958 the Maritime rate reached 20%. Even during periods of "full employment" such as the early fifties and middle sixties the Maritime rate at its seasonal high exceeds 10%. For the middle quarters of the year, however, the Atlantic unemployment rate is no higher than that for Quebec and British Columbia. In fact, it would appear that the reason that the ranking of the seasonally adjusted rates is Atlantic, Quebec, and then British Columbia stems entirely from the first and fourth quarter unadjusted rates for these three areas. This is not true for Ontario and the Prairies: for all quarters their rates are substantially below those of the other three regions.

Chart I and the related data series in the Appendix treat the Maritimes and the Prairies as homogeneous regions as far as unemployment rates are concerned. This is not very satisfactory although it has become an accepted procedure. Table 1 presents the end-of-quarter and annual-average unemployment rates for the last three years for each of these regions as well as for the individual provinces making up the regions. Newfoundland has the highest unemployment rates in the Maritimes followed next by New Brunswick. Nova Scotia and Prince Edward Island are below the average rate for the region. Nova Scotia's unemployment rate is least affected by seasonal elements while Prince Edward Island appears to be most affected. For the Prairies the story is one of low rates for all provinces. Even in the first quarter, the unemployment rates remain low. Saskatchewan has the lowest rate of the three provinces (falling as low as 0.6% in the 2nd quarter of 1966) while Manitoba is always above the Prairie average. The period 1966-1968 is one in which the Canadian average unemployment rate has been rising - 3.6% in 1966 and 4.8% in 1968. All

TABLE 1

PROVINCIAL UNEMPLOYMENT RATES FOR THE ATLANTIC AND PRAIRIE REGIONS UNADJUSTED 1966-1968

	1966				Twelve Month Average	1967				Twelve Month Average	1968				Twelve Month Average
	1	2	3	4		1	2	3	4		1	2	3	4	
Atlantic Region	10.5	3.8	4.2	5.8	6.4	10.6	4.6	3.7	6.6	6.6	10.7	5.6	4.3	7.1	7.3
Newfoundland	13.2	4.1	6.2	7.2	7.9	13.0	6.0	5.4	9.1	8.4	13.6	7.8	5.9	10.1	9.7
Prince Edward Island	11.8	-	2.7	9.1	5.6	11.4	-	2.6	8.6	5.6	12.5	2.6	2.7	5.9	5.6
Nova Scotia	7.6	4.0	3.5	4.0	5.2	8.6	4.7	3.2	4.7	5.6	8.1	5.4	3.6	4.7	5.9
New Brunswick	11.9	3.9	3.9	6.5	6.9	11.3	4.4	3.3	6.8	6.9	11.7	4.7	4.1	8.3	7.2
Prairie Region	3.0	1.2	1.3	2.6	2.1	2.7	1.6	1.6	3.5	2.3	4.0	2.7	1.9	3.4	3.0
Manitoba	3.5	1.6	1.4	3.4	2.5	2.6	1.9	1.9	3.9	2.5	4.5	3.4	2.1	4.2	3.5
Saskatchewan	2.2	0.6	0.9	2.2	1.5	3.1	1.2	0.9	3.0	1.8	3.1	1.7	1.1	3.3	2.3
Alberta	3.1	1.2	1.4	2.3	2.1	2.6	1.7	1.7	3.6	2.4	4.1	2.8	2.3	2.9	3.0

Source: DBS, Special Survey Division

provinces in Table 1 but Prince Edward Island also have rising annual average rates during this period although, on the basis of these three years, New Brunswick's rate is rather insensitive to general economic conditions in the rest of Canada.

A further point worth emphasizing is that even though the Atlantic region has an unemployment rate larger than that for Quebec, some of the Atlantic provinces at times have rates lower than for Quebec. The average unemployment rates for Quebec for 1966 to 1968 were 4.7, 5.3, and 6.5 and for British Columbia they were 4.5, 5.1, and 5.9. Compare them with those for Nova Scotia, for example. In 1968 Nova Scotia experienced a rate below that for Quebec and the same as that for British Columbia. Note, however, that the rates for both Quebec and British Columbia are more sensitive to the level of economic activity in Canada since in 1966 both these provinces had rates below that for Nova Scotia. Even though much of the analysis in this study will treat the four Atlantic provinces as a single unit it is important to remember that there may be considerable provincial variation within the Maritime region. Naturally, this is also true for the Prairies.

Cyclical Pattern of Unemployment Rates

Both panels of Chart 1 indicate that all the regional unemployment rates move together, i.e., in periods of high national unemployment all regions have higher unemployment rates than in periods of low national unemployment. This implies that all regions are responsive to movements in aggregate economic activity. On the regional level, then, there are no pockets of unemployment in the sense that unemployment rates are insensitive to movements in the Canadian unemployment rate.

Some simple estimates of the degree of the cyclical pattern of regional unemployment rates are presented in Table 2. Consult the notes beneath the

TABLE 2

SOME ESTIMATES ON THE CYCLICAL PATTERN OF REGIONAL UNEMPLOYMENT

Region	$U_i = aU_c$		$U_i = b + cU_c$		
	a	R	b	c	R
Atlantic	1.685 (68.88)	.90	.5556 (1.06)	1.583 (15.81)	.90
Quebec	1.314 (82.81)	.93	.2922 (0.85)	1.260 (19.35)	.93
Ontario	.7407 (86.41)	.95	-.2598 (1.42)	.7886 (22.66)	.95
Prairies	.6275 (52.00)	.86	.0314 (0.12)	.6217 (12.47)	.85
British Columbia	1.157 (58.09)	.91	-1.332 (3.37)	1.402 (18.67)	.92

Notes: Regression coefficients are ordinary least squares estimates from seasonally adjusted end-of-quarter data 1954-1968. Bracketed figures beneath the regression coefficients are t-values. Values for the multiple correlation coefficient (R) are corrected for degrees of freedom.

table for the manner in which these estimates were obtained. The left side of the table shows the coefficient obtained by regressing the regional unemployment rate (U_i) against the Canadian rate (U_c). These coefficients are really nothing more than the average regional rates divided by the Canadian rate. Naturally the ranking from Chart I is preserved. Some indication of the degree to which the regional rates move in unison with the national rate can be obtained from the t-values shown beneath the coefficients: the greater the value, the more the regional rate movements are related to those of the national rate. It is hardly surprising that the equation for Ontario has the highest correlation with the national rate (see the values for R) because Ontario's rate has the largest weight in making up the national rate. More surprising is that all other regions move closely in unison with the Canadian rate. The right part of the table simply adds an intercept term to the previous equation, i.e., the least-squares line does not go through the origin. The results from both charts are quite consistent. Looking at the right side, for example, the equation for the Atlantic provinces indicates that if the national unemployment rate increases by one percentage point, the rate for the Maritimes will increase by 1.583 percentage points. And so on with the rest of the equations.

In the Fifth Annual Review of the Economic Council of Canada they present a graph similar to the seasonally-adjusted panel of Chart I. On the basis of the graph they state:

> Moreover, although total unemployment in the Atlantic Provinces falls when the national average is falling their share of total unemployment tends to rise as economic activity increases. By contrast, Ontario's share tends to be lower when economic activity is high and higher as the economy moves into a recession. [1]

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[1] Economic Council of Canada, Fifth Annual Review, Ottawa: Queen's Printer, 1968, p. 145. (Italics in original).

To test the validity of this statement, we found the ratio of the unemployment rate of the Atlantic over that for Canada and regressed this ratio against the Canada rate. A similar test was conducted for Ontario. The results indicate that there indeed does tend to be such a relationship but it is not a statistically significant relationship.

While still on the subject of the cyclical nature of unemployment we refer the reader to Table 3 where we present the cyclical behavior of the age and industry components of the Canadian unemployment rate. Details are again given at the base of the table. The average annual unemployment rate for each age and industry category are presented in the first column of each side. The remaining two columns contain the results of a simple linear regression (for the age section, for example) of unemployment rate by age category against an intercept and the total unemployment rate. Because this table is somewhat apart from our main task of identifying regional economic differences we shall not devote much time to it. Note, however, that the 14-19 age group experiences near two percentage points change in unemployment for every one point change in the national rate. Note, also, that the over 65 age group is not as sensitive to the national rate as the other categories (it has the lowest coefficient and lowest t-value). Much of the unemployment in this category exists irrespective of the level of overall employment (note the large and significant intercept coefficient). On the industry side forestry has the largest coefficient while the construction unemployment rate is most closely tied to the aggregate unemployment rate (it has the highest t-value).

We now return to a more detailed analysis of regional unemployment rates.

TABLE 3

CYCLICAL BEHAVIOR OF NATIONAL UNEMPLOYMENT
BY AGE AND INDUSTRY CLASSIFICATION

Age				Industry			
Age Category	Average Unemployment Rate	$U_j = b + cU_c$		Industry	Average Unemployment Rate	$U_k = b + cU_c$	
		b	c			b	c
14 - 19	11.2	.8717 (1.68)	1.938 (20.98)	Agriculture	1.450	-.8405 (1.73)	.4349 (4.86)
20 - 24	7.86	-.2749 (0.90)	1.526 (28.16)	Forestry	20.78	-3.400 (1.25)	4.592 (4.16)
25 - 34	4.818	-.5035 (2.74)	.9985 (30.51)	Mining	6.50	-.6759 (0.50)	1.363 (5.42)
35 - 44	3.965	-.1596 (1.71)	.7739 (46.52)	Manufacturing	5.12	.1241 (0.24)	.9480 (10.12)
45 - 54	4.341	-.6969 (0.61)	.8276 (40.53)	Construction	15.29	.9056 (1.06)	2.732 (17.30)
55 - 64	4.876	.1672 (0.51)	.8836 (15.06)	Transportation	5.01	.3082 (1.04)	.8940 (16.48)
65+	4.188	1.799 (3.88)	.4482 (5.44)	Trade	3.34	-.0242 (0.07)	.6391 (11.02)
				Service	2.73	.2459 (0.96)	.4707 (9.95)
All ages	5.33			All Industries	5.27		

Notes: The age data are annual rates from 1950 to 1966 while the industry data are annual rates from 1953-1964. These data are taken from Sylvia Ostry, Unemployment in Canada D.B.S. Ottawa: Queen's Printer, 1968, Tables 4 and 10A.

3. Unemployment and Labor Force Characteristics: A Regional Comparison

A. Regional Demographic, Occupational and Industrial Difference

In order to enhance understanding of the differential regional unemployment rates it is important to look into the differences in regional labor forces. Considerable research has already been published on regional labor force composition so that some of what appears below merely amounts to collecting, summarizing and sometimes extending the existing studies. The most convenient and comprehensive source for data on the labor force and unemployment, and the basic source adopted for the analysis in this section, is the 1961 Census. However, there are certain deficiencies connected with the census data. For one thing the data are nearly ten years old and much can happen in the span of a decade to alter labor-force characteristics. On a more specific level, the Census data involve some degree of understatement of the unemployment rate. In 1961 the average annual unemployment rate was just over 7% (as measured by the Monthly Labor Force Survey) and the May-June average rate of unemployment was 6.2%. But the Census, taken largely during the first two weeks of June, generates an average unemployment rate of only 3.9%.[2] Naturally, this means that the unemployment rates cannot be taken at their face value. This should not be of much concern here since the objectives of this section are to investigate relative not absolute unemployment rates. At any rate some evidence in addition to the Census data will be drawn upon whenever Census data are likely to be misleading.

Table 4 embodies the main thrust of the empirical evidence on the composition of unemployment and the labor force by region. It categorizes

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[2] Sylvia Ostry in her study Unemployment in Canada (D.B.S., Ottawa: Queen's Printer, 1968) devotes an appendix to the reasons for, and possible biases of, this discrepancy. The interested reader is encouraged to consult this appendix (pp. 71-76).

TABLE 4

REGIONAL PERCENTAGES COMPOSITION OF UNEMPLOYMENT AND THE LABOR FORCE BY AGE, EDUCATION, OCCUPATION, INDUSTRY AND SEX

	CANADA			MARITIMES			QUEBEC			ONTARIO			PRAIRIES			BRITISH COLUMBIA		
	Composition		Unemp. Rate	Composition		Unemp. Rate	Composition		Unemp. Rate	Composition		Unemp. Rate	Composition		Unemp. Rate	Composition		Unemp. Rate
	L.F.	Unemp.		L.F.	Unemp.		L.F.	Unemp.		L.F.	Unemp.		L.F.	Unemp.		L.F.	Unemp.	
			Avg. 3.9			Avg. 5.5			Avg. 4.4			Avg.3.3			Avg. 2.6			Avg. 5.3
AGE																		
15-19	8.0	21.6	10.0	9.6	23.6	13.0	9.9	22.7	9.8	6.8	21.1	10.0	7.8	22.0	7.0	6.5	17.9	13.6
20-24	12.4	16.2	5.0	13.8	17.1	6.8	14.0	18.4	5.8	11.3	14.6	4.3	12.2	16.6	3.5	10.9	13.5	8.6
25-34	23.8	20.8	3.4	21.7	20.1	5.2	24.8	21.8	3.9	24.0	20.8	2.9	23.2	20.2	2.2	23.1	19.5	4.5
35-44	23.1	16.7	2.8	21.9	16.1	4.1	22.0	16.0	3.2	23.9	17.4	2.4	22.8	15.8	1.8	24.3	18.6	4.0
45-54	18.3	13.4	2.8	16.5	13.3	4.0	16.9	12.0	3.2	18.7	13.8	2.5	18.5	12.9	1.8	20.1	16.4	4.2
55-64	10.-	8.5	3.1	10.4	7.6	4.1	9.5	7.1	3.3	11.3	9.1	2.7	11.1	9.0	2.1	11.1	10.8	5.1
65+	3.7	2.8	3.9	4.0	2.2	3.1	2.9	2.0	3.1	3.9	3.2	2.7	4.4	3.5	2.1	3.6	3.3	4.9
EDUCATION																		
										38.2	49.2		38.1	43.0		27.2	36.2	
Elementary	40.5	52.3		44.0	63.0		48.4	61.0		4.0	7.9	6.5	5.8	8.0	3.5	30.2	5.3	8.8
< 5 years	6.2	11.0	6.9	9.0	17.6	11.0	9.2	14.8	7.1	34.2	41.3	4.0	32.3	35.0	2.8	24.0	30.9	6.8
≥ 5 years	34.3	41.3	4.7	35.0	45.4	7.2	39.2	46.2	5.2	53.3	47.0		53.0	51.8		61.1	57.1	
Secondary	50.7	43.5		48.7	34.2		43.1	35.2		32.6	33.8	3.5	36.2	38.1	2.7	35.5	38.5	5.7
1-3 years	32.4	31.6	3.8	38.4	29.0	4.2	26.9	25.1	4.1	20.7	13.2	2.1	16.8	13.7	2.1	25.6	18.6	5.1
4-5 years	18.3	11.9	3.5	10.3	5.2	2.8	16.2	10.1	2.8	8.5	3.9	1.5	8.9	5.1	1.5	11.7	6.7	3.0
University	8.8	4.2	1.9	7.3	2.7	2.1	8.5	3.8	2.0	3.8			5.2			7.0		
Some	4.5			4.3			4.1			4.7			3.7			4.7		
Degree	4.3			3.0			4.4											
OCCUPATION																		
Managerial	8.3	1.5	0.7	7.6	0.9	0.6	7.8	1.3	0.8	8.8	1.6	0.6	7.8	1.8	0.6	9.9	1.9	1.0
Prof. and Tech.	9.7	1.8	0.7	8.9	1.1	0.7	10.2	1.5	0.7	9.9	1.9	0.6	9.0	2.3	0.7	9.8	2.1	1.1
Clerical	12.9	7.5	2.2	9.7	4.7	2.7	12.5	6.3	2.2	14.9	9.0	2.0	11.0	8.9	2.1	12.8	8.1	3.4
Sales	6.3	4.3	2.6	6.1	3.4	3.1	6.0	3.6	2.7	6.7	4.9	2.4	6.0	5.1	2.2	7.3	5.0	3.6
Agricultural	10.0	2.5	1.0	6.4	1.7	1.5	7.5	1.4	0.9	7.2	2.6	1.2	24.5	5.6	0.6	4.2	2.7	3.3
Other Primary	2.3	7.2	10.1	9.0	15.9	9.9	2.7	9.2	15.3	1.6	3.1	6.3	1.5	4.6	7.9	3.9	6.1	8.2
Service	12.3	9.3	2.9	15.6	7.3	2.6	11.2	8.3	3.3	12.3	9.9	2.7	11.8	11.0	2.4	13.5	10.7	4.2
Trans. and Comm.	6.1	6.4	4.1	7.1	7.3	5.8	6.5	7.2	5.0	5.7	5.8	3.4	5.4	5.9	2.8	6.5	5.4	4.4
Craftsmen, etc.	24.	27.1	4.4	21.2	24.2	6.4	27.5	27.9	4.5	25.9	28.8	3.7	16.7	23.7	3.6	24.1	27.1	5.9
Labourers	4.9	12.8	10.2	6.1	15.6	13.5	5.3	13.3	11.3	4.7	12.1	8.5	3.9	12.3	8.1	5.0	11.4	12.1
Not Specified	2.-	4.4	6.6	2.3	3.1	7.3	3.0	2.5	3.6	2.3	5.7	19.5	2.4	3.9	4.3	3.0	7.3	13.0
Job		15.3			15.7			17.3			14.7			14.9			12.3	
INDUSTRY																		
Agriculture	9.9	2.3	0.9	6.3	1.7	1.5	7.4	1.4	0.9	7.0	2.2	1.1	24.4	5.5	0.6	4.0	2.3	3.1
Other Primary	4.0	9.2	8.7	10.5	18.2	8.2	4.1	12.0	13.2	2.6	4.4	5.7	3.0	6.7	5.6	5.8	7.6	6.9
Manufacturing	21.7	18.4	3.3	13.8	12.4	5.0	26.4	19.9	3.4	26.9	22.7	2.8	9.0	10.3	2.9	19.6	17.8	4.8
Construction	6.7	14.8	8.6	6.8	14.4	11.8	7.1	15.0	9.3	6.3	14.4	7.5	6.5	16.9	6.6	6.3	13.9	11.7
Transport	9.3	7.9	3.3	11.5	13.0	6.3	9.1	7.3	3.6	8.2	6.3	2.6	10.1	8.7	2.2	10.9	7.6	3.7
Trade	15.3	11.3	2.9	16.0	9.8	3.3	14.0	9.6	3.0	15.5	12.4	2.7	15.8	13.7	2.2	17.2	12.2	3.8
Finance	3.5	1.2	1.4	2.9	0.6	1.5	3.5	1.0	1.3	4.1	1.5	1.2	2.9	1.4	1.2	3.9	1.6	2.1
Service	19.5	10.8	2.1	16.3	7.0	2.0	19.8	9.3	2.1	19.5	11.9	2.0	18.7	13.3	1.8	21.4	12.8	3.2
Public Admin.	7.4	4.4	4.3	12.-	4.5	2.1	5.6	4.8	3.8	7.6	3.7	1.7	7.2	4.8	1.7	8.0	4.5	3.0
Not Specified	2.4	4.3	6.8	...	2.9	7.4	2.9	2.4	3.7	2.2	5.8	8.9	2.3	3.9	4.4	2.9	7.4	13.5
First Job		15.3			15.7			17.3			14.7			14.9			12.3	
SEX (TOTAL)	100.0	100.0	3.9	100.0	100.0	5.5	100.0	100.0	4.4	100.0	100.0	3.3	100.0	100.0	2.6	100.0	100.0	5.3
Male	72.6	79.1	4.2	75.8	86.05	5.3	72.9	83.2	5.0	71.0	75.3	3.5	73.9	74.9	2.6	72.9	75.7	5.5
Female	27.4	20.9	2.9	24.2	13.95	3.2	27.1	16.8	2.7	29.0	24.7	2.8	26.1	25.1	2.5	27.1	24.3	4.7

Source: 1961 Census of Canada.

regional characteristics by sex, age, education, occupation and industry. The overall unemployment rates in each region appear at the bottom of the table. Three columns are presented for each category and region. Assume the category and region are age and Atlantic respectively. The first column would then give the age composition of the labor force in the Atlantic region. The second column would show the age composition of the Atlantic unemployed and the final column presents the unemployment rate in the Atlantic region for the specific age category. This same format holds for all categories. An analysis of each of the categories is treated in a separate subsection below, beginning first with age. Each section highlights only the obvious attributes leaving to the reader the task of filling in the finer detail.

Age:

As is well known and well documented, the age composition of the labor force differs markedly from the age composition of the unemployed. Focusing on the Canadian-average figures, 8% of the labor force is between the ages 15-19 but nearly 22% of the unemployed in Canada are in this age group. The 25-44 age groups account for 47% of the work force but only 38.5% of the unemployed. The same general pattern holds for each of the regions: less than 10% of the labor force but more than 20% of the unemployed fall in the 15-19 age group; approximately 45% of the labor force and less than 40% of the unemployed fall in the 25 to 44 age groups. More generally, for all regions the 15-19 and 20-24 age groups account for a considerably larger proportion of the unemployed than they do of the labor force. For each of the categories above 25 years the percent of the unemployed in each region in these categories is less than the percent of the labor force in these same categories.

Given this information, it is hardly surprising that unemployment rates are highest in the 15-19 and 20-24 age groups, especially the former.

This pattern too holds across regions. Since the unemployment rate is so high in the 15-19 age category, any region that has a high proportion of its labor force in this age group (and the 20-24 age group for that matter) will tend on this account alone to have a high unemployment rate. Likewise those provinces or regions possessing a higher-than-national-average share of their labor force in the low-unemployment age groups (over 25 years, but especially 35-44 and 45-54) should tend to have lower unemployment rates. To a considerable degree this is the case. Quebec and the Maritimes have an above-average share of their labor force in the two youngest age groups, while the remaining regions are below the Canadian average. Naturally, this means that these same two regions (Quebec and the Maritimes) will have lower-than-national-average concentration of their respective work forces in the lower-employment, higher-age categories. Even if unemployment rates for each category were identical for all regions (i.e., if all regions possessed the Canadian average unemployment rates) Quebec and the Maritimes would have greater unemployment rates. In this sense, the age composition of the labor force is surely a significant factor in the differential regional unemployment levels in Canada.

But, of course, the age-group unemployment rates are not identical for each region so that age composition is only partial answer to regional unemployment differentials. For example, while B.C. has the smallest proportion of its labor force in the less-than-25 categories, it has the largest unemployment rates--13.6% and 8.6% for the 15-19 and 20-24 age groups respectively. On the other hand, the Prairie unemployment rates for each category are uniformly lower than those for the other regions so that the overall Prairie unemployment rate would remain quite insensitive to a shift in the age composition of its labor force. Regional age composition of the labor force, then, does appear to provide some rationale for the divergent area unemployment rates. But it is the

type of partial answer that is far from satisfactory since it begs the obvious next question: why are there differences in the regional age composition of the Canadian labor force? No attempt to explain these differences will be undertaken here.[3] However, the later chapters on the adjustment process should provide some answers to this question as well as help explain the regional differences in educational composition of the labor force, to which we now turn.

Education:

As the education panel of Table 4 indicates, fully 40% of the Canadian labor force has an educational attainment of elementary school or below. Half the Canadian labor force falls in the high school education range and the remaining 9% has some university training. For Canada, and for all regions, the distribution of the unemployed is more concentrated in the lower education levels than is the distribution of the labor force. For example, more than 50% of the unemployed in Canada have at most elementary education (compared to 40.5% of the labor force). These distributions differ most markedly for the Maritimes where the percentages of the labor force and of employment with elementary education or less are 44 and 63 respectively. British Columbia has the most similar distributions for unemployment and labor force. Focusing once again on the Canada columns, the rate of unemployment is highest for the low education groups and decreases for every higher education level. This perfect inverse correlation between education and unemployment also holds for each of the regions. All this is hardly surprising, but the consistency of the correlation is, nevertheless, impressive.

In assessing the relation between education level and degree of unemployment by region the analysis follows the simple format established for age. Any province or region possessing a higher-than-average share of its labor force in the low-education category is likely on this account to have a higher-than-

[3]Interprovincial migration plays an important role in the age-composition of provincial labor forces. For some evidence relating to the interprovincial migration see T. J. Courchene, "Interprovincial Migration and Economic Adjustment," Research Report No. 7008, Department of Economics, University of [illegible] Ontario (1970).

average unemployment rate. Once again the Maritimes and Quebec are susceptible to high unemployment on this score--Quebec has nearly 50% of its labor force in the elementary or less category. British Columbia is at the other exteme--only slightly more than 25% of its labor force falls in this category. As far as unemployment rates are concerned, Quebec and the Maritimes again are considerably above the national average for the two categories of elementary school. Interestingly, however, this is not the case for the higher education categories. British Columbia again presents a puzzle. It has the most educated labor force but for every educational category the B.C. unemployment rate exceeds the Canadian average and for the last three categories it is the highest of all the regions. As was the case for the age classification, the Prairie region possesses the lowest unemployment rates for every category.

As a determinant of regional differences in unemployment, these educational differences in the regional labor forces can account for at least part of the nigh Maritime and Quebec unemployment rates and also the low rates on the Prairies and in Ontario.

At this juncture it seems appropriate to introduce evidence relating to the interrelationship among age, education and region. This is presented in Table 5. For the time being disregard the male-female breakdown and the participation rate figures that are also shown in the table. It will be more convenient to return to these aspects of the table somewhat later. Very briefly, the highlights (relevant to the present discussion) of the table are as follows:

1. For the total labor force (14 years and over category) the ranking of regions by percent of labor force with elementary education or less is unchanged from the Census date--Quebec, Maritimes, Ontario, Prairies and British Columbia. However, Quebec and the Maritimes maintain the same percentage in 1965 as they did in 1961--48 and 44 percent respectively. And the Prairie region has 37% of

TABLE 5

PERCENTAGE DISTRIBUTION OF REGIONAL POPULATION AND LABOR FORCE BY AGE AND EDUCATION, FEBRUARY, 1965

	CANADA			ATLANTIC			QUEBEC			ONTARIO			PRAIRIES			BRITISH COLUMBIA		
	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female	Both Sexes	Male	Female
14 YEARS AND OVER																		
POPULATION																		
Elementary or Less	.41	.43	.39	.48	.53	.43	.50	.50	.49	.36	.38	.34	.39	.42	.36	.29	.31	.27
Some High School	.35	.35	.36	.32	.31	.34	.27	.27	.27	.42	.41	.43	.36	.35	.37	.37	.36	.38
Completed High School and More	.24	.22	.25	.20	.16	.23	.23	.23	.24	.22	.21	.23	.24	.22	.26	.33	.33	.35
LABOR FORCE																		
Elementary or Less	.38	.43	.27	.44	.50	.26	.48	.53	.36	.33	.37	.24	.37	.41	.26	.25	.27	.18
Some High School	.33	.32	.35	.30	.30	.32	.23	.23	.24	.40	.39	.43	.35	.34	.36	.36	.36	.36
Completed High School and More	.29	.25	.38	.26	.20	.41	.29	.24	.40	.26	.23	.33	.29	.25	.38	.39	.37	.46
PARTICIPATION RATES	.53	.76	.30	.46	.68	.25	.52	.76	.29	.56	.79	.33	.53	.75	.30	.53	.75	.31
20-24																		
POPULATION																		
Elementary or Less	.24	.25	.22	.31	.36	.28	.35	.36	.34	.16	.18	.15	.15	.17	.14	.11	.10	.13
Some High School	.37	.38	.37	.35	.34	.35	.27	.28	.26	.48	.48	.49	.39	.40	.39	.37	.36	.38
Completed High School and More	.39	.37	.41	.34	.30	.37	.38	.35	.40	.35	.34	.36	.45	.43	.47	.52	.54	.50
LABOR FORCE																		
Elementary or Less	.23	.27	.15*	.27	.35	.16	.34	.40	.25	.16	.20	.10	.16	.18	.11	.08	.09	*
Some High School	.38	.42	.30*	.36	.38	.32	.28	.30	.24	.50	.54	.43	.39	.45	.28	.39	.43	*
Completed High School and More	.39	.31	.52	.37	.27	.51	.38	.30	.51	.34	.26	.47	.46	.37	.60	.53	.48	.62
PARTICIPATION RATES	.68	.85	.52	.64	.83	.46	.70	.85	.55	.70	.87	.53	.67	.85	.48	.65	.84	.46
25-44																		
POPULATION																		
Elementary or Less	.37	.40	.36	.46	.51	.42	.51	.52	.51	.31	.34	.29	.31	.34	.29	.21	.24	.19
Some High School	.35	.33	.34	.31	.29	.33	.22	.22	.23	.41	.40	.43	.37	.37	.37	.37	.36	.37
Completed High School and More	.28	.27	.30	.23	.20	.26	.26	.26	.26	.27	.26	.28	.32	.30	.34	.42	.40	.44
LABOR FORCE																		
Elementary or Less	.36	.39	.27	.43	.48	.25	.49	.52	.39	.31	.34	.23	.31	.34	.23	.21	.24	.16
Some High School	.33	.33	.34	.31	.31	.31	.22	.22	.21	.41	.40	.43	.37	.37	.37	.36	.36	.35
Completed High School and More	.30	.28	.39	.26	.21	.44	.29	.26	.40	.28	.26	.34	.32	.29	.40	.43	.40	.49
PARTICIPATION RATES	.63	.96	.31	.58	.91	.25	.61	.96	.29	.66	.98	.35	.65	.97	.32	.67	.98	.33
45 AND OVER																		
POPULATION																		
Elementary or Less	.58	.60	.55	.61	.68	.55	.66	.67	.65	.53	.55	.51	.61	.64	.58	.46	.48	.44
Some High School	.22	.21	.24	.22	.19	.25	.15	.14	.16	.27	.26	.28	.22	.20	.24	.25	.23	.27
Completed High School and More	.20	.19	.21	.17	.13	.20	.19	.19	.19	.20	.19	.21	.17	.16	.18	.29	.29	.29
LABOR FORCE																		
Elementary or Less	.50	.54	.39	.54	.59	.38	.58	.61	.47	.45	.49	.36	.55	.59	.41	.38	.40	.30
Some High School	.25	.25	.30	.25	.24	.29	.17	.16	.20	.30	.29	.34	.25	.22	.32	.28	.27	.32
Completed High School and More	.25	.22	.31	.21	.17	.33	.25	.22	.33	.25	.22	.30	.20	.18	.27	.34	.33	.36
PARTICIPATION RATES	.48	.44	.24	.42	.65	.19	.46	.74	.20	.51	.77	.27	.48	.70	.25	.47	.69	.25

*These percentages are based on estimates of less than 10,000 persons, if available at all.

Source: [illegible], The Educational Attainment of the Canadian Population and Labor Force, 1960-1965, D.B.S., Special Labor Force Studies, No.1, 1966, Tables C19, C20 and C21.

its labor force in this category compared with 38% in 1961. The major decreases in the percentage of the labor force with only an elementary education were registered by Ontario and British Columbia, especially Ontario where the percentage dropped from 38 to 33. What this implies is that the regional educational differences in the Canadian labor force are widening rather than narrowing.

2. As is fully expected, the younger age groups in the labor force are more highly educated both for the population and the labor force.

3. For the 45 and over category, difference between the highest and lowest labor-force percentages in the elementary or less category is 20 percentage points (Quebec minus B.C.). While average ratio falls from 50% to 23% of the labor force in the lowest education group for the 45 and over and 20-24 age categories, respectively, this differential actually widens--Quebec minus B.C. now yields 26 percentage points, i.e., 34-8 (see the 20-24 category). This is another way of expressing the fact that regional educational levels appear to be widening rather than narrowing.[4]

4. For the highest education class in Table 5 namely, completed high school or more, the regional labor force differences for the total labor force (14 years and over) are not as marked. In fact, except for the extremely high percentage for British Columbia (39%), the rest of the regions have between 26 and 29 percent of their labor force in this category. Ontario has only 26% of its labor force in this category. Even more surprising is the manner in which this Ontario percentage behaves for the various age groups. In the 20-24 age group Ontario has only 34% of its labor force in the highest-education category--3 percentage points below any other region. Its relative position improves in the 25-44 age

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[4] A similar conclusion is reached by Michel Lagacé in his monograph Educational Attainment in Canada: Some Regional and Social Aspects (Special Labour Force Studies, No. 7). D.B.S. Ottawa: Queen's Printer, 1968, p. 9.

group and still more in the 45 and over age group. The behavior of the Prairie provinces is equally interesting. For the oldest age group they have the lowest regional percentage of the labor force in the highest-education category. In the 20-24 age group, however, 45% of their labor force has at least a high school education--a substantially greater percentage than those for Quebec, Ontario and the Maritimes.

5. The Canadian labor force has a higher education level than that of the population, e.g., 41% of the Canadian population but only 38% of the Canadian labor force have no more than an elementary education. This pattern also holds for all the regions. It is especially true for the oldest age classification, again focusing on the elementary or less education level. For the 20-24 age group the opposite tends to hold. The labor force is on the whole less educated than the population. Undoubtedly this reflects the fact that many young people attending university have withdrawn themselves from the labor force. For males in this age category, the percentage of high school and university educated people in the labor force is uniformly smaller than the percentage in the population. This is not true for the female labor force. In large part, this latter result reflects the fact that the female labor force for all age categories is substantially better educated than the corresponding female population. More on this later, however.

Some words of caution are in order regarding both the interpretation drawn from Table 5 and the data presented in the table. Interregional education comparisons are rather difficult to make because of the diversity of provincial educational systems. This problem comes to the fore in attempting to define high school completion since some provinces require four years and others five years after elementary school. Even if this were easily overcome, however, there is another complication that must be recognized. The figures for each region are

the result not only of the regional educational patterns but also of the degree of interprovincial migration as well as emigration and immigration.[5]

Occupation:

We now turn to the occupational dimension of regional unemployment and invite the reader to compare the distribution of the labor force in Table 4 with the distribution of unemployment both for Canada and for the five regions. Note that this panel of Table 4 as well as that treating the industrial dimension differs somewhat from the age and education sections. Specifically, it is impossible to classify all the unemployed by occupation or industry of last employment since a substantial percentage of the unemployed are seeking their first job. This percentage appears as the last row of the occupational panel (and of the industrial panel as well). The distribution of unemployment classified by last occupation does not, therefore, sum to 100%, but rather to 100% less the percentage seeking their "first job". In comparing the distribution of regional unemployment and labor force this should be kept in mind. Since the bulk of those seeking their first employment are likely to be in the younger age groups, it is not surprising to note that the "first job" percentages by region possess the same ranking as the percent of the regional labor force under 24 years of age, i.e., highest for Quebec and the Maritimes and lowest for British Columbia.

For the all-Canada figures, the share of the unemployed in the managerial, professional and technical, clerical, agricultural, and to a lesser degree the sales and service categories is smaller than the share of the labor force in these same categories. Except for agriculture these occupations are usually referred to as "white collar" occupations. For the craftsmen, other primary, and laborer categories the opposite is true. Expressed somewhat differently, the "white

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[5]See Courchene, op. cit., for some aspects of the interrelationship among interprovincial migration, education and age.

collar" occupations and agriculture have low unemployment rates while the latter three categories have high unemployment rates.

On a regional basis, the higher rates of unemployment in the Maritimes stem in part from a very high proportion of their labor force in the "other primary" category (fishing, lumbering and mining), a lower-than-national-average share of the low unemployment occupations and from above Canadian-average unemployment rates in the craftsmen and laborers categories. Quebec has a larger-than-Canadian average proportion of its labor force in the craftsmen and laborer categories and in addition has an extremely high unemployment rate for "other primary" workers. Ontario labor force distribution follows the national average fairly closely although it has, percentage-wise, fewer persons in agricultural and other primary occupations and in addition the latter occupation has a low unemployment rate in Ontario. The Prairies have a very low proportion of their labor force in the craftsmen, laborers, and other primary occupations (i.e., in the higher unemployment rate categories). Much more important, however, is that they have 25% of their labor force in agriculture. This concentration of the Prairie labor force in agriculture is probably at the heart of the low overall unemployment rate for the Prairies since the agricultural unemployment rate is only 0.6%. While it is very likely that this unemployment rate is misleading in that it encompasses considerable "underemployment", it is, nevertheless, the main reason why the overall Prairie unemployment rate is relatively insensitive to the age and educational composition of its labor force. Turning finally to British Columbia, the figures do not suggest much of an occupation explanation for their high unemployment rates. For six of the eleven occupational categories, British Columbia has the highest unemployment rate in Canada.

Industry:

The labor force classification by industry adds little additional information than that already available in the occupational classification. Essentially the craftsmen

and laborer occupations become reclassified as manufacturing and construction industries and the white-collar occupations become the trade, finance and public administration industries. Manufacturing accounts for slightly over 20% of the Canadian labor force and somewhat smaller percentage of the unemployed (including the "first job" component). Ontario and Quebec have over 25% of their labor force in manufacturing with unemployment rates similar to the national average unemployment rates. All regions have between 6.3 and 7.1 percent of their labor force in construction but the unemployment rate in this industry varies widely over the regions--British Columbia, Quebec and the Maritimes have unemployment rates substantially above those of Ontario and the Prairies. Therefore, even though unemployment rate differentials in construction contribute to differential regional unemployment rates, the regional distribution of the construction industry, by itself, does not do so. Given the similarity in the interpretations that emerge from an occupation and an industrial classification, the task of completing the industry analysis is left to the reader. Recall, however, that some earlier analysis of the cyclical pattern of the various industries was presented in Table 3.

Sex :

The final panel summarizes some aspects of the male-female distribution of unemployment and of the labor force.[6] Nearly three-quarters of the Canadian labor force in 1961 was male.[7] The percentage of the unemployed who are males is higher than male share of the labor force. This is true for Canada as well as for each of the regions. Expressed differently, the unemployment rate for males is considerably higher than that for females. This suggests that for a given size of a labor force, the greater is the female proportion of that labor force the lower the

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[6] It would have been possible to carry out the analysis of age, education, occupation and industry with a male-female breakdown. This would only serve to clutter an already cramped table.

[7] This percentage has been falling over time. Averaging over the monthly data in 1968, the male percentage of the labor force was 68.7.

unemployment rate will tend to be (other things remaining constant). On these grounds the Maritimes and the Prairies should be disadvantaged. But because of the low unemployment rates in the Prairie region only for the Maritimes would sex composition of the labor force appear to have any explanatory power, at least on the superficial level that we are now concentrating.

More interesting, however, is to try to ascertain just why the female unemployment rate is consistently below the male rate. Table 6 contains part of the answer. Sixty percent of the female labor force is employed in white collar occupations (first row of chart) and another 23% are in the service occupation both of which from our earlier analysis were shown to have low unemployment rates. Only 41% of the male labor force is in these low-unemployment occupations, the bulk of the male labor force being concentrated in the high unemployment occupations. Turning to the educational differences between male and female, Table 6 indicates that for the working-age population 40% of the males have attained only an elementary education while the relevant figure for females is 35%. At the university level, the male population is more educated than the female population. But the story is entirely different when focus is directed to the labor force. The male labor force has an educational distribution that resembles very closely that of the working age population. Not so for females. The female labor force is a very select group of the population, education-wise. Only 25% of the female labor force has less than an elementary education, compared to 40% for males. At the secondary level the percentages are 64 and 49 respectively for females and males. And this educational edge is even greater in the white collar occupations where the bulk of the female labor force is concentrated. (Note, however, that even though 61% of the female labor force is in white collar occupations as against 34% for males, women account for less than half, actually 42%, the white collar labor force, a point to which we shall turn shortly.) For a regional breakdown of male-female education levels, the reader is referred to

Table 6

Population and Labor Force, by Sex, Level of Education and Occupational Group, Canada, January, 1966

	Population 14 years and over		Labor Force, by Occupation											
			All Occupations 100%		White Collar 42.2%		Blue Collar 31.5%		Service 11.5%		Transportation and Communication 5.8%		Primary 9%	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Sex Distribution			100	100	34.3	60.7	39.3	13.0	6.9	22.4	7.1	1.7	12.0	2.2
Sex Composition	.50	.50	.71	.29	.58	.42	.88	.12	.43	.57	.92	.08	.93	.07
Level of Education: Totals	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Elementary	.46	.35	39.9	24.2	14.9	8.2	50.5	56.9	46.3	45.8	49.8		66.9	59.0
Secondary	.48	.56	48.6	64.0	56.1	73.3	47.2	42.2	50.6	52.4	47.8	85.5	31.5	39.2
University	.12	.07	11.5	11.8	29.0	18.5	2.3	.9*	3.1	1.8*	2.4*		1.6	1.8*

Notes: The "white collar" includes persons in managerial, professional and technical, clerical and sales occupations. "Blue collar" occupations consist of craftsmen, production process and related workers and laborers not elsewhere specified. Primary occupations include farmers and farm workers, loggers and related workers, fishermen, trappers and hunters, miners, quarrymen and related workers.

*Based on estimates of less than 15,000 and in two instances not calculable.

Source: M. D. Lagacé, Educational Attainment in Canada: Some Regional and Social Aspects, Special Labor Force Studies, No. 7, D.B.S., October 1968, Tables 3, 4, C.1, F.2, F.3.

return to Table 5. For all regions, the female labor force is substantially better educated than the female working age population. And for all regions the female labor force is also better educated than the male labor force. Furthermore both these findings hold true for the various age groups in Table 5.

At the heart of these educational differences are the differences in male and female participation rates, i.e., the ratio of the labor force to the population for the relevant category such as age. Fifty-three percent of the 14 year and over population is in the labor force. The male participation rate is 76% and the female rate is 30%. These ratios vary considerably across region. The Maritimes have the lowest participation rate (46%) and Ontario the highest (56%). This is true for the males and females as well as for the total labor force. While the female participation rate is very low it has been increasing. The 12-month averages for 1968 reveal that the female participation rate is 34.4% while the male participation rate is 77.0%--a considerable increase in the female ratio.[8] As the female participation rate increases still further one would expect that the education composition of the female labor force will tend to resemble more that of the female population.

Participation rates also vary considerably by age. Virtually all males in the 25-44 population are in the labor force. The Canadian-average participation rate in this age bracket is 96% with British Columbia and Ontario registering 98% and the Maritimes 91%. For women, the highest participation rate is in the 20-24 age group--52% in 1961.[9] Again the Maritimes have the lowest participation

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[8] Taken in June, the Census overestimates the annual average participation rate. In 1961, annual average data show a 28.7 female participation rate and this rate has increased every year.

[9] The 1968 average participation rates in the 14-19, 20-24, 25-34, 35-44, 45-54, 55-64, and 65 and over age groups respectively were as follows: 39%, 64%, 96.7%, 97.4%, 95.2%, 85.4% and 24.4% for men; 31%, 58%, 36%, 37%, 40%, 29%, 5.9% for women. Data are from Special Surveys Division, D.B.S.

rate--46% (British Columbia also has a 46% female participation rate). In the later section dealing with regional incomes, these low Maritime participation rates will play an important role.

While education and occupation composition of the female labor force are surely important factors in explaining the low female unemployment rate, they are not the complete answer because occupation by occupation and industry by industry the rate of unemployment is less than males. Furthermore, the United States pattern of female employment is very similar to that of Canada but the female unemployment rate in the United States, unlike Canada, is consistently higher than the male unemployment rate. Sylvia Ostry offers the following explanation:

> ...Canadian women are less fully "committed' to labor force activity than are women in these other countries. Thus when they lose a job they are less likely to remain in the market looking for work, but instead return to some non-labor force activity. Many desire only intermittent employment and will take a suitable or convenient job when it becomes available without any preliminary period of testing the market. Consequently, to a far greater extent than do men or, evidently, women in many other industrialized countries, Canadian women tend to by-pass unemployment when both entering and leaving employment. If, as appears to be likely, Canadian women become more firmly attached to labor force activity in the future, then the sex differential in unemployment should narrow.[10]

Conclusion

There are several other facets of Canadian unemployed that will not be treated here, for example, the relationship between marital status and unemployment. Briefly, for both sexes, unemployment rates are lowest for married workers.[11]

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[10] Ostry, op. cit., p. 7. Ostry also suggests that some of the difference in U.S. and Canadian unemployment rates of females may be due to a difference in the wording and ordering of questions on the labor force enumeration schedules. These differences, though apparently minor, do suggest that the Americans tend to 'probe' a little more and perhaps pick up more women in both the employed and, more especially, the unemployed counts. Op. cit., p. 7.

[11] For more detail, see Ostry, op. cit., p. 10.

Some further aspects of the occupation and age dimension of regional unemployment will be dealt with in a later chapter dealing with unemployment insurance. In order to conclude rather than merely to end this section we present Ostry's analysis of standardized and actual provincial unemployment rates for 1961 (see Table 7). Standardization as used here refers to the application of Canadian average weights to the different provinces in order to remove that part of provincial variation that results from differences in labor force characteristics. For example, standardization by age would involve applying the Canadian-average age distribution to each of the provincial labor forces. Note that this table is classified by province rather than region. Two actual unemployment rates are shown. The "experienced unemployed" (column 1) refers to industry or occupation unemployment rates and is lower than the "total unemployed" because the unemployed seeking their first job are not included in the former category.

Again it is most convenient to quote directly from the Ostry study:

> ...[The Table] is concerned with exposing interprovincial differences in unemployment rates which stem from differences in risk of being unemployed, province by province, rather than from differences in provincial labor force structure. It is apparent that from Table [7], with very few exceptions, the effects of difference in demographic composition on provincial unemployment rates are very small: standardizing by marital status or residence in combination with age or by age alone in most instances raises or lowers the rates by only a fraction of a percentage point. The same generalization may be made of standardization by level of education as well. One striking exception should be noted, however: if Newfoundland had had the same distribution of labour force by residence (rural farm, non-farm and urban) as did Canada in 1961, the June unemployment rate would have been almost two percentage points (nearly 20 per cent) lower than the recorded rate of 8.6 [columns (6) and (2)]. In general, the effect of standardizing for demographic structure (and education) is to lower the rates in the Atlantic Provinces and Quebec and to raise them (or leave them unchanged) in Ontario and the West.
>
> It appears from Table [7] that interprovincial differences in the "economic" composition of the labour force are more marked than are those in demographic structure. This may be observed in the effect of reweighting unemployment rates in Newfoundland, New Brunswick and the Prairies by the all-Canada occupational and industrial distribution of the work

TABLE 7

COMPARISON OF STANDARDIZED[a] AND ACTUAL UNEMPLOYMENT RATES BY PROVINCE, JUNE, 1961

Province	Actual Rate		Unemployment Rate Standardized on Basis of Distribution of Canadian Labour Force by:						Ratio of Standardized to Actual Rate					
	(1) Experienced Unemployed	(2) Total Unemployed	(3) Occupation	(4) Industry	(5) Marital Status and Age	(6) Residence and Age	(7) Age	(8) Education	(3)/(1)	(4)/(1)	(5)/(2)	(6)/(2)	(7)/(2)	(8)/(2)
	%	%	%	%	%	%	%	%						
Newfoundland	7.4	8.6	5.7	5.7	7.7	6.7	7.6	7.4	.77	.77	.90	.78	.88	.86
P.E.I.	2.1	2.6	2.6	2.5	2.5	2.9	2.5	2.5	1.24	1.19	.96	1.12	.96	.96
Nova Scotia	3.5	4.3	3.4	3.7	4.1	3.9	4.1	4.2	.97	1.06	.95	.91	.95	.98
New Brunswick	5.2	5.9	4.4	4.6	5.7	4.8	5.6	5.2	.85	.88	.97	.81	.95	.88
Quebec	3.7	4.4	3.5	3.6	4.3	4.4	4.2	4.2	.95	.97	.98	1.00	.95	.95
Ontario	2.9	3.3	3.0	3.0	3.5	3.4	3.5	3.4	1.03	1.03	1.06	1.03	1.06	1.03
Manitoba	2.4	2.8	2.8	2.9	2.8	3.0	2.8	2.8	1.17	1.21	1.00	1.07	1.00	1.00
Saskatchewan	1.6	2.0	2.2	2.5	2.0	2.5	2.0	2.0	1.38	1.56	1.00	1.25	1.00	1.00
Alberta	2.4	2.8	2.8	2.8	2.8	3.0	2.8	2.8	1.17	1.17	1.00	1.07	1.00	1.00
B.C.	4.6	5.3	4.6	4.5	5.4	5.3	5.4	5.7	1.00	.98	1.02	1.00	1.02	1.08

[a] Standardization was based on the distribution of the Canadian labour force by sex and: 13 occupation groups; 41 industry groups; 3 marital status and 4 age groups; 3 residence and 4 age groups; 7 age groups; 5 education groups.

Source: S. Ostry, Unemployment in Canada, D.B.S., 1966, Table 15. Data are from the 1961 Census of Canada.

> force. Again, the largest absolute difference (almost two percentage points) between the actual and standardized rates is observed in Newfoundland. Saskatchewan, however, displays the largest relative difference between actual and standardized rates (see right-hand side of Table 7). The unemployment rate in Saskatchewan in June 1961 would have been more than 50 per cent higher than the recorded rate if the industrial deployment of the province's labour force had been the same as that of Canada as a whole. The concentration of agriculture in Saskatchewan--and in the Prairies generally--tends to reduce their unemployment rate relative to the country as a whole.[12]

As a concluding comment it appears evident that even after standardizing by various labor force characteristics "workers are much more liable to suffer unemployment in some regions than in others, i.e., there is a pronounced and "real" geographic profile of unemployment in Canada.[13]

4. Unemployment and Duration

A. Work Pattern Survey Data

Another aspect of unemployment is its duration. A given level of unemployment will render greater hardship if a few people are unemployed for a very long period than if many persons suffer unemployment but each for a very short period. It is hardly surprising to find that the average length of time a person is unemployed depends on the general state of the economy. Thus we find that in 1966, 9.7% of the unemployed were unemployed for seven months or more while in 1961 (a period of low economic activity) 16.7% of the unemployed were without work for a stretch of seven months or more. (Source: Labor Force Survey, D.B.S.). A more detailed analysis of duration and unemployment by labor-

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[12] Osberg, op.cit., p. 30.

[13] Ibid., p. 32.

force characteristic and by region is presented in Table 8. Note that this analysis is for 1964, a year of average unemployment (4.7%) in terms of recent annual unemployment rates. The data for this table are of a different nature from those analyzed above. Specifically, these data are from the Annual Work Pattern Survey for which the reference period is an entire year (in this case, 1964) rather than a particular week or month. Rather than focusing on an "average" rate of unemployment over the year, they focus on the total number of persons experiencing unemployment during the year. Naturally, the unemployment rates generated by this set of data will be considerably greater than those generated on an average monthly or annual basis. In a very real sense, however, these data provide a more complete picture of Canadian unemployment in that they reveal the true extent to which unemployment affects the Canadian labor force. The first column in the table presents the average annual unemployment (where this rate was available) whereas the remaining columns refer to data from the Work Pattern Survey.

The figures in the table are highly fascinating--perhaps more appropriately, highly disturbing. Over 25% of the 14-19 male population were unemployed for some period during 1964 (column 2), compared with an annual average unemployment rate of 12% in this same age category. For the male labor force (14 and over) those experiencing some unemployment represents 17.3% of the male labor force. For females this percentage was 12.6%.[14] For the entire labor

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[14] Again women have lower unemployment rates than men across the board. Above, it was suggested that when females lose their jobs they have a much greater ability than males to withdraw from the labor force as an alternative to looking for work. While data do not permit precise estimates of this phenomenon, Whittingham and Wilkinson were able to calculate the proportion of persons who were in the labor force sometime during the year and as of January of the following year were not in the labor force. The proportion was approximately 3 times greater for females than for males--21.4% as compared with 7.5%--indicating to some extent the greater ability of females to move out of the labor force. Most men who were in the labor force and had some work experience in 1964 but who had withdrawn from the labor force as of January, 1965, did so either to retire or go back to school--32.3% retired and 64.4% were back at school. For females, only 23.3% were back at school while 74.8% were keeping house. These last few sentences are directly from F. J. Whittingham and B. W. Wilkinson, Work Patterns of the Canadian Population, (Special Labor Force Studies, No. 2), D.B.S. 1967, p. 9.

TABLE 8

DURATION OF UNEMPLOYMENT: SOME SUMMARY STATISTICS FOR 1964

Labour Force Group	Annual Average Unemployment Rate (1)	Total Unemployment Rate[a] (2)	Long-term Unemployment Rate[b] (3)	Very Long-term Unemployment Rate[c] (4)	Average Weeks Unemployed[d] (5)	Unemployed Experiencing 2 or More Stretches (6)
	%	%	%	%	mean weeks	
MALES						
14-19	12.0	27.1	13.5	7.2	18.1	[illegible]
20-24	7.9	26.2	11.7	5.1	15.6	[illegible]
25-44	4.2	15.7	6.9	2.5	15.3	[illegible]
45-64	4.5	13.5	8.4	3.7	20.0	[illegible]
65 and over	-	11.5	8.2	4.1	23.1	[illegible]
14 and over	5.3	17.3	8.6	3.7	17.1	[illegible]
FEMALES						
14-19	8.1	23.7	8.8	4.3	14.8	[illegible]
20-24	3.0	14.4	5.7	2.4	14.0	[illegible]
25-44	2.0	10.7	4.7	2.4	15.9	[illegible]
45-64	2.1	7.8	4.2	2.0	18.9	[illegible]
65 and over	-	5.2	2.5	1.5	19.5	[illegible]
14 and over	4.1	12.6	5.3	2.6	15.4	[illegible]
INDUSTRY						
Agriculture	1.7	6.1	3.3	1.5	19.7	[illegible]
Other Primary	18.8	41.8	26.5	11.8	19.0	[illegible]
Manufacturing	4.1	16.6	6.4	2.5	13.6	[illegible]
Construction	12.8	39.1	21.9	7.5	17.2	[illegible]
Transportation	4.3	13.6	7.5	3.0	17.6	[illegible]
Trade	3.3	12.1	5.0	2.2	14.4	[illegible]
Finance	2.8	8.7	2.7	1.3	11.7	[illegible]
Service	2.8	10.4	5.1	2.5	17.0	[illegible]
Public Administration		11.2	5.8	2.7	17.5	[illegible]
OCCUPATION						
Managerial	1.8	3.6	1.7	0.8	15.9	[illegible]
Professional and Technical	1.8	4.3	1.7	0.9	14.8	[illegible]
Clerical	1.8	11.5	3.9	1.6	12.6	[illegible]
Sales	1.8	10.9	4.9	2.1	15.2	[illegible]
Agriculture	-	6.3	3.5	1.5	18.1	[illegible]
Other Primary	-	47.3	32.1	14.3	20.7	[illegible]
Service	4.2	14.3	7.1	3.6	17.1	[illegible]
Transportation and Communication	3.0	20.2	10.0	3.4	15.7	[illegible]
Craftsmen, production process and Related Workers	5.5	20.6	8.6	3.1	16.1	[illegible]
Labourers n.e.s.	15.1	36.8	22.9	10.3	20.1	[illegible]
REGIONS						
Atlantic	7.8	23.5	15.7	8.0	21.7	[illegible]
Quebec	6.4	18.7	10.1	4.3	17.7	[illegible]
Ontario	3.3	12.9	5.1	2.2	16.5	[illegible]
Prairies	3.1	11.9	5.3	2.3	16.8	[illegible]
British Columbia	5.3	16.0	6.4	2.4	[illegible]	[illegible]
Canada	4.7	15.6	7.6	3.3	16.7	[illegible]

[a] Number of persons with some unemployment during 1964 as percentage of number of persons in labour force during 1964.

[b] Number of persons unemployed 14 weeks or more as percentage of number of persons in labour force during 1964.

[c] Number of persons unemployed 27 weeks or more as percentage of number of persons in labour force during 1964.

[d] Total number of weeks of unemployment experienced by unemployed in 1964 divided by number of persons with some unemployment experience during 1964.

Source: Ostry, op. cit., Table 12. Based on data from Annual Work Pattern Survey, taken in conjunction with Labour Force Survey, January 1965.

force, 15.6% experienced unemployment during 1964 (see last row), more than three times the 4.7% annual average rate. On a regional basis the results are even more striking. Nearly one-quarter of the Atlantic labor force experience some unemployment in 1964. But not only did a greater proportion of Maritime labor force experience unemployment, the average weeks unemployed was also the greatest in the Maritimes (21.7) weeks). Looked at from a different angle, the Atlantic region experienced the greatest long-term (14 weeks or more) and very long-term (27 weeks or more) unemployment rates--15.7 and 8.0 respectively. This very long-term unemployment rate was nearly twice as large as that for Quebec and more than three times as large as the rates for the other regions. Finally, the proportion of the unemployed experiencing two or more stretches of unemployment is nearly 50% for the Maritimes, once again higher than any other region. All in all, this is a rather grim picture of the Atlantic unemployment scene.

Following through with the regional analysis, the pattern for British Columbia is rather interesting. On an annual average basis, its unemployment rate is above the national average. However, its long-term and very long-term unemployment rates are substantially below the Canadian average. In terms of average weeks unemployed its rate is below that for the Prairies. And in terms of the proportion of the unemployed experiencing more than one stretch of unemployment, it has the lowest rate of all. Thus, as Ostry points out, unemployment in British Columbia is much more clearly of a short-term and non-recurring nature than in Quebec which had a similar over-all level of unemployment in 1964.[15]

Table 8 also provides further insight on the unemployment situation of the Prairies. Despite the fact that the total unemployment for the Prairies is below that of Ontario, i.e. 11.9% vs. 12.9%, largely reflecting the extremely low total

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[15] Ostry, op. cit., p. 25.

agricultural unemployment rate (6.1%), the long- and very long-term unemployment rates are slightly above those for Ontario. And the average weeks unemployed as well as the likelihood of a recurrence of unemployment are considerably above the percentages for Ontario.

Again the reader is encouraged to complete the analysis of the table. One point worthy of notice, however, is the pattern of unemployment experience by age group. As mentioned above, 27% of the 14-19 male labor force experienced unemployment in 1964 compared to only 13% in the 45-64 age group. Yet in terms of weeks unemployed, the younger age class averaged 18.1 compared to 20.0 for the 45-64 group. Why this is so is not immediately obvious. In part, the 14-19 age group is not as committed to the labor force as the older group and may simply remove themselves from the labor force if employment conditions look bleak (to return to school, for example). In addition, there is probably a greater tendency for an older unemployed worker to "wait it out" and hope to get rehired by the same company. This would be especially true if considerations of retraining or pension rights were involved. As a final comment on the table, note that the greatest average unemployment periods are experienced by laborers (30.1 weeks)--an indication of the relationship between duration of unemployment and the skill level of the worker.

Pockets of Unemployment

In a recent article in the Canadian Journal of Economics S. F. Kaliski[16] sheds new light on the problem of regional unemployment in Canada. There is much to recommend in this article but for present purposes focus is directed only to Kaliski's analysis of the duration of unemployment. Table 9, reproduced from his article, forms the basis for the discussion that follows. Kaliski's data

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[16] "Structural Unemployment in Canada: Towards a Definition of the Geographic Dimension," Vol. 1, No. 3, (August, 1968) pp. 551-565.

TABLE 9

LOCAL OFFICE AREA ON DATA PERSISTENCE OF HIGH AND LOW RATIOS UNEMPLOYMENT RATE RELATIVE TO CANADA AS A WHOLE

Base year	Number of areas high* in base year	Number of areas remaining high* in					
		1960	1961	1962	1963	1964	1965
1960	25	25	22	23	22	22	19
1961	25	22	25	23	23	23	20
1962	26	23	23	26	23	24	21
1963	26	22	23	23	26	23	21
1964	28	22	23	23	25	28	24
1965	24	20	20	21	21	24	24

Base year	Number of areas low[1] in base year	Number of areas remaining low[1] in					
		1960	1961	1962	1963	1964	1965
1960	26	26	20	14	13	13	11
1961	24	20	24	15	15	14	14
1962	17	14	15	17	15	14	11
1963	21	14	16	15	21	19	16
1964	20	12	13	13	18	20	16
1965	20	11	14	11	15	16	20

*High: exceeding Canada mean by more than one standard deviation.

[1]Low: falling below Canada mean by more than one standard deviation.

Source: Table IX of Kaliski, op. cit., p. 560.

consisted of registrations for employment at the end of each month at some 200 local offices of the National Employment Service. A matched set of annual estimates of wage-earners or paid workers both employed and unemployed for 1960-65 based on a 1961 census benchmark were obtained from the Department of Labor. Kaliski then formed the ratio of weighted-average monthly registrations to the wage-earner estimates to serve as an indicator of the level of unemployment in a given year. In the first half of the Table we reproduced, Kaliski focuses on those local offices with unemployment rates exceeding the Canadian average unemployment rate (average of all local office rates) by more than one standard deviation. This is done for each of the 6 years. Then he ascertains, for each "base" year, how many of the local areas remain above the national average by more than the one standard deviation for each of the other years. Take 1961, for example. Twenty-five local areas were classified as having "high" unemployment rates in that year. In 1960, 1962, 1963, 1964, 1965, 22, 23, 23, 23, and 20 of these same local areas respectively were still considered "high".[17] The Table indicates that of those areas "whose unemployment rate exceeded the national average by more than one standard deviation in any one year of the period, at least three quarters, and more typically 80% or more, remained in this 'high unemployment' category in every other year."[18] This suggests that there is not much mobility out of the high unemployment regions. In this sense, there are "pockets" of unemployment in Canada. For areas of low unemployment this "mobility" is considerably higher. For example, only 40% of those areas designated as low unemployment areas in 1960 were so designated in 1965.

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[17] As Kaliski points out this does not mean that unemployment rates in these areas did not move with the national average rate. Quite the opposite is true. But they did remain at least one standard deviation above the national average rate.

[18] Ibid., pp. 561-2.

The relationship of these results to the duration of regional unemployment is that the areas of high unemployment were overwhelmingly found in Quebec and the Maritimes and those of low unemployment in Ontario and the Prairies. There are only eleven of the high areas that are not in either Quebec or the Atlantic provinces and only 10 of the low areas that are not in the Prairies or Ontario. And in each case only one of these "outliers" remained in for the whole 5 years. Thus, in Kaliski's words,[19]

> The results do not suggest, as they might well have done, that each region's good and bad areas are equally good and bad and the only difference is the relative frequency of their occurrence. What the results do show is that there is a considerable overlapping in the incidence of unemployment between areas located in regions of above and below average unemployment and that within each region the areas of high or low unemployment are largely identifiable and persistent,[20] rather than accidental group changing from year to year. They are, therefore, likely to be pockets of exceptionally heavy structural (including frictional and seasonal) unemployment rather than be temporarily disadvantaged by the stage of the business cycle or for some accidental reason.

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[19] Op. cit., p. 563.

[20] This statement refers to an additional bit of analysis conducted by Kaliski where he formed regions and investigated the degree to which areas of high unemployment (relative to the regional mean) remained high for all years. The extent of pockets of high unemployment relating to their own region was not as striking, but it still remained high (about 55%).

5. Regional Income Differentials

In this last section of the chapter, we broaden our horizon somewhat and consider regional income differentials. As one would expect, regional unemployment rates play a major role in Canadian income differentials. But the importance of regional income differentials to an analysis of unemployment is much greater than this. Disparate unemployment rates over time indicate that something has gone awry with the adjustment process. Another indication of a faulty adjustment mechanism is a large differential in regional incomes. Faced with either unemployment or low income levels labor should, other things equal, relocate in regions where the chances of becoming employed or increasing one's income (whichever the case may be) are greatest. It is important to investigate the extent of the correlation between unemployment levels and low incomes. If income level is not well correlated with unemployment rates then the adjustments process becomes more complicated in the sense that it becomes more difficult to predict the optimal reallocation of the labor force.

The framework for the analysis of regional income differentials is adopted from an ingenious Economic Council study written by Frank Denton.[21] He expresses earned income per person as a product of four ratios: earned income per person employed; the employment rate; the labor-force participation rate; and the ratio of labor-force source population to total population. Notationally:[22]

$$(1) \quad \frac{Y^e}{N} = \left(\frac{N'}{N}\right)\left(\frac{L}{N'}\right)\left(\frac{E}{L}\right)\left(\frac{Y^e}{E}\right) \quad .$$

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[21] F. T. Denton, An Analysis of Interregional Differences in Manpower Utilization and Earnings, Economic Council of Canada (Staff Study No. 15), Ottawa: Queen's Printer, 1966.

[22] This formula appears on p. 19 of Denton, op.cit.

where Y^e is earned income

N is total population

N' is labor force age population (population 14 years of age and over excluding inmates of institutions and Indians living on reserves).

L is labor force

E is employment.

Columns labelled (1) through (5) of Table 10 provide data on the five ratios represented in equation 1. The product of columns (2) through (5) yields the income earned per person shown in the first column. The identity holds because the earned income per person employed, column (5), is derived from the other four. The remaining columns are included to facilitate the analysis that follows. Except for the 1965-7 data Table 10 merely pulls together several of Denton's tables (see notes beneath Table 10).[23]

Earned income per employed person (column (5)) exhibits continual growth for all regions. (Note that these data are current dollars per employed worker so they do not represent "real" income increases). However, there are substantial differences in the regional figures. This is clearly evident from column (5a) where the regional levels of income per employed worker are expressed as a per cent of the national level. The Maritimes are the worst off, income-wise, averaging about four-fifths of the national level in the post-war period while Quebec has averaged about 90% of the Canadian level. Ontario and British Columbia possess income-per-worker levels clearly above the national average throughout

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[23] In extending Denton's tables to include the 3 year averages for 1965-7, some difficulties arose in duplicating his results. The figures in column 1 are virtually identical and those for column 4 are also identical to his. For the 1961-64 period our figures for columns 2 and 3 are slightly lower than Denton's. Perhaps these data have been revised since he used them. We are currently checking this further. The next draft of the paper will present consistent figures. The 1965-7 results must be viewed with this in mind.

TABLE 10

FACTORS CONTRIBUTING TO DIFFERENCES IN EARNED INCOME PER PERSON
4-YEAR AVERAGES, 1949-1967*

	Earned Income for Labour Force Source Population		Labour Force Source Population as Proportion of Total Population	Labour Force Participation Rate	Employment Rate	Earned Income Per Person Employed		Average Hours Per Week in Manufacturing
	$	As Percent of Canada Average				$	As Percent of Canada Average	
CANADA								
1949-1952	980		.704	.539	.969	2,437		41.5
1953-1956	1,[illegible]		.656	.536	.962	2,950		41.0
1957-1960	1,169		.674	.544	.946	3,392		40.4
1961-1964	1,[illegible]12		.661	.544	.943	3,810		40.6
1965-1967	1,659		.673	.549	.961	4,675		40.7
ATLANTIC REGION								
1949-1952	560	.820	.665	.493	.938	1,821	.747	43.5
1953-1956	654	.831	.659	.476	.941	2,265	.768	41.3
1957-1960	781	.843	.641	.484	.899	2,694	.794	41.1
1961-1964	893	.838	.645	.487	.907	3,033	.796	40.7
1965-1967	1,140	.687	.652	.484	.932	3,878	.830	40.9
QUEBEC								
1949-1952	736	.822	.674	.540	.962	2,104	.863	43.5
1953-1956	884	.847	.664	.538	.948	2,607	.884	42.2
1957-1960	998	.854	.658	.539	.921	3,055	.901	41.4
1961-1964	1,139	.868	.663	.529	.925	3,515	.923	41.6
1965-1967	1,538	.926	.675	.572	.949	4,197	.898	41.6
ONTARIO								
1949-1952	1,073	1.200	.736	.558	.978	2,673	1.097	41.4
1953-1956	1,251	1.198	.713	.565	.972	3,199	1.085	40.7
1957-1960	1,399	1.197	.695	.572	.954	3,695	1.089	40.3
1961-1964	1,543	1.176	.686	.570	.959	4,113	1.080	40.9
1965-1967	1,899	1.145	.685	.571	.973	4,997	1.069	40.7
PRAIRIE REGION								
1949-1952	964	1.077	.700	.540	.980	2,600	1.067	41.4
1953-1956	1,048	1.004	.682	.523	.976	3,010	1.020	40.2
1957-1960	1,142	.977	.666	.544	.966	3,262	.962	40.0
1961-1964	1,302	.993	.660	.558	.962	3,676	.965	39.8
1965-1967	1,683	1.014	.662	.557	.976	4,687	1.003	39.9
BRITISH COLUMBIA								
1949-1952	1,[illegible]49	1.173	.745	.519	.960	2,864	1.175	37.8
1953-1956	1,[illegible]27	1.194	.713	.515	.962	3,529	1.196	38.1
1957-1960	1,[illegible]35	1.161	.696	.522	.930	4,011	1.186	37.7
1961-1964	1,[illegible]83	1.136	.639	.531	.935	4,331	1.137	37.9
1965-1967	1,892	1.140	.693	.549	.954	5,227	1.118	37.8

*Data availability limited the latest period to a three-year average.

Sources: Tables A.1, A.2 and A.3 of Denton, op. cit., Unincorporated business (including farming). Earned income is the sum of labor income, military pay and allowance and net income of Specifically, it is the difference between Table 28 and Tables 34 and 35 in National Accounts: Income and Expenditure, 1967.

the period. The Prairies, possessing the most volatile pattern (due, primarily, to the agricultural base of the region), fluctuate around the national average.

These regional differentials are certainly large and insofar as the ranking of regions by income per worker is concerned they are also very persistent. The question of the constancy of the regional income differentials is more open. Recently there has been considerable attention devoted to the constancy of regional income differentials.[24] It is difficult to render judgment on the degree to which the adjustment mechanism is serving to reduce regional income disparities but it is quite evident that regional disparities are narrowing. Ontario and British Columbia are moving down toward the national average while the Maritimes data exhibit a steadily increasing percentage of the national level. Except for 1965-7, Quebec's income per worker has been moving in the direction of narrowing the differential. In 1949-52, forty-three percentage points separated British Columbia and the Atlantic Region (i.e., 1.175 - .747). In 1965-67, twenty-nine percentage points separated these two regions (1.118 - .830).

Earned income per capital (column 1) is the product of columns 2 through 5. The regional income differentials for this variable are considerably more pronounced than those for earned income per worker--compare columns 1a and 5a--although the rankings are similar. Furthermore these differentials in per capita income are more persistent than those for earned income per worker although they are, nevertheless, narrowing over time. Relative to the national levels, the Maritimes have a very low income level (approximately 70% of the national level in 1965-67). For each of the ratios that contribute to income per capita, the

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[24] For example see M. McInnis, "The Trend in Regional Income Differentials in Canada," The Canadian Journal of Economics, Vol. I, No. 2 (May, 1968) pp. 440-470, who demonstrates the historical constancy of regional income differentials from 1910-1962. It is important to note that McInnis focuses on income per capita (our column 1) rather than income per worker. It is the latter concept that is the relevant one.

Maritimes fare worse than the national standard. This statement can be made even stronger. Earned income per person in the Maritimes is the lowest in Canada because (a) the Maritimes has the lowest labor-force source population as a proportion of total population, (b) they have the lowest labor-force participation rate, (c) they have the lowest employment (highest unemployment) rate and (d) as noted above, they have the lowest level of earned income per worker. And this holds for all five averages since 1949.

Because of its higher employment rate and its higher participation rate Ontario's earned income per person is actually greater than that for British Columbia even though the latter province has a considerably higher level of income per worker. Virtually no differences appear in column 2 for these two provinces. Quebec registers an increase in its relative income per capita for 1965-67 in spite of a decline in its relative earned income per worker (see column 1a and 5a for 1961-64 and 1965-67). In part, this stems from a higher rate of employment (this is true for all regions since 1965-67 is a period of much higher economic activity than 1961-64). More interesting, however, is the large increase in the labor force participation rate in 1965-67 (column 3) and the increase in the labor-force source population as a proportion of the total population (column 2)--both these increases are larger than for any other region. Once again, the Prairie region maintains the Canadian average level of per-capita earned income.

The final column of Table 10 shows the region pattern of the average man-hours per week in manufacturing for the various time periods. Note that British Columbia which has by a considerable margin the highest income per worker, attains this income level in spite of a considerably shorter work week than elsewhere in Canada.

Denton, in his study, seeks to explain these interregional income differentials in terms of regional differences in labor-force characteristics. Factors

such as industry mix, occupation mix, age distribution, and education composition of the labor force, degree of urbanization can account for some part of the regional variations on income per worker. But, in Denton's words "the significant conclusion is a negative one: even at the level of mere statistical distributions, the factors examined do not account for much of the observable variation in earnings: something more must be sought".[25]

As a final comment, the correlation between unemployment levels and levels of income per worker is not all that impressive. The Atlantic region and Quebec both have high unemployment rates and low earnings per worker. But British Columbia with a high unemployment rate has the highest earnings per worker. The Prairies have the lowest unemployment rates but their per-worker earnings fluctuate around the national-average rate. Nevertheless, both these series are similar in that the rankings by region are constant over the recent past and both exhibit a substantial degree of persistency in the sense that the differentials are not narrowing sufficiently quickly. This raises several important implications. For one thing, the theoretical explanation for the disparate unemployment rates if it is to be a valid explanation must also account for the equally disparate but regionally different variations in incomes. For another, why does the regional adjustment process appear to work in so sluggish a manner? These issues are at the heart of a larger study of which this present paper is a part.

Unemployment and Poverty

While poverty as such is not of direct concern to us in this paper, it seems appropriate to conclude with some comments on the relationship between unemployment and poverty. This is especially so since it will

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[25] Denton, op. cit., p. 13. The reader is encouraged to consult the text and various appendices of Denton's book for a valuable elaboration of this point.

highlight a hitherto neglected aspect of unemployment, namely underemployment. Furthermore, the rationale for looking at unemployment rates by region is to indicate that there does exist considerable regional economic variation. Poverty incidence by region will reveal another dimension of the economic conditions across regions. Table 11 presents the relationship among income per worker, unemployment and the incidence of poverty. There is a considerable difference between the regional distribution of employment and the regional incidence of poverty. For example the Prairies with the lowest unemployment rates have the second highest incidence of poverty in 1961. Poverty and income per capita have a much closer relationship. This difference between poverty and unemployment differentials is not very

TABLE 11

Regional Distribution of Income per Worker, Unemployment and the Incidence of Poverty

	Earned Income Per Person 1961-64 $	Unemployment Rate 1961-64 %	Poverty Incidence 1961 %
Atlantic	863	9.3	47.7
Quebec	1139	7.5	30.8
Ontario	1543	4.1	23.0
Prairies	1302	3.8	31.2
British Columbia	1483	6.5	26.9
Canada	1312	5.7	29.1

Source: The first two columns are from the previous table. The figures on poverty incidence are from the Economic Council, "Statistical Tables Relating to the Problem of Poverty", Tables 1 and 5. The poverty line is defined as follows: single persons, $1500; families with two, $2500; families of three, four, and five or more, $3,000, $3,500, and $4,000 respectively.

surprising. Poverty implies a deficiency of goods and services or what is the same, a deficiency of purchasing power. Yet employment does not imply a sufficiency of purchasing power: workers may be underemployed in the sense a) that they are able to work part-time only or b) that they are employed in a position much below their skill level and thus unable to command an income above the poverty line. Ostry investigates this aspect of unemployment and the reader is referred to her analysis for further elaboration.[26] Note that unemployment as the term has been used here and underemployment are similar in that both imply output is not at its maximum possible level. But even full employment defined in the more general sense of an elimination of underemployment as well as unemployment is not likely to eliminate poverty since much of poverty incidence is a result of workers not possessing skills sufficient for them to command the minimum acceptable income level. Full employment may alleviate considerably the economic condition of these workers (in the sense that they are employed rather than unemployed) but elimination of poverty implies an upgrading of their skill levels. In fact upgrading of skill levels may also be required to eliminate unemployment, given the characteristics of the unemployed and the skill requirements of Canadian economy. In any case the elimination of poverty is something more general than the elimination of unemployment.[27]

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[26] Ostry, op. cit., pp. 33-45.

[27] For a more detailed analysis of poverty consult, Fifth Annual Review Economic Council of Canada, Ottawa: Queen's Printer, 1968, Ch. 6 and J. R. Podoluk, Incomes of Canadians, Ottawa: Queen's Printer, 1968, Ch. 8.

APPENDIX

An Analysis of Unemployment Insurance

Unemployment Insurance Data

Unemployment insurance data provide an additional source of information on regionsl unemployment in Canada. In this appendix we will use these data to focus on the age and occupation distribution of unemployment by province and will also bring to light another dimension of the duration of unemployment. In part this appendix provides additional information on various subjects treated in the text.

There are several problems associated with using unemployment insurance data to draw conclusions regarding unemployment in Canada. For one thing, workers with an income over a certain amount ($5,460 in 1967) are not eligible for unemployment insurance. Furthermore, not all people are able to qualify for inclusion under the Unemployment Insurance Act.[1] Nevertheless, the data to have considerable analytical value.

Table I.A.1 presents some summary statistics relating to unemployment coverage for the year 1967. Row 1 presents the labor force for Canada and the provinces as of June 17, 1967 and beneath it is the percentage distribution of the labor force by province. Row three contains figures on the total persons covered by unemployment insurance as of June 1, 1967. Newfoundland, Nova Scotia, Ontario and British Columbia have a greater share of people covered than they have of the

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[1] Specifically, "persons employed in hunting, trapping, private domestic service and teaching are excluded, as are employees of a provincial public service or municipality. Members of the Canadian Armed Forces and police forces are also excluded. Medical, nursing, technical, and domestic staff in hospitals or charitable institutions not carried on for profit do not contribute nor do private duty nurses. An earnings ceiling restricts contributions to employees earning $5,460 or less where the term of employment is hourly, daily, or piece rate in which case contributions are required, regardless of earnings." See 26th Annual Report on Benefit Periods Established and Terminated under the Unemployment Insurance Act, 1967 (DBS 73-201) p. 49.

TABLE I.A.1

SUMMARY STATISTICS RELATING TO UNEMPLOYMENT INSURANCE, 1967

	CANADA	NEWFOUNDLAND	PRINCE EDWARD ISLAND	NOVA SCOTIA	NEW BRUNSWICK	QUEBEC	ONTARIO	MANITOBA	SASKATCHEWAN	ALBERTA	BRITISH COLUMBIA
1. LABOUR FORCE, June 17, 1967	7,659,000	91,000	30,000	255,000	206,000	2,235,000	2,921,000	363,000	345,000	582,000	763,000
2. Percentage Distribution	100.0	1.92	.48	3.24	2.62	28.43	37.16	4.61	4.38	7.40	9.70
3. PERSONS COVERED BY UNEMPLOYMENT INSURANCE, JUNE 1, 1967	4,734,770	97,490	16,280	159,170	119,080	1,326,300	1,890,160	211,390	136,280	286,120	496,760
4. PERCENTAGE DISTRIBUTION OF COVERAGE	100.0	2.05	.36	3.36	2.51	28.01	39.92	4.46	2.87	6.04	10.49
5. PERSONS COVERED AS PERCENT OF LABOUR FORCE	60.24	64.39	42.64	62.41	57.80	59.34	64.70	58.23	39.50	49.16	65.10
6. REGULAR BENEFIT PERIODS ESTABLISHED	955,540	28,155	4,905	39,495	37,345	305,200	334,590	33,770	25,195	42,715	104,170
7. As Percent of Persons Covered	20.18	28.95	30.12	24.81	31.36	23.01	17.70	15.97	18.48	14.92	20.96
8. Distribution of Benefit Periods	100.0	2.94	0.51	4.13	3.90	31.94	35.01	3.53	2.63	4.47	10.90
9. SEASONAL BENEFITS TERMINATED	249,775	22,865	4,805	19,155	21,085	68,270	62,350	8,325	7,170	8,310	27,440
10. As Percent of Persons Covered	5.27	23.51	29.51	12.03	17.70	5.14	3.29	3.93	5.26	2.90	5.52
11. Distribution of Benefit Periods	100.0	9.15	1.92	7.66	8.44	27.33	24.96	3.33	2.87	3.32	10.98
12. TOTAL SEASONAL AND REGULAR BENEFITS AS PERCENT OF PERSONS COVERED	25.45	52.46	59.63	36.84	49.06	28.15	20.99	19.90	23.74	17.82	26.48
13. WEEKS AUTHORIZED ON REGULAR BENEFIT PERIODS ESTABLISHED (AVERAGE)	33.2	30.8	28.7	31.1	28.0	33.7	33.6	33.8	33.3	34.6	32.1
14. WEEKS PAID ON REGULAR BENEFIT PERIODS TERMINATED (AVERAGE)	12.0	15.1	14.1	13.5	13.4	12.4	11.3	12.5	12.1	10.4	11.2
15. EXHAUSTION RATIO ON REGULAR BENEFIT PERIODS TERMINATED	36.9	49.5	49.1	31.4	41.2	25.3	19.3	25.5	25.4	17.9	19.8
16. EXHAUSTION RATIO ON SEASONAL BENEFIT PERIODS TERMINATED	50.2	72.3	64.0	52.4	63.3	45.2	46.7	47.5	38.2	39.4	44.8
17. AVERAGE PAYMENT FOR REGULAR BENEFITS ($)		272.0	296.0	288.0	299.0	263.0	232.0	245.0	240.0	237.0	289.0
18. AVERAGE PAYMENT FOR SEASONAL BENEFITS		330.0	314.0	281.0	284.0	229.0	229.0	237.0	225.0	213.0	264.0

SOURCES: Unemployment Insurance Statistics (Special Data for the Unemployment Insurance Advisory Committee), D.B.S. Labor Division, 1967.
25th Annual Report on the Benefit Periods Established and Terminated under the Unemployment Insurance Act, 1967, D.B.S. 73-201.

labor force (compare rows 2 and 4). On the other hand, Prince Edward Island, Alberta, and Saskatchewan account for a substantially smaller share of persons covered than they do of the labor force. Three-fifths of the Canadian labor force comes under the umbrella of the Unemployment Insurance Act (row 5). But this ratio varies considerably over the provinces--65% for British Columbia to 39.5% for Saskatchewan.

The remainder of the table deals with benefit periods established or terminated under the Unemployment Insurance Act. There are two types of benefits--regular and seasonal. Data for regular benefit periods established in 1967 appear in row 6 and, as a percentage of persons covered, appear in row 7. Twenty percent of persons covered in 1967 established benefit periods in that year.[2] There is a clear geographical pattern in the behavior of this percentage over the provinces. Quebec and the Maritimes have a much larger proportion of their covered persons establishing claims against unemployment insurance. For Prince Edward Island, Newfoundland and New Brunswick the figures are near 30%. For Nova Scotia and Quebec they are approximately 25%. Ontario and the Prairies average about 17% while British Columbia has a 21% rate. Naturally, those provinces with "unemployment rates" higher than the 20.18% Canadian average will have a larger share of the persons claiming benefits than they will have of the persons covered. The distribution of these former figures appears in row 8. Quebec and Ontario each account for about one-third of the regular benefit claimants and British Columbia accounts for another 11%.

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[2] This can be somewhat misleading since it is possible for a person to establish more than one regular benefit period in a year. But well over 90% of the claimants establish only one benefit period per year.

Another 5% of the persons covered receive seasonal benefits (rows 9 and 10).[3] The distribution of seasonal benefits across provinces is considerably more variable than that for regular benefits. The Maritimes have anywhere from 12% to 30% of their persons covered receiving seasonal benefits while the highest percentage for the rest of Canada is 5.52% for British Columbia. Even with this very uneven distribution Quebec, Ontario and British Columbia together account for 60% of all seasonal benefit claimants (row 11). In column 12 we present the sum of the regular and seasonal unemployment rates to obtain a "total" unemployment rate. This rate is very misleading even if one recognizes that a considerable proportion of the population is not eligible for coverage under the Unemployment Insurance Act. For one thing there is no reason why a person could not be counted more than once--establishing both a regular and seasonal benefit period in the same year, for example. Again a clear geographical pattern exists and it is largely consistent with the unemployment rates depicted in Chart I of chapter 1. The Atlantic region has the highest rates followed by Quebec and British Columbia, with Ontario and the Prairies having the lowest rate.

Rows 13 to 16 of Table 1 deal with provincial characteristics of the benefit periods. For a regular benefit the formula adopted provides one week of benefit for every two weeks of contributions within the prior 104 weeks. The maximum is thus 52 weeks. Row 13 presents the weeks authorized on benefit periods established. Not surprisingly these figures are inversely related to the "unemployment rates" in row 12 since where unemployment is more prevalent it is more

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[3] Note that these data refer to seasonal benefits terminated rather than established. Data are not available on the latter basis for the seasonal benefits. This should have virtually no effect on the interprovincial proportions, however. It does mean, however, that some of the seasonal benefits terminated in 1967 were actually established in late 1966 and that those established in 1967 but not terminated by the end of the year are not included.

difficult to establish long benefit-period authorizations. The Atlantic provinces all have average authorizations below the Canadian average level of 33.2 weeks. Within the Atlantic region, Nova Scotia has the longest authorization period and also has the lowest percentage of benefits (seasonal or regular) to coverage (compare rows 12 and 13). Except for British Columbia, the remaining provinces have a higher-than-Canadian average level of weeks authorized on regular benefit periods. Alberta has the highest level of all--34.6 weeks--consistent with its 17.82% "unemployment rate" in row 12.

For weeks paid on regular benefits terminated in 1967 (row 14) the geographical pattern is reversed from that of row 13. Even though the Atlantic region's authorizations are for a shorter period than those elsewhere in Canada, claimants in this region receive benefits for a longer period of time.[4] Again this is hardly surprising in that employment opportunities are not as readily available in the Maritimes as they are in Alberta, for example. Therefore it is consistent to find that for Alberta the average weeks paid on benefits is 10.4 (lowest in Canada) whereas the authorized weeks is 34.6 (highest in Canada). It does, however, shed some additional light on the duration of regional unemployment in Canada. But an even better indication of unemployment duration is presented in rows 15 and 16 of the table. Benefit periods are terminated in two ways, by exhausting or lapsing. If a claimant draws all the benefit to which he is entitled (i.e. is authorized) his benefit terminates by exhaustion. Otherwise it terminates by lapsing--he accepts a job before his authorization period is used up. Approximately 25% of all regular benefit periods terminated in 1967 were terminated by exhaustion (row 15). The exhaustion rate in the

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[4] Again the difference in type of data--periods established in row 13 and periods terminated in row 14--does not alter the geographic patterns described above.

Maritimes is substantially higher than in the rest of Canada. More interesting, however, is the behavior in the remaining regions. Manitoba and Saskatchewan with unemployment rates substantially below those of Quebec (as described in the text of this paper) have virtually the same exhaustion ratios as Quebec. British Columbia, with a high unemployment rate, has one of the lowest exhaustion ratios. These findings generally confirm the geographical duration pattern exhibited by the Work Pattern Survey data in the text, e.g., the unemployment in British Columbia, while high, is of a generally short duration. Seasonal benefit exhaustion ratios are higher than those for regular benefits--over twice as high in terms of national average.

Data relating to the financial flows appear in the last two rows of Table I.A.1--row 17 for the average payment for regular benefits and row 18 for average payment for seasonal benefits. Despite the fact that a) the average weeks authorized under regular benefit periods for the four Atlantic provinces are the lowest in Canada and b) the weekly benefit rate depends on the contribution rate (which in turn depends on the wage rate) and thus is likely to be relatively low for the Maritime provinces, the average payment on regular benefit periods (row 17) is higher in the Maritimes than in the rest of Canada. (There is an exception--British Columbia average benefit rate is one dollar more than that for Nova Scotia). Naturally, it is the high exhaustion ratios in the Maritime provinces that more than offset a) and b) above and lead to greater transfers to this area. For seasonal transfers the disparity is greater still--the average payment in the Atlantic provinces is considerably above that in the rest of Canada.

Age distribution of coverage and benefits under unemployment insurance appear in Table I.A.2. The "all ages" group is reproduced from the previous table for ease of comparison. For each age group figures are presented on a) numbers covered, b) percentage distribution of this coverage by province, c) percentage distribution

TABLE I.A.7

UNEMPLOYMENT INSURANCE BY AGE AND PROVINCE
1967

		CANADA	NEWFOUNDLAND	P.E.I.	NOVA SCOTIA	NEW BRUNSWICK	QUEBEC	ONTARIO	MANITOBA	SASKATCHEWAN	ALBERTA	BRITISH COLUMBIA
All Ages												
Persons Covered by Unemp. Insurance		4,7[illegible]	9?,2??	16,260	159,??0	115,???	1,324,300	1,690,160	211,390	136,280	286,120	452,7?0
As Percent of Canada Total			2.05	0.34	3.36	2.51	28.01	35.92	4.46	2.87	6.04	19.?0
Regular Benefit Periods Estab. as Percent of Canada			2.34	0.51	4.13	3.50	31.94	35.01	3.53	2.63	4.47	10.9?
Unemployment Rates on Regular Benefits		20.18	28.95	30.12	24.81	31.36	23.01	17.70	15.97	18.48	14.92	21.14
[illegible]												
Persons Covered by Unemp. Insurance		35?,??0	7,720	1,020	9,390	8,240	102,690	109,390	13,510	9,000	19,900	26,740
As Percent of Canada Total		?.??*	2.51	0.33	3.05	2.68	33.45	35.35	4.40	2.93	6.49	8.72
Regular Benefit Periods Estab. as Percent of Canada	(8.04)	(11.04)**	3.91	0.54	3.94	4.37	35.30	30.70	2.89	2.79	3.63	9.86
Unemployment Rates on Regular Benefits		25.14	35.09	41.17	32.37	40.59	28.75	21.83	16.54	23.94	14.09	25.61
20-24												
Persons Covered by Unemp. Insurance		87?,??0	18,330	2,730	27,140	20,510	274,860	324,400	37,540	27,100	53,140	85,150
As Percent of Canada Total		18.??*	2.10	0.31	3.11	2.35	31.56	37.24	4.31	3.11	6.10	9.77
Regular Benefit Periods Estab. as Percent of Canada	(15.??)	(1?.??)**	3.62	0.51	3.95	3.61	35.95	31.88	3.10	3.06	4.22	10.??
Unemployment Rates on Regular Benefits		2?.57	29.70	33.69	26.23	31.71	23.49	17.70	14.89	20.35	14.30	22.78
25-34												
Persons Covered by Unemp. Insurance		1,086,6?0	22,790	3,640	34,390	25,320	321,240	426,260	43,420	31,250	68,980	109,970
As Percent of Canada Total		22.95*	2.09	0.33	3.20	2.33	29.56	39.22	3.99	2.87	6.34	10.02
Regular Benefit Periods Estab. as Percent of Canada	(22.61)	(19.33)**	2.87	0.43	3.82	3.57	33.14	35.68	2.76	2.42	4.43	10.84
Unemployment Rates on Regular Benefits		19.88	27.29	25.96	23.75	30.48	22.29	18.08	13.73	16.78	13.88	21.50
35-44												
Persons Covered by Unemp. Insurance		1,01?,500	19,350	3,140	30,780	24,530	275,120	428,740	41,740	26,800	62,410	105,890
As Percent of Canada Total		21.51*	1.89	0.30	3.02	2.40	27.01	42.09	4.09	2.63	6.12	10.39
Regular Benefit Periods Estab. as Percent of Canada	(19.17)	(15.70)**	2.84	0.41	3.88	3.80	30.60	37.49	3.14	2.16	4.46	11.17
Unemployment Rates on Regular Benefits		17.99	26.97	24.20	23.13	28.45	20.38	16.02	13.82	14.77	13.10	19.33
45-54												
Persons Covered by Unemp. Insurance		807,290	16,280	3,180	30,010	21,870	200,580	332,610	40,380	23,570	46,920	91,890
As Percent of Canada Total		17.05*	2.01	0.39	3.71	2.70	24.84	41.20	5.00	2.91	5.81	12.12
Regular Benefit Periods Estab. as Percent of Canada	(14.7?)	(15.64)**	3.15	0.66	4.76	4.37	28.07	35.31	4.20	2.63	4.75	12.0?
Unemployment Rates on Regular Benefits		17.41	27.24	29.55	22.32	28.14	19.67	14.92	14.62	15.74	14.25	18.41
55-64												
Persons Covered by Unemp. Insurance		[illegible]	13,8??	1,950	21,850	14,7?0	12?,350	207,500	26,930	14,640	27,360	58,840
As Percent of Canada Total		[illegible]	2.13	0.38	4.30	2.59	24.28	40.84	5.30	2.88	5.38	11.58
Regular Benefit Periods Estab. as Percent of Canada	[illegible]	(13.??)**	2.86	0.65	5.13	4.97	26.25	34.70	4.68	3.26	5.30	12.10
Unemployment Rates on Regular Benefits		[illegible]	25.29	32.05	22.75	32.44	20.41	16.03	16.69	21.37	18.50	19.73
[illegible]												
Persons Covered by Unemp. Insurance		[illegible]	1,5??	580	5,210	3,9??	28,4??	6?,2?0	7,570	3,920	7,410	15,230
As Percent of Canada Total		[illegible]	1.?3	0.42	3.80	2.63	2?.?9	45.55	5.75	2.86	5.41	11.16
Regular Benefit Periods Estab. as Percent of Canada	[illegible]	[illegible]**	1.12	0.49	4.05	3.67	21.?6	43.51	5.37	3.04	5.66	11.17
Unemployment Rates on Regular Benefits		?.32	[illegible]	32.75	29.05	35.90	2?.??	25.79	25.98	29.59	29.08	27.8?

* [illegible] coverage. These figures sum to 100 percent.
** [illegible] the Canada column is the [illegible] accounted for by the particular age group.
[illegible] number in the Canada column is the percent of all [illegible] benefits accounted for by the particular age group.

[illegible] Table I.A.[illegible]

of benefits by province, and d) "unemployment rate," i.e., ratio of benefits established to coverage in each category by province. The Canada column differs somewhat from this and the asterisks (explained beneath the Table) describe this deviation. The percentage in the Canada column opposite the percent of Canadian total category shows the percent of the relevant age group covered to the total coverage for all ages. For example, the "under 20" category accounts for 6.5% of total coverage. But this age group accounts for 8.06% of the benefit periods established--the leftmost figure of the parenthesized and double-asterisked numbers opposite the "Benefits established ..." category. This enables one to suggest that unemployment insurance results in a transfer of funds to the youngest age group. Using the same two figures, it is also true that the 20-24 and over 65 age categories also account for a greater proportion of benefits than they do of coverage. The right-hand figure of the parenthesized numbers is the ratio of total seasonal benefits accounted for by each age group. This is the only reference to seasonal benefits in the table since no provincial breakdown was attempted. Since the seasonal benefits in Table I.A.1 were so strongly biased in favor of the Atlantic provinces one must assume that this would hold on an age and province breakdown as well. A province by province breakdown for seasonal benefits is not available on the age classification. It is presented for regular benefit periods established, however. The format of the table follows very closely that in the upper panel of the previous table. Provincial percentages of a) Canadian coverage and b) Canadian benefits enable one to ascertain after a fashion whether or not a particular province is a net beneficiary of the insurance scheme. For every age class the four Maritime provinces have a greater share of benefits than they do of coverage.[5] Quebec also shares more in benefits than in coverage for every age

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[5] This is not strictly true. Newfoundland has a smaller percentage of benefits in the 65-and-over class than it has of persons covered.

group. Averaged over all age groups it accounts for 27% of the Canadian coverage but nearly 32% of the benefit periods established. Except for the 45-54 age category British Columbia also accounts for more of the benefits than of the persons covered. Here, however, the differential is not large at all. Manitoba and Ontario, on the other hand, exhibit opposite patterns. For every age group they account for a considerably larger proportion of persons covered than of benefits. Saskatchewan and Alberta, except for one or two instances in the higher-age categories, follow the Ontario and Manitoba pattern. As a final comment on the age category breakdown, note that the seasonal benefits in the all Canada column are even more favorable to the under 20 and over 65 categories than the regular benefits. As with so many other tables in this study the reader has to supply the finer level of analysis on his own, e.g., the behavior of "unemployment rates" over both age category and province (the last row of each classification).

Table I.A.3 presents the Industry breakdown by province. The format is the same as that of the previous table. It is interesting to compare the distribution of coverage under the unemployment insurance program with that of the labor force as a whole. Data for the labor force distribution by industry were not readily available on the precise classification used in Table I.A.3. In its place the reader is invited to substitute the industry composition figures from Table 4 in the text. The distributions differ markedly. For example only .51% of all persons covered under unemployment insurance are in agriculture compared with nearly 10% in the 1961 labor-force composition. The major reason for this is that farmers by and large are not eligible for coverage under the insurance scheme. This is the major reason why in Table I.A.1 Saskatchewan's ratio of covered persons to labor force is so low--less than 40% compared to the national average of approximately 60%. The same goes for Prince Edward Island.

TABLE I.[illegible]

UNEMPLOYMENT INSURANCE BY INDUSTRY AND PROVINCE

[illegible]

		CANADA	NEWFOUNDLAND	P E I	NOVA SCOTIA	NEW BRUNSWICK	QUEBEC	ONTARIO	MANITOBA	SASKATCHEWAN	ALBERTA	BRITISH COLUMBIA
ALL INDUSTRIES												
Persons Covered by Unemp. Insurance		[illegible]	97,230	16,280	[illegible]	119,960	1,326,300	1,890,160	211,390	[illegible]	[illegible]	[illegible]
As Percent of Canada Total		100	2.05	.34	3.36	2.51	28.01	39.92	4.46	2.87	6.04	15.49
Regular Benefit Periods Estab. as Percent of Canada		100	2.34	.51	4.13	3.90	31.94	35.01	3.53	2.63	6.47	10.40
Unemployment Rates on Regular Benefits		29.16	28.95	30.17	24.81	[illegible]	23.92	17.70	15.97	18.48	16.92	[illegible]
AGRICULTURE												
Persons Covered by Unemp. Insurance		24,250	190	110	1,130	710	3,940	10,050	1,110	1,710	[illegible]	2,890
As Percent of Canada Total		.51*	.78	.45	4.74	2.92	16.24	41.44	4.57	7.05	9.63	11.91
Regular Benefit Periods Estab. as Percent of Canada	(1.10)	(1.26)**	1.28	1.28	5.50	2.60	22.50	40.74	5.55	1.07	6.27	12.06
Unemployment Rates on Regular Benefits		43.42	71.03	122.72	50.43	41.54	69.15	42.69	62.16		27.37	[illegible]
FORESTRY												
Persons Covered by Unemp. Insurance		78,840	4,550	90	2,590	[illegible]	[illegible]	12,130	1,130	210	[illegible]	[illegible]
As Percent of Canada Total		1.66*	5.77	.11	3.28	8.44	34.90	15.38	1.43	0.27	3.39	[illegible]
Regular Benefit Periods Estab. as Percent of Canada	(5.48)	(6.30)**	5.94	0.33	3.84	9.57	44.61	12.21	0.72	1.93	1.90	19.83
Unemployment Rates on Regular Benefits		[illegible]	68.46		77.79	75.76	80.56	52.76	33.62	461.36	19.58	52.76
FISHING AND TRAPPING												
Persons Covered by Unemp. Insurance		[illegible]	8,650	1,250	6,760	2,260	[illegible]	740	800	90	150	2,070
As Percent of Canada Total		0.49*	36.77	5.31	28.74	9.59	3.18	3.14	3.40	0.43	0.63	8.80
Regular Benefit Periods Estab. as Percent of Canada	(0.23)	(6.03)**	18.46	3.37	33.33	10.81		6.30	3.15			22.74
Unemployment Rates on Regular Benefits		9.43	4.73	6.[illegible]	10.94	10.61		18.91	8.75			24.39
MINES, QUARRIES AND OIL WELLS												
Persons Covered by Unemp. Insurance		116,420	6,140	10	10,820	3,050	25,560	39,180	4,380	4,870	11,930	10,550
As Percent of Canada Total		2.45*	5.27	.05	9.27	2.57	21.95	33.65	3.76	4.18	10.24	9.06
Regular Benefit Periods Estab. as Percent of Canada	(1.81)	(1.40)**	5.28	.72	12.88	4.30	21.14	19.58	4.04	4.59	14.33	13.14
Unemployment Rates on Regular Benefits		14.86	14.90		20.64	24.83	14.31	8.65	15.98	16.32	20.78	21.56
MANUFACTURING												
Persons Covered by Unemp. Insurance		1,704,170	16,890	2,250	38,150	31,240	551,150	817,210	54,490	17,960	51,580	125,270
As Percent of Canada Total		35.99*	0.87	0.13	2.23	1.83	32.34	47.95	3.19	1.05	3.02	7.35
Regular Benefit Periods Estab. as Percent of Canada	(34.09)	(24.63)**	1.58	0.29	3.36	2.95	32.53	46.37	2.36	0.82	2.09	7.59
Unemployment Rates on Regular Benefits		19.11	34.62	42.22	28.71	30.85	19.23	18.48	14.16	14.96	13.26	19.74
CONSTRUCTION												
Persons Covered by Unemp. Insurance		384,940	13,830	1,880	14,420	11,200	104,900	136,930	13,810	16,370	28,210	43,370
As Percent of Canada Total		8.13*	3.59	0.48	3.74	2.90	27.25	35.57	3.58	4.25	7.32	11.26
Regular Benefit Periods Estab. as Percent of Canada	(19.21)	(17.37)**	4.26	0.50	3.85	3.68	33.22	31.21	3.55	3.65	5.66	10.35
Unemployment Rates on Regular Benefits		47.68	56.65	48.93	49.13	60.44	58.14	41.84	47.24	41.02	36.86	43.83
TRANSPORTATION, COMMUNICATION												
Persons Covered by Unemp. Insurance		519,740	14,660	2,520	21,820	20,010	129,540	165,020	36,550	21,070	36,560	71,890
As Percent of Canada Total		(10.97)*	2.82	0.48	4.19	3.85	24.94	31.75	7.03	4.05	7.03	13.83
Regular Benefit Periods Estab. as Percent of Canada	(8.79)	(8.52)**	4.22	0.79	6.95	5.73	28.87	26.65	6.58	4.31	5.81	9.98
Unemployment Rates on Regular Benefits		16.16	24.21	26.38	26.53	24.06	18.71	13.36	15.14	17.20	13.36	11.67
TRADE												
Persons Covered by Unemp. Insurance		869,800	17,470	4,180	30,300	23,150	222,210	315,170	51,990	39,400	71,970	91,950
As Percent of Canada Total		(18.37)*	2.00	0.48	3.48	2.66	25.54	36.33	5.97	4.52	8.27	10.80
Regular Benefit Periods Estab. as Percent of Canada	(12.00)	(10.66)**	2.95	0.84	3.73	3.65	28.10	32.49	4.86	3.93	5.85	13.55
Unemployment Rates on Regular Benefits		13.18	19.37	23.32	[illegible]	[illegible]	14.50	11.82	10.73	11.45	9.33	15.55
FINANCE, INSURANCE AND REAL ESTATE												
Persons Covered by Unemp. Insurance		[illegible]	1,830	[illegible]	[illegible]	[illegible]	61,930	99,580	10,580	5,950	12,580	21,230
As Percent of Canada Total		[illegible]	0.95	0.31	[illegible]	[illegible]	25.55	41.85	4.93	2.77	5.67	[illegible]
Regular Benefit Periods Estab. as Percent of Canada	([illegible])	[illegible]	[illegible]	[illegible]	3.28	[illegible]	25.05	38.29	4.35	2.59	5.91	11.40
Unemployment Rates on Regular Benefits		9.43	[illegible]	13.[illegible]	[illegible]	14.34	9.17	8.63	7.75	9.15	9.49	[illegible]
COMMUNITY SERVICES AND PERSONAL SERVICES												
Persons Covered by Unemp. Insurance		[illegible]	[illegible]	1,970	16,900	11,390	160,160	223,060	29,960	21,210	[illegible]	77,930
As Percent of Canada Total		(12.51)*	[illegible]	0.32	2.82	1.92	[illegible]	37.34	5.01	3.55	7.93	13.06
Regular Benefit Periods Estab. as Percent of Canada	([illegible])	(11.40)**	[illegible]	0.47	3.20	2.47	29.33	33.05	3.66	3.18	5.49	[illegible]
Unemployment Rates on Regular Benefits		[illegible]	[illegible]	25.12	19.95	27.34	19.17	15.88	12.80	15.70	14.31	20.06
PUBLIC ADMINISTRATION AND DEFENCE												
Persons Covered by Unemp. Insurance		[illegible]	[illegible]	1,190	[illegible]	4,870	29,850	65,050	6,150	7,320	18,990	[illegible]
As Percent of Canada Total		[illegible]	[illegible]	0.65	5.48	2.83	17.35	38.17	3.58	4.25	11.92	[illegible]
Regular Benefit Periods Estab. as Percent of Canada	([illegible])	[illegible]	[illegible]	1.10	4.31	4.40	[illegible]	[illegible]	5.41	5.38	9.16	9.37
Unemployment Rates on Regular Benefits		16.46	[illegible]	11.85	15.20	12.03	[illegible]	11.60	[illegible]	23.90	[illegible]	[illegible]
INDUSTRIES, UNSPECIFIED OR UNDEFINED												
Persons Covered by Unemp. Insurance		[illegible]	[illegible]	[illegible]	710	[illegible]	[illegible]	15,330	[illegible]	220	[illegible]	7,330
As Percent of Canada Total		[illegible]	[illegible]	[illegible]	2.40	[illegible]	[illegible]	51.03	1.41	0.74	2.15	[illegible]
Regular Benefit Periods Estab. as Percent of Canada	([illegible])	(1.22)**	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	14.36	1.70	1.37	1.96	5.32
Unemployment Rates on Regular Benefits		[illegible]	[illegible]	[illegible]	11.80	[illegible]	[illegible]	[illegible]	30.45	[illegible]	[illegible]	30.04

Notes: * See Table [illegible]; ** See Table I.A.2

Source: [illegible] Table I.A.1

By far the largest percentage of persons covered are from the manufacturing industry--35.99% in 1967. Yet only 25% of the regular benefit periods are accounted for by this industry group. Other industry groupings which have a larger share of persons covered than of benefits established are mines, quarries and oil wells, transportation etc., trade, finance etc., and service. On the other side of the ledger are the primary industries, (agriculture and especially forestry and fishing and trapping) construction, and public administration and defense. As far as seasonal benefits are concerned the "net gainers" are again agriculture, forestry and construction, especially the latter two. For both seasonal and regular benefits the unspecified and undefined industry category accounts for a share of the total than is larger than its share of persons covered. Abstracting the dollar amount of benefits being transferred, there is a very considerable disparity in the shares of coverage and of benefits established over industries. On a regular-benefit basis, the prime transfer appears to be from manufacturing, trade, transportation etc., and finance to construction, forestry and fishing and trapping.

Now we turn to the provincial breakdown by industry. The all-industry results are of course identical to the all-age results and need not be repeated. The ratio of benefits established to persons covered in agriculture is 43%--only slightly less than this ratio for construction although the numbers covered in agriculture are extremely small. Any province with a ratio above 43% will be accounting for a greater share of the benefits established than of covered persons. The provincial differences are such that Saskatchewan and Alberta have rates that are substantially lower than the Canadian average with Ontario only slightly lower.[6] For forestry, the transfer is primarily from British Columbia

[6] It is convenient at this juncture to comment on the 122% unemployment rate for Prince Edward Island in agriculture and the 40% rate for Saskatchewan in

and Alberta to New Brunswick. Quite interestingly, in fishing this transfer is from Newfoundland, Prince Edward Island, and Quebec to Nova Scotia, Ontario, and British Columbia. (This is for regular and not for seasonal benefits). For mining, Ontario has a much smaller proportion of benefits than of coverage and this is offset by Nova Scotia, New Brunswick, Alberta and British Columbia. Virtually no differences exist in manufacturing, most provinces having very similar proportions of benefits established and coverage. The construction industry has the highest "unemployment rate," nearly 50%. Newfoundland, New Brunswick and Quebec have rates considerably above this while the opposite is true for Ontario, Saskatchewan, Alberta, and to some extent British Columbia as well. Continuing with this very tedious approach, the pattern for transportation etc. is a more familiar one--Quebec and the Maritimes above the average unemployment rate with the remainder of the provinces below it. Much the same is true for trade except that British Columbia is above the national rate. This latter pattern holds as well for community services and personal services. The deviations for finance, business and real estate are not large: British Columbia accounts for a greater proportion of benefits than of coverage (i.e., it has a higher-than-national-average unemployment rate) and the opposite is true for Prince Edward Island and New Brunswick. In public administration and defence Quebec has a very large "unemployment rate" and

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forestry. Emphasis will be placed on the logging example. The survey of persons covered takes place in June, a time of rather low employment in logging. Benefit periods are the total established for the year. Forestry has one of the highest job-turnover rates--the rate of hiring and firing in forestry is two to three times the all-industry rate. Furthermore, a claimant is categorized by industry of attachment when the claim is made. It is quite possible that the authorization may have been established in a different industry. In addition it is also possible to file for a claim in a province different from that in which the benefit authorization was established. Finally, it is, as mentioned previously, possible for one person to establish more than one benefit period in a year, although the proportion who do this is rather small. In sum, it is quite possible for these data to be quite misleading and difficult to interpret especially when the number of persons covered is rather small as it is in the two cases cited.

British Columbia has one of its lowest industry unemployment rates (relative to the national average.)

In general, then, the distribution of industry coverage and industry benefits established by province differ quite markedly. But to repeat, these results are far from conclusive. Only 60% of the Canadian labor force is covered by unemployment insurance. And the analysis is only for one year: there may be considerable variation from year to year especially for those categories containing small proportions of the persons covered. But these patterns are, nevertheless, in sharp contrast to the rather constant patterns obtained in the age classifications in Table I.A.2.