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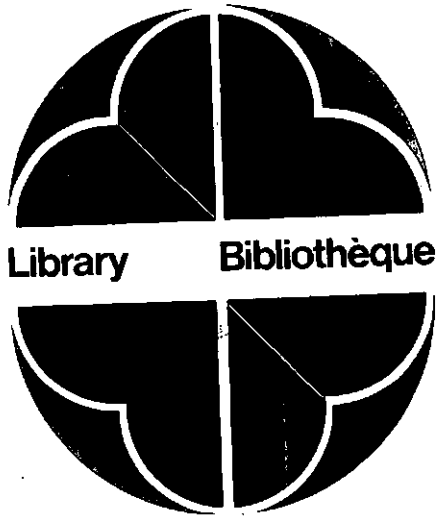
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Unemployment in Canada

BY SYLVIA OSTRY



THE CENSUS MONOGRAPH
TORONTO BUREAU OF STATISTICS



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Unemployment in Canada

by
Sylvia Ostry

ONE OF A SERIES OF LABOUR FORCE STUDIES
in the
1961 CENSUS MONOGRAPH PROGRAMME

DOMINION BUREAU OF STATISTICS
OTTAWA, CANADA
1968

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Foreword

The Canadian Censuses constitute a rich source of information about individuals and their families, extending over many years. The census data are used widely but it has proved to be worthwhile in Canada, as in some other countries, to supplement census statistical reports with analytical monographs on a number of selected topics. The 1931 Census was the basis of several valuable monographs but, for various reasons, it was impossible to follow this precedent with a similar programme until 1961. Moreover, the 1961 Census had two novel features. In the first place, it provided much new and more detailed data, particularly in such fields as income, internal migration and fertility, and secondly, the use of an electronic computer made possible a great variety of tabulations on which more penetrating analytical studies could be based.

The purpose of the 1961 Census Monograph Programme is to provide a broad analysis of social and economic phenomena in Canada. Although the monographs concentrate on the results of the 1961 Census, they are supplemented by data from previous censuses and by statistical material from other sources. The present Study is one in a Series on the Canadian labour force. In addition to these Labour Force Studies, monographs will be published on marketing, agriculture, education, fertility, urban development, income, immigration, and internal migration.

I should like to express my appreciation to the universities that have made it possible for members of their staff to contribute to this Programme, to authors within the Dominion Bureau of Statistics who have put forth extra effort in preparing their studies, and to a number of other members of DBS staff who have given assistance. The Census Monograph Programme is considered desirable not only because the analysis by the authors throws light on particular topics but also because it provides insight into the adequacy of existing data and guidance in planning the content and tabulation programmes of future censuses. Valuable help in designing the Programme was received from a committee of Government officials and university professors. In addition, thanks are extended to the various readers, experts in their fields, whose comments were of considerable assistance to the authors.

Although the monographs have been prepared at the request of and published by the Dominion Bureau of Statistics, responsibility for the analyses and conclusions is that of the individual authors.

Harold G. Duffett.

DOMINION STATISTICIAN.

Preface

This is one in a series of studies dealing with selected aspects of the labour force in Canada as revealed, in the main, by the 1961 Census. The present study focuses on the profile of unemployment in Canada and, for this purpose, draws on a variety of household survey data (both Census and Sample) much of which was previously unpublished. The author would like to thank members of the Census Division of the Dominion Bureau of Statistics and also Miss J.R. Podoluk and Mrs. G. Oja, Co-ordinator and Chief, respectively, of Consumer Finance Research; Mr. W.A. Nesbitt, Assistant Director, Special Surveys Division; Mrs. May Nickson of the Labour Division; and Mr. F.T. Denton, Director, Econometric Research, for their co-operation and assistance. Appreciation is also extended to Mr. N.H.W. Davis for preparing the regression results in Appendix B. The usual observation with respect to the author's responsibility for error, of course, applies.

Sylvia Ostry,
*Director, Special Manpower Studies and
Consultation, DBS*

OTTAWA, 1968



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1. Introduction

The broad outline of the course of unemployment in Canada since the end of the War is well known and there is no need for recapitulation here.¹ In Table 1 and Chart 1, it may be observed that while overall levels were generally low for the first postwar decade (averaging less than 3½ per cent for the period 1946-56) there was a sharp increase in rates after 1957 which persisted well into the 1960s. The deterioration of employment conditions after 1957 generated a lively debate in both Canada and the United States (where similar conditions prevailed) over the source of the higher level of unemployment and the most appropriate policy measures which should be adopted to combat it.² A survey of the literature suggests that the theoretical controversy is by no means settled, although public interest in the debate dwindled as unemployment levels moderated.

¹ See, for example, *The First Annual Review of the Economic Council of Canada* (Ottawa: Queen's Printer, December, 1964), Chapter 2.

² Cf. bibliography cited in Frank T. Denton and Sylvia Ostry, *An Analysis of Post-War Unemployment*, Economic Council of Canada, Staff Study No. 3 (Ottawa: Queen's Printer, 1964), p. 6. Also Barbara Berman and David E. Kaun, "Characteristics of Cyclical Recovery and the Measurement of Structural Unemployment", Washington, Brookings Institution, mimeographed, no date. For most recent review of the literature in the United States, see Eleanor G. Gilpatrick, *Structural Unemployment and Aggregate Demand* (Baltimore: 1966).

**Table 1 - Unemployment Rates, Canada, 1946 to 1966,
Annual Averages**

NOTES.— Rates from 1946 to 1952 inclusive have been adjusted for inclusion of Newfoundland and timing of the Labour Force Survey which was conducted quarterly before November 1952.

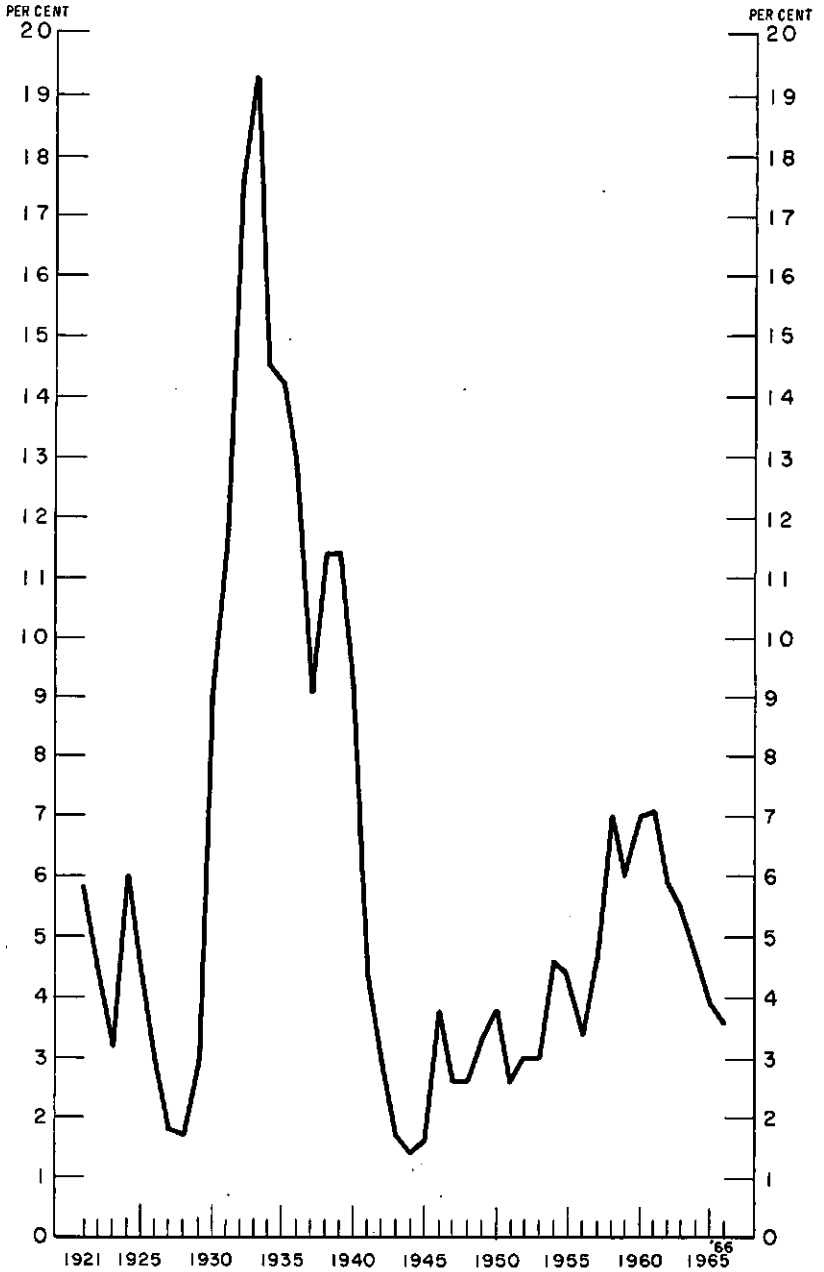
Rates from 1956 to 1966 are based on estimates revised to take account of 1961 Census population counts.

Year	Unemployment rate	Year	Unemployment rate
	%		%
1946	3.8	1957	4.6
1947	2.6	1958	7.0
1948	2.6	1959	6.0
1949	3.3	1960	7.0
1950	3.8	1961	7.1
1951	2.6 ←	1962	5.9
1952	3.0	1963	5.5
1953	3.0	1964	4.7
1954	4.6	1965	3.9
1955	4.4	1966	3.6
1956	3.4		

SOURCE: Based on data from *Labour Force Surveys*.

CHART-1

UNEMPLOYMENT RATES IN CANADA: 1921 TO 1966



The Census year, 1961, was one of high unemployment—by postwar standards (see, however, the period of the 1930s in Chart 1 for a longer-run view). The average annual rate, as measured by the Monthly Labour Force Survey, was just over 7 per cent. Of course, at the time of the year at which a census enumeration is taken—largely during the first two weeks in June—unemployment would be lower than this, for seasonal reasons. The 1961 Census recorded a figure of 251,000 persons “looking for work” or 3.9 per cent of the current labour force. However, the May-June average rate from the Labour Force Survey in 1961 was 6.2 per cent, considerably higher than the Census figure. *Appendix A* outlines the main reasons for the difference between the Census and Survey counts but it is apparent that, when all factors have been considered, there is some degree of understatement in the Census total of “persons looking for work”. This, unfortunately, limits the analytical usefulness of the Census data and for this and other reasons the writer draws on a variety of other sources when preparing portions of this Study.

Four broad topics are discussed: first, a review of the composition of unemployment, in answer to the question, “Who are the unemployed?”; second—another issue of some concern to manpower analysts—the extent and nature of “underemployment” in Canada (measured unemployment represents only one form of under-utilization of manpower resources and some additional information on part-time or part-year work is necessary to complete the picture); third, the impact of unemployment on the family, a matter of importance to policy makers charged with evaluating the welfare implications of joblessness; fourth, unemployment and associated income loss to individuals and to families.

2. The Characteristics of the Unemployed

In discussing unemployment, as in discussing all economic phenomena, it is important to look behind the total figure or summary rate. Whether unemployment is high or low, its incidence is always uneven by personal or social characteristics of individuals or by economic or regional characteristics of groups. To some degree, the incidence is related to the level of unemployment.¹ But it is, in fact, a matter of *degree* and the *main* features of the "profile of unemployment" within a given country do not change radically except under conditions of profound institutional or economic transformation. What follows is for the most part a description of the characteristic profile of unemployment in postwar Canada because the lack of firm historical data precludes any intensive analysis of earlier years. A more systematic exposition of the unemployment profile, based on regression analysis of the 1961 Census data, is provided in *Appendix B*.

AGE AND SEX

Age and sex are major correlates of both the rate and, as will be seen later, the duration of unemployment. As Table 2 indicates, the rates for males over the years have always been a good deal higher than for females, although the disparity between the two worsens as the general level of unemployment rises. That this relationship between the unemployment rates of the two sexes is a long-standing one in Canada is attested by the fact that in June 1931, during the depression, the percentage of males not at work was 21 per cent, of females 9 per cent.²

This variation of unemployment by sex is observed in all countries for which comparable information is available. But what is peculiar to Canada is the *direction* of the variation. The "Gordon Committee" in the United States (the President's Committee to Appraise Employment and Unemployment Statistics) in the course of a careful appraisal of comparative

¹ Denton and Ostry, *op. cit.*, pp. 6-18.

² Canada, Dominion Bureau of Statistics, *Census of Canada, 1931*, Volume XIII, *Monographs, Unemployment* (Ottawa: King's Printer, 1942), p. 235.

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levels of unemployment in industrial countries, remarks that while unemployment rates are generally higher for women than for men, "Canada is a striking exception".¹

Table 2 - Unemployment Rates, by Sex, Canada, 1946 to 1966, Annual Averages

NOTES.— Rates from 1946 to 1952 inclusive have been adjusted for inclusion of Newfoundland and timing of the Labour Force Survey which was conducted quarterly before November 1952.
Rates from 1956 to 1966 are based on estimates revised to take account of 1961 Census population counts.

Year	Unemployment rate		Year	Unemployment rate	
	Males	Females		Males	Females
	%	%		%	%
1946	4.2	2.4	1957	5.3	2.3
1947	2.9	1.7	1958	8.1	3.6
1948	2.8	1.8	1959	6.9	3.0
1949	3.6	1.9	1960	8.1	3.6
1950	4.2	2.4	1961	8.4	3.7
1951	2.8	2.1	1962	6.9	3.3
1952	3.2	2.2	1963	6.4	3.3
1953	3.4	1.6	1964	5.3	3.1
1954	5.1	2.6	1965	4.4	2.7
1955	4.9	2.6	1966	4.0	2.6
1956	3.9	1.9			

SOURCE: Based on data from *Labour Force Surveys*.

The lower unemployment rates for women (relative to men) in Canada undoubtedly stem from a number of factors. The female labour force is concentrated in those sectors of the economy (white collar work, tertiary industries) which are generally less susceptible to unemployment. But the female unemployment rate, occupation by occupation and industry by industry, is usually lower than the male rate, so that the compositional factors cannot provide the full answer. (Moreover, the American pattern of female employment is very similar to the Canadian, but the over-all unemployment level of women in the United States has been consistently higher than that of males.)

Another possible background condition explaining the sex differential in unemployment rates in Canada vis-à-vis the situation in the United States and other advanced industrial countries is that Canadian women are

¹ *Measuring Employment and Unemployment* (Washington: 1962), p. 260, f.n. 40. The higher rates for women in the United States and elsewhere are attributed to higher levels of frictional, short-run unemployment due to voluntary turnover or "job shopping".

less fully "committed" to labour 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-labour 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 labour force activity in the future, then the sex differential in unemployment should narrow.¹

**Table 3 - Unemployment Rates, by Age and Sex,
Canada, Average 1961 to 1964**

Age	Males	Females
	%	%
14-19	14.3	7.9
20-24	9.8	3.8
25-34	6.1	2.5
35-44	5.0	2.2
45-54	5.3	2.0
55-64	6.6	2.4
65 and over	4.9	2.4

SOURCE: Based on data from *Labour Force Surveys*.

From Table 3, it is apparent that unemployment rates are generally very much higher among younger persons than among mature workers. The lowest rates are found among males in the "prime ages" 35-44 and among females 45-54. Males between the ages of 45 and 64 are the group often referred to as "older workers"² and the rise in unemployment for these men, especially after they have reached their mid-fifties, may be evidence of market difficulties which are related to their lack of educational qualifications, relative to the younger 35-44 cohort.³ The lower rate for males of 65 years and over undoubtedly reflects both voluntary and perhaps, in years of high over-all unemployment, "forced" labour force withdrawal.⁴ Yet it is of

¹ Another factor which may account for some of the difference between the Canadian and American situation is a difference in the wording and ordering of questions on the labour 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.

² Cf. Sylvia Ostry and Jenny Podoluk, *The Economic Status of the Aging* (Ottawa: 1965).

³ *Ibid.*, pp. 46-52.

⁴ *Ibid.*, p. 24.

UNEMPLOYMENT IN CANADA

some significance to note that the fall in the unemployment rate profile of males, at age 65 and over, is a postwar phenomenon. In 1931, during the Great Depression, the unemployment rate of male wage earners over 65 was almost 50 per cent higher at the census date than was that of workers in the prime age groups.¹ The creation and expansion of private and public social security benefits has clearly played a dominant role in changing the unemployment picture for these senior workers.

The age pattern of male unemployment shown in Table 3, for the years 1961 to 1964, is also characteristic of the period since 1950 (Table 4) and indeed probably for the postwar period as a whole² although age detail is lacking for the earlier years. Teen-age unemployment has been more than double the over-all unemployment rate throughout the entire period (Table 4). (Further, there has been some upward trend in the teen-age rates relative to the over-all rate.³)

Teen-agers and younger workers in their early twenties are just beginning their working lives and have little or no seniority to protect them. They tend, also, to "shop around" in the labour market, moving from one job to another to a far greater extent than the more mature worker with greater family responsibilities. Although, on the average, the young worker is somewhat better educated than the prime age worker (and much better off, in terms of years of formal schooling, than the older worker⁴), he lacks the experience derived from on-job training and for this reason is often at a competitive disadvantage in many types of production jobs. There is evidence to suggest that younger men, in addition to experiencing higher rates of frictional unemployment, also suffer relatively more from seasonal fluctuations than do mature workers.⁵ Further, as observed below, the extent of long-term joblessness among younger male workers is also distressingly high.

Finally, it should be noted that there has been a decline in the "relative rates" of unemployment of workers of 65 years and over as shown in Table 4, although there has been no long-run falling-off in their recorded rates of unemployment. As has already been mentioned, there may have been some involuntary labour force withdrawal of these older men in the post-1957 years of unemployment and to the degree this was so there has been a certain amount of "hidden unemployment" among workers in this age category.

¹ 1931 Census Monographs, *op. cit.*, calculated from Table LXXVII, p. 183.

² This is also true of female unemployment. But since the numbers involved in many of the age groups are so small and subject to substantial sampling variability, these data are not separately shown here.

³ Cf. Denton and Ostry, *op. cit.*, p. 14 and Table B-1.

⁴ Ostry and Podoluk, *op. cit.*, pp. 46-50.

⁵ Denton and Ostry, *op. cit.*, p. 32, Table A-4.

Table 4 - Unemployment of Males, by Age, Canada, 1950 to 1966

NOTE. - Rates from 1956 to 1966 are based on estimates revised to take account of 1961 Census population counts.

Sex and age	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
ANNUAL AVERAGE RATES																	
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
14-19	7.4	5.8	6.3	7.2	10.0	10.1	8.1	11.2	16.6	14.3	16.4	16.4	14.4	14.0	12.3	10.2	9.7
20-24	6.0	3.6	4.7	4.9	7.6	7.2	5.7	8.2	12.7	10.5	12.2	11.8	10.0	9.6	7.9	5.7	5.3
25-34	3.4	2.1	2.7	3.2	4.9	4.4	3.4	5.0	7.7	6.5	7.6	8.1	6.1	5.6	4.5	3.6	3.1
35-44	3.0	1.8	2.4	2.5	3.8	3.7	2.9	3.9	6.1	5.1	6.2	6.5	5.2	4.6	3.8	3.2	2.7
45-54	3.1	2.0	2.5	2.8	4.3	4.2	3.2	4.2	6.7	5.8	6.8	6.8	5.6	4.9	4.1	3.5	3.3
55-64	3.4	2.5	2.9	2.9	4.4	4.3	3.4	4.3	6.7	5.8	7.2	8.1	6.9	6.2	5.2	4.4	4.3
65 and over..	3.8	2.5	2.5	3.1	3.7	4.2	2.9	4.3	5.0	5.2	4.7	5.8	5.4	4.6	3.9	5.1	4.5
14 and over..	3.9	2.5	3.1	3.4	5.1	4.9	3.9	5.3	8.1	6.9	8.1	8.4	6.9	6.4	5.3	4.4	4.0
RELATIVE RATES^a																	
14-19	211.4	241.7	217.2	240.0	227.3	229.5	238.2	243.5	233.8	238.3	231.0	224.7	236.1	250.0	256.2	255.4	263.2
20-24	171.4	150.0	162.1	163.3	172.7	163.6	167.6	178.3	178.9	175.0	171.8	161.6	163.9	171.4	164.6	142.4	145.0
25-34	97.1	87.5	93.1	106.7	111.4	100.0	100.0	108.7	108.5	108.3	107.0	111.0	100.0	100.0	93.7	88.5	83.4
35-44	85.7	75.0	82.8	83.3	86.4	84.1	85.3	84.8	85.9	85.0	87.3	89.0	85.2	82.1	79.2	79.8	74.7
45-54	88.6	83.3	86.2	93.3	97.7	95.5	94.1	91.3	94.4	96.7	95.8	93.2	91.8	87.5	85.4	88.3	89.1
55-64	97.1	104.2	100.0	96.7	100.0	97.7	100.0	93.5	94.4	96.7	101.4	111.0	113.1	110.7	108.3	109.0	116.1
65 and over..	108.6	104.2	86.2	103.3	84.1	95.5	85.3	93.5	70.4	86.7	66.2	79.5	88.5	82.1	81.2	126.7	121.8
14 and over..	111.4	104.2	106.9	113.3	115.9	111.4	114.7	115.2	114.1	115.0	114.1	115.1	113.1	114.3	110.4	110.2	109.5

^a The male age-specific unemployment rate divided by the over-all unemployment rate (standardized by seven age groups and by sex on the basis of 1956 composition) and expressed as an index.

SOURCE: Based on data from *Labour Force Surveys*.

6

AGE AND SEX

UNEMPLOYMENT IN CANADA

MARITAL STATUS

The total count of the unemployed at any given time is an undifferentiated aggregate which includes everybody from the family breadwinner to the teen-age baby sitter so long as they are seeking work at that time. Clearly, from both a welfare and a policy point-of-view, the unemployment of some groups is more serious than is that of others. However, as noted previously, it is possible to distinguish a number of groups within the total unemployed on the basis of personal characteristics such as age and sex. Further classification detail—on marital status—is also of direct relevance in this context. Married males represent a critical group in the working population, since most of these men have family responsibilities and their unemployment affects not only themselves but also their families. (See below for discussion of family patterns of unemployment.)

From Table 5 it is apparent that the rate of joblessness among married men is consistently lower than among the male labour force as a whole and very much below that of either single men or males who are

Table 5 - Unemployment Rates, by Sex and Marital Status, Canada, Annual Averages, 1959 to 1966

NOTES. — Rates from 1959 on are based on estimates revised to take account of 1961 Census population counts.
Rates calculated from unemployed estimates of less than 10,000 are shown in brackets.

Year	Single	Married	Other	All status
MALES				
	%	%	%	%
1959	12.0	5.2	(7.2)	6.9
1960	13.9	6.1	10.0	8.1
1961	14.3	6.4	10.8	8.4
1962	11.9	5.2	(9.5)	6.9
1963	11.6	4.6	(8.4)	6.4
1964	10.2	3.7	(7.3)	5.3
1965	8.2	3.2	(6.2)	4.4
1966	7.6	2.8	(6.1)	4.0
FEMALES				
	%	%	%	%
1959	4.1	1.9	(3.1)	3.0
1960	5.0	2.1	(3.4)	3.6
1961	5.3	2.3	(3.4)	3.7
1962	4.7	2.2	(3.4)	3.3
1963	4.8	2.2	(3.2)	3.3
1964	4.6	2.0	(3.1)	3.1
1965	4.0	1.9	(2.6)	2.7
1966	3.8	1.7	(2.5)	2.6

SOURCE: Based on data from *Labour Force Surveys*.

widowed or divorced. The same relationship, though less marked, is also characteristic of females, the unemployment rates of married women being lower than those of the other marital status groups. The lower unemployment rate of married persons is in part attributable to the age composition of the group; in particular there are relatively fewer teen-agers than among the single and relatively fewer older persons than in the widowed and divorced groups.

Table 6 - Unemployment Rates, by Sex, Age and Marital Status, Canada, June 1961

Sex and age	Marital status		
	Single	Married	Widowed and divorced
	%	%	%
Males			
15-19	12.1	8.0	
20-24	7.2	4.2	7.4
25-34	6.0	3.0	6.3
35-44	6.0	2.7	5.8
45-54	5.9	2.9	5.2
55-64	6.0	3.2	4.7
65 and over	3.8	3.2	3.2
Total, 15 and over	7.9	3.0	4.7
Females			
15-19	7.5	8.3	6.1
20-24	2.2	4.7	3.2
25-34	1.5	3.0	2.7
35-44	1.2	2.2	2.8
45-54	1.1	1.9	2.3
55-64	1.1	1.7	1.9
65 and over	1.0	1.7	1.7
Total, 15 and over	3.4	2.7	2.2

SOURCE: Based on data from 1961 Census of Canada.

However, as Table 6 demonstrates, the same pattern of unemployment by marital status group is evident for all age categories within the male labour force: there is clearly some association between marital status *per se* and unemployment for males. However, such is not the case for females. In each age category the unemployment rate for married women is somewhat higher than that for single women and, except for women between the ages of 45 and 64, higher than that for the widowed and divorced as well.¹ Thus

¹ These Census data show that the over-all rate for widowed and divorced women is lower than that for married women, a reversal of the relationship revealed by the Labour Force Survey statistics. Considering the difficulties of accurately measuring unemployment by means of a decennial census, one is more inclined to accept the Survey information in this case.

the lower unemployment rate for married women as a whole – when compared, in this instance, with single women – is entirely due to the age structure of the married work group. If one re-weights (standardizes) the unemployment rate for married women by the age composition of the single women's labour force, the rate becomes 4.7 per cent, which is higher than the rate for single women. A comparable calculation for the male rate, however, yields 4.6 per cent which, although naturally higher than the recorded rate, is still lower than the rate for single men.¹ Thus the "age effect" has some importance, but clearly cannot explain away the lesser degree of joblessness among married men. (See Appendix B).

It is of some interest to note that married men are more likely to be in the labour force than are single or other males and these data on unemployment suggest that, age for age, married men have lower unemployment rates. Whether or not there is some connection between marriageability and employability is a subject for speculation, more appropriately conducted by psychologists and sociologists than economists. But at least it seems plausible to argue that when a man is married, he is under strong pressure – because of greater responsibility than the bachelor, at least – to find and hold a job.

EDUCATIONAL ATTAINMENT

The type of work people do is largely governed by the amount of formal schooling and training they have. Unskilled and semi-skilled jobs, sporadic and intermittent work in seasonal industries and occupations, are the only non-farm jobs usually available to persons without high school education and these are generally the jobs which are subject to relatively high unemployment and underemployment. Further, in a relatively loose labour market an employer can afford to be more selective in his hiring requirements and the simplest rule of selectivity (though not always the most relevant) is the level of formal education of the applicant. In most white collar work, the most rapidly expanding sector of the economy, a completed high school education is a *sine qua non* of employment and the same condition appears to be developing in some of the skilled manual job markets as well. For these and, no doubt, many other reasons, there is a close relationship between the education of workers and their unemployment experience.

¹ Reweighting the unemployment rate for married males by the age distribution of widowed and divorced males produces a rate of 3.0 per cent, again somewhat higher than the recorded rate but still below the rate for "other" males.

EDUCATIONAL ATTAINMENT

From Table 7, the relationship between educational attainment and unemployment is clearly seen for two recent years, 1960 and 1965.¹ The unemployment rates of workers who failed to complete primary school education are more than six times those for workers with high school graduation or better and workers who dropped out of high school before graduation were more than twice as likely to become unemployed as were high school graduates.

Table 7 - Unemployment Rates, by Sex and Level of Education, Canada, February 1960 and 1965

Level of education	1960			1965		
	Both sexes	Male	Female	Both sexes	Male	Female
	%	%	%	%	%	%
Some primary school or less ^a	18.7	20.6	7.8	12.8	14.3	6.2
Completed primary school	9.6	10.9	4.3	6.6	7.5	3.4
Some high school	6.7	7.7	4.1	5.1	5.6	3.9
Completed high school education or more	2.7	3.4	1.6	1.9	2.3	1.3
Totals (all schooling)	8.9	10.7	3.7	5.8	6.9	3.1

^a Includes a few persons with no schooling.

SOURCE: Based on data from *Labour Force Surveys*, February 1960 and 1965.

Although the over-all negative relationship between schooling and unemployment applies to both male and female workers, there appears to be some difference in the pattern of the relationship for the two sexes. Among women, unemployment rates decline markedly with completed primary school and again when the level of high school graduation (or better) is reached. For men, however, sharp step-like declines occur at each successively higher level of the educational ladder.² Further, it may be noted that the general improvement in economic conditions which took place between 1960 and 1965 was not reflected evenly among the groups of workers represented in Table 7. The most marked decline in unemployment occurred among the least educated and among those with high school completion or more. In each case the decline in unemployment rates was more marked for men than women.

¹ These data relate to February in both years and, hence, would be affected by seasonal unemployment. For this and other reasons, the 1960 data will differ from the June 1961 statistics derived from the Census. For a further analysis of these data on education see Dominion Bureau of Statistics, *Special Labour Force Studies No. 1, Educational Attainment of the Canadian Population and Labour Force, 1960-65* by Frank J. Whittingham (Ottawa: Queen's Printer, 1966).

² More detailed data on educational levels than that presented in Table 7. show this even more clearly.

UNEMPLOYMENT IN CANADA

Finally, as Table 8 demonstrates, at each age group unemployment rates were higher for those with less education than for the better educated.¹ It is also interesting to observe from these data that the age differentials in unemployment noted above, in particular the high unemployment rates of the younger workers relative to the more mature labour force, are revealed at each educational level. However, a far larger proportion of the older than of the younger unemployed have relatively little education so that the lower average educational level of older workers does contribute to their unemployment experience.²

Table 8 - Unemployment Rates, by Age and Level of Education, Canada, February 1960 and 1965

NOTE. - Rates calculated from unemployed estimates of fewer than 10,000 are shown in brackets.

Level of education	14-19	20-24	25-44	45-64
	%	%	%	%
1960				
Some primary school or less ^a	32.4	28.4	19.3	14.1
Completed primary school	21.1	17.5	8.4	6.9
Some high school	13.6	9.2	4.7	4.9
Completed high school education or more	(5.6)	4.1	2.2	2.5
1965				
Some primary school or less ^a	21.8	16.6	13.3	10.8
Completed primary school	16.8	10.2	6.4	4.8
Some high school	8.4	7.2	3.8	4.0
Completed high school education or more	(4.6)	2.7	1.5	(1.4)

^a Includes persons with no schooling.

SOURCE: Based on data from *Labour Force Surveys*, February 1960 and 1965.

Although there is a close association between educational attainment and the *incidence* of unemployment, this is apparently not the case so far as the *duration* of unemployment is concerned. Thus, in February 1965, the percentage of the male unemployed who had been looking for work for four months or longer (the "long-duration" unemployed) was almost the same at each educational level. The relevant figures were 27 per cent for those with

¹ The sample estimates for the unemployed in many of these categories were small and, given the extent of sampling variability, not considered sufficiently reliable for analytical purposes if disaggregated by sex. Further, the estimates for persons 65 years and over were omitted for the same reason.

² Whereas 76 per cent of the unemployed male workers aged 45 years and over had only a primary school education or less in 1965 the comparable figures for 20-24-year-olds was 48 per cent and for 14-19-year-olds, 50 per cent.

primary school or less; 25 per cent for those with some high school and 29 per cent for those with high school completion or better. A man with a better education is less prone to unemployment, but once he loses a job he is likely to take as long—or perhaps even longer—to find another job as is the worker with much less formal schooling.¹

OCCUPATION AND INDUSTRY

An individual's work, in the sense of his function or what sort of job he does, is a factor of some importance affecting his risk of unemployment. Thus, for example, much of the supervisory, professional and clerical staff in industry is regarded almost as "fixed capital" and employers will lay off production workers much more readily than they will these white collar workers. Further, the "skill" of a worker—skill used broadly to encompass education, training and experience in work performance—also affects his risk of joblessness. An employer, faced with a cutback in production, will be more inclined to discharge an unskilled worker since he has less "invested" in his training. On the same grounds he will try to retain his more skilled workers to avoid both the loss of training costs and the added burden of hiring costs when conditions improve and such workers are likely to be in relatively short supply. Further, a skilled worker can, if the alternative is unemployment, do the work of an unskilled or semi-skilled man, whereas substitution in the opposite direction is not usually possible.² Moreover, institutionalized protective devices—especially in collective agreements—are likely to apply more to skilled than unskilled workers, although this is less true today than it was in the 1930s. For these and other reasons, the less skilled are more prone to unemployment.³ Thus, job function and worker skill, which are of course related, are both factors affecting unemployment.

The industry in which a worker is employed also influences his "propensity to be unemployed". Not all industries are equally responsive to declines in demand since not all goods and services exhibit identical income elasticities.⁴ Thus, for example, construction, consumer durables

¹ Of course, the same conclusion emerges from an examination of the educational composition of unemployment of differing duration: there are no marked differences in the average level of schooling of the short, medium or long-term unemployed.

² Cf. Walter Y. Oi, "Labour as a Quasi-Fixed Factor", *Journal of Political Economy*, Dec. 1962; Melvin Reder, "Wage Structure and Structural Unemployment", *The Review of Economic Studies*, Oct. 1964.

³ Concern here is with demand-induced unemployment. Whether or not a given occupational group is more strongly affected by structural unemployment than another group depends on the nature of the structural change and the speed of adjustment to that change in the given labour market.

⁴ Cf. Frank T. Denton, "Some Calculations Relating to Trends and Fluctuations in the Post-War Canadian Labor Market, Canadian Political Science Association Conference on Statistics, 1961, *Papers*, edited by Wm. C. Hood and John A. Sawyer (Toronto: Printed in the Netherlands, 1963).

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and durable goods manufacturing generally are much harder hit in a recession than are light manufacturing or service industries. Workers in mining and logging are much more vulnerable than those in agriculture. Further, average annual unemployment rates in some industries may be high also because of a high seasonal component: logging and construction are examples of such activity. Finally, longer-run structural changes in patterns of consumer demand, in technology and in resource exploitation may raise the unemployment risk in particular industries.

Unemployment rates classified by occupation and industry have to be used with considerable caution as indicators of the "source" of unemployment. This is so partly because of deficiencies in classification: these are particularly acute in the case of occupations, where notions of "skill" or varying levels of job content and worker requirements are not revealed by the present system and industry-oriented groups have by no means been eliminated.¹ Also, the occupation or industry referred to in the current labour force statistics is the occupation or industry of last employment. Workers displaced in a given industry who find intermittent employment in another will be attributed to the latter industry. This will, although probably not to any significant degree, mask the extent to which certain industries "generate" unemployment. Workers are less likely to shift occupational attachments (particularly among broad occupational groups) so that this criticism is less applicable to the occupational data.

Table 9A shows unemployment rates for major occupation groups from 1961 to 1966 (such data, based on the 1961 Census classification of occupations, are not available from current survey statistics for any year earlier than 1961). It may be noted that the lowest rates throughout the period are those of the white collar group. From Table 9B, based on the 1961 Census data, it is evident that there is some variation in the incidence of unemployment within the white collar sector as a whole. Clerical and sales occupations in 1961 experienced a rate several times as high as those of managerial and professional workers and this probably reflects a typical pattern of rates with the white collar division and not simply that prevailing in 1961.

Among manual workers, the unskilled have much higher unemployment rates than the semi-skilled and skilled who are classified together in the category "craftsmen, production process and related workers". This contrast may also be clearly seen in Table 9B: the rate for craftsmen, production process and related workers is less than half that for labourers. These

¹ In respect to the first criticism, the difference between the 1961 and 1951 Census occupational classification system is negligible although the former is preferable to the latter because industry orientation has been somewhat reduced.

OCCUPATION AND INDUSTRY

**Table 9A - Unemployment Rates, by Occupation,
Canada, Annual Averages, 1961 to 1966**

(Based on data from *Labour Force Surveys*)

Occupation (as of 1961 classification)	1961	1962	1963	1964	1965	1966
	%	%	%	%	%	%
White collar occupations ^a	2.5	2.0	2.0	1.8	1.4	1.3
Transportation	10.2	7.9	7.8	6.0	5.1	4.5
Service and recreation	5.6	4.9	4.7	4.2	3.5	3.1
Primary occupations ^b	6.8	6.1	5.6	4.5	4.0	3.9
Craftsmen, production process and related workers	9.2	7.2	6.7	5.5	4.5	4.3
Labourers ^c	21.7	19.3	17.2	15.1	13.4	11.8
All occupations ^d	7.1	5.9	5.5	4.7	3.9	3.6

^a Includes managerial, professional and technical, clerical, sales and communication occupations. ^b Includes farming, fishing, trapping, logging and mining occupations. ^c Includes labourers and unskilled workers not farming, fishing, logging or mining. ^d Includes a few persons who never worked but were seeking work. These rates have been revised to take account of 1961 Census population counts.

Table 9B - Unemployment Rates, by Sex and Occupation, Canada, June, 1961

(Based on data from *1961 Census of Canada*)

Occupation (as of 1961 classification)	Total	Male	Female
	%	%	%
Managerial	0.7	0.7	0.6
Professional and technical	0.7	0.8	0.5
Clerical	2.2	2.7	2.0
Sales	2.6	2.6	2.8
Service and recreation	2.9	3.2	2.7
Transport and communication	4.1	4.3	2.3
Farmers and farm workers	1.0	1.0	0.6
Loggers and related workers	16.2	16.2	-
Fishermen, trappers and hunters	5.5	5.5	-
Miners, quarrymen and related workers	4.9	4.9	-
Craftsmen, production process and related workers	4.4	4.5	3.5
Labourers n.e.s.	10.2	10.5	4.9
All occupations	3.3	3.7	2.2

blue collar occupation groups are drawn from a variety of industries although they are more heavily represented in manufacturing and construction than in others and their unemployment rates also reflect conditions in these industries. This is true to an even greater degree for the transportation group of occupations which is heavily concentrated in the transportation industry.

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The variation in unemployment incidence by industry is shown in Tables 10A and B. As Table 10A shows, workers in construction, transportation and manufacturing are especially vulnerable to unemployment when economic conditions worsen as they did in the latter part of the 1950s and the early 1960s. Even in times of prosperity the unemployment rates for the construction industry are very much above-average as the data for the earlier years in Table 10A demonstrate. (The construction industry has "contributed" between one-fifth and one-quarter of the unemployed over most of the postwar period.) Trade, service, and agriculture, on the other hand, although affected to some degree by a deterioration in the economy, generally exhibit relatively low rates of unemployment.

**Table 10A - Unemployment Rates, by Industry,
Canada, Annual Averages, 1953 to 1964**

(Based on data from *Labour Force Surveys*)

NOTES.—Industries are classified on the basis of the 1948 Standard Industrial Classification. No data on the basis of this classification are available from the Labour Force Survey for any year later than 1964. Data, classified according to the 1960 Standard Industrial Classification, are not available for any year before 1961.

Rates calculated from unemployed estimates of fewer than 10,000 are shown in brackets.

Industry	1953	1954	1955	1956	1957	1958
	%	%	%	%	%	%
Agriculture	(0.6)	(0.7)	(0.7)	(0.6)	(0.9)	1.8
Forestry, fishing and trapping ...	11.4	13.0	14.0	13.2	19.7	29.2
Mining and quarrying	(4.2)	(4.7)	(4.4)	(4.1)	(5.6)	9.3
Manufacturing	3.1	5.3	4.4	3.2	4.5	7.2
Construction	9.4	14.4	13.2	10.0	13.5	19.0
Transportation and public utilities	2.8	4.8	4.3	3.5	4.5	7.0
Trade	1.8	3.0	2.9	2.1	2.6	4.1
Service and finance	1.6	2.3	2.4	1.8	2.1	3.4
All industries ^a	3.0	4.6	4.4	3.4	4.6	7.0
	1959	1960	1961	1962	1963	1964
	%	%	%	%	%	%
Agriculture	1.6	2.0	2.5	2.2	2.1	1.7
Forestry, fishing and trapping ...	25.3	26.9	29.3	26.0	22.6	18.8
Mining and quarrying	(8.3)	(7.0)	(9.3)	(9.0)	(7.7)	(4.4)
Manufacturing	5.9	6.9	6.7	5.3	4.8	4.1
Construction	17.1	20.8	21.1	16.9	15.3	12.8
Transportation and public utilities	5.5	6.4	6.6	5.4	5.1	4.3
Trade	3.5	4.5	4.8	3.7	3.8	3.3
Service and finance	2.9	3.4	3.7	3.2	3.1	2.8
All industries ^a	6.0	7.0	7.1	5.9	5.5	4.7

^a Including a few persons who never worked but were seeking work. Rates from 1956 have been revised to take account of 1961 Census population counts.

**Table 10B - Unemployment Rates, by Sex and Industry,
Canada, June, 1961**

(Based on data from 1961 Census of Canada)

NOTE. - Industries are classified on the basis of the 1960
Standard Industrial Classification.

Industry	Total	Male	Female
	%	%	%
Agriculture	0.9	0.9	0.6
Forestry	14.9	15.1	8.2
Fishing and trapping	5.3	5.4	2.9
Mines, quarries and oil wells	4.0	4.1	2.8
Manufacturing	3.3	3.3	3.1
Durables	3.6	3.7	2.8
Wood products	5.8	5.9	3.4
Furniture and fixtures	3.7	3.8	3.2
Primary metal	2.8	2.8	2.1
Metal fabricating	4.2	4.3	3.2
Machinery (except electrical)	2.6	2.7	2.1
Transportation equipment	3.5	3.5	3.2
Electrical products	2.3	2.2	2.4
Non-metallic mineral products	3.5	3.6	2.6
Non-Durable	3.0	2.9	3.2
Food and beverages	3.7	3.4	4.8
Tobacco products	3.6	4.1	3.0
Rubber	2.5	2.4	2.9
Leather	3.2	3.4	2.9
Textile	2.8	2.8	2.7
Knitting mills	4.4	5.5	3.8
Clothing	3.0	3.6	2.7
Paper and allied industries	2.8	2.8	3.0
Printing, publishing, etc.	2.2	2.0	2.8
Petroleum and coal products	1.3	1.3	1.5
Chemical and chemical products ...	2.3	2.4	2.0
Miscellaneous manufacturing	3.1	3.0	3.4
Construction	8.6	8.8	2.1
Transportation, communication and other utilities	3.3	3.5	1.9
Transportation	3.9	4.0	2.1
Storage	2.8	2.8	3.1
Communication	1.9	1.9	1.8
Electrical power, gas and water utilities	2.8	3.0	1.6
Trade	2.8	2.9	2.7
Wholesale	2.9	2.8	3.0
Retail	2.8	3.0	2.6
Finance, insurance and real estate	1.4	1.2	1.6
Community, business and personal services	2.1	2.7	1.8
Education	0.7	1.0	0.5
Health and welfare	1.1	1.4	1.0
Religious organizations	0.6	0.8	0.3
Motion picture and recreation	6.0	6.8	4.1
Services to business management ..	2.0	1.9	2.3
Personal services	3.4	4.0	2.7
Miscellaneous services	3.6	4.0	
Public administration and defence	2.3	2.5	1.4
All industries	3.3	3.7	2.2

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Finally, the census information presented in Tables 9B and 10B show that, with very few exceptions, the unemployment rates for women are lower than those for men in the same occupation and industry. Thus, as was mentioned earlier in this discussion, the sex differential in over-all unemployment rates is not simply the result of a compositional effect due to the concentration of women in low-unemployment occupations and industries, but reflects a genuinely lower female unemployment "propensity". It may be observed from Table 9B that the relative advantage in female unemployment rates tends to be somewhat smaller for white collar than blue collar and transportation occupations. In the case of sales occupations, indeed, the female rate is a little higher than the male. This pattern is strikingly similar to that observed in the 1930s, when the authors of the *Census Monograph on Unemployment* observed that "clerical and commercial occupations have very small differences between the sexes. Manufacturing and service show considerable difference, all in the same direction (i.e. lower female rates) while male labourers' and transportation workers' unemployment is out of all proportion to that of females."¹

DURATION

This discussion is concerned with the characteristics of the unemployed rather than the nature of unemployment. Hence the focus of attention, in the analysis of the duration of unemployment, is on the variations in incidence of unemployment of differing periods upon specific groups in the work force. However, it is useful to present some background information on the "duration composition" of total unemployment over the postwar period since 1950 (Table 11).

Duration is one of the most significant dimensions of unemployment so far as both the welfare of the individual and the health of the economy is concerned. It is scarcely necessary to point out that long-term unemployment is much more serious and debilitating in its impact on individuals, families and communities, and often may require quite different ameliorative and remedial policy measures than does short-run work-seeking of only a few weeks duration. For the purpose of discussing Table 11 short-term unemployment may be defined as work-seeking under one month; intermediate as 1 to 3 months; long-term as 4 to 6 months and very long-term unemployment as work-seeking 7 months or more.²

¹ 1931 *Census Monographs*, *op. cit.*, p. 236.

² There is unfortunately no standard terminology in this area. Thus short-term unemployment in the United States is defined as work-seeking of less than five weeks; intermediate as five to fourteen weeks; long-term, fifteen to twenty-six weeks and very long-term as twenty-seven weeks or more. Cf. Seymour L. Wolfbein, *Employment and Unemployment in the United States* (Chicago: 1964), p. 298.

Table 11 – Percentage Distribution of the Unemployed, by Duration of Seeking Work, Canada, Annual Averages, 1950 to 1966

NOTE. – Figures from 1956 to 1966 have been revised to take account of 1961 Census population counts. Workers on temporary layoff subject to recall within 30 days included in category "under 1 month".

Year	Total unemployed	Months seeking work			
		Under 1 month	1-3 months	4-6 months	7 months or more
	%	%	%	%	%
1950	100.0	29.6	39.8	19.4	11.8
1951	100.0	43.7	35.7	12.7	8.7
1952	100.0	42.6	38.1	12.9	6.5
1953	100.0	46.9	34.0	13.0	6.2
1954	100.0	34.0	37.6	18.4	10.4
1955	100.0	33.1	37.1	18.0	12.7
1956	100.0	39.6	37.6	15.2	8.1
1957	100.0	38.8	40.3	14.7	6.1
1958	100.0	29.2	36.6	21.5	12.7
1959	100.0	30.4	35.8	19.6	14.0
1960	100.0	30.9	37.2	20.0	12.1
1961	100.0	27.0	34.8	21.5	16.7
1962	100.0	30.3	35.4	18.2	16.4
1963	100.0	31.0	35.6	18.7	14.7
1964	100.0	34.6	34.9	16.7	13.9
1965	100.0	36.8	35.0	15.4	12.9
1966	100.0	38.6	37.5	14.2	9.7

SOURCE: Based on data from *Labour Force Surveys*.

It is apparent from these data on duration that the short-term work-seekers have accounted for a substantial proportion of the total jobless count throughout most of the postwar period, although the percentage representing short-duration joblessness has varied from 30 or even less in some years to well over 40 in others.¹ One would expect the duration of unemployment to vary with the state of the economy, the average duration lengthening as over-all unemployment levels climb.² Thus in the earlier part of the period, before 1958, unemployment of four months duration or more averaged less than one-quarter of the total compared with an average of over one-third over the "depressed" years 1958 to 1961.³

¹ There may be some reporting error in these data the effect of which is to understate somewhat the "under 1 month" and correspondingly overstate the "1 to 3 months" counts.

² The increase in the proportion of long-term unemployment would not appear immediately as the unemployment rate turned up but would emerge after several months' lag. Similarly, the decline in long-term unemployment would lag behind the fall in the over-all rate.

³ In evaluating the seriousness of this situation, it is interesting to note that in the Great Depression (in 1931) approximately one-fifth of the male unemployed had been without jobs for twenty-five to fifty-two weeks. *1931 Census Monographs, op. cit.*, pp. 324-329.

UNEMPLOYMENT IN CANADA

The average duration of unemployment varies with age, sex, industrial and occupational attachment and from region to region. There are several ways of looking at this varying incidence. A good deal of the literature has focussed on the long-term unemployed.¹ By estimating long-term unemployment "rates", i.e. the numbers unemployed in excess of a given number of weeks as a percentage of specific labour force groups, one may observe the differing impact of this type of unemployment on various segments of the working population. Another measure, which provides further insight into this aspect of unemployment, is the average number of weeks of joblessness experienced by specific groups of unemployed persons. The first measure reflects the *risk* of long-duration unemployment in a given sector of the labour force, the second is an estimate of the probable *duration* of unemployment once the worker loses his job.

The data on duration of unemployment in Table 11 were annual averages derived from the Monthly Labour Force Surveys. An alternative source, in some respects more revealing in this context, is an annual "work pattern" survey for which the reference period of activity is an entire calendar year and not a given week in the month. An annual work pattern survey shows the total number of persons unemployed during the year and the total amount of unemployment they have experienced, counting all spells of joblessness.² Because people move into and out of the unemployed group over the year, the total number who experience some joblessness during the course of a twelve-month period is considerably higher than the twelve-monthly average of the unemployed estimated by the Monthly Labour Force Survey. Similarly, the average duration of unemployment measured by an annual survey will be higher than the average of the monthly figures not only because all stretches of unemployment over the year are included, but also because the current data relate to the duration of seeking up to the time of the survey and not to total duration during the year. In a sense, then, a more "complete" picture of unemployment is provided by these annual data. Hence the analysis of duration which follows is based on the annual patterns derived from the January 1965 survey of work experience in 1964. Table 12 contains the basic information.

¹ The United States Department of Labor's Bureau of Labor Statistics, for example, issues, periodically, Special Labor Force Reports on the Long-Term Unemployed. See also Walter H. Franke, "The Long-Term Unemployed", in *In Aid of the Unemployed*, Joseph M. Becker, editor (Baltimore: 1965).

² Two such surveys have been carried out by the Dominion Bureau of Statistics, one in January 1962 for the calendar year 1961 (see *Canadian Statistical Review*, November 1962) and the other in January 1965 for the calendar year 1964. The results of these surveys have been more fully analyzed in Dominion Bureau of Statistics, Special Labour Force Studies No. 2, *Work Patterns of the Canadian Population, 1964*, by Frank J. Whittingham and Bruce W. Wilkinson (Ottawa: Queen's Printer, 1967).

Table 12 - Summary Statistics on Unemployment Experience
During Calendar Year, 1964

Labour Force group	Long-term unemployment rate ^a	Very long-term unemployment rate ^b	Average weeks unemployed ^c	Unemployed experiencing 2 or more stretches	Total unemployment rated
	%	%	man weeks	%	%
Males					
14-19	13.5	7.2	18.1	42.7	27.1
20-24	11.7	5.1	15.6	47.8	26.2
25-44	6.9	2.5	15.3	43.9	15.7
45-64	8.4	3.7	20.0	48.2	13.5
65 and over	8.2	4.1	23.1	42.1	11.5
14 and over	8.6	3.7	17.1	45.5	17.3
Females					
14-19	8.8	4.3	13.8	26.8	23.7
20-24	5.7	2.4	14.0	24.0	14.4
25-44	4.7	2.4	15.9	27.6	10.7
45-64	4.2	2.0	18.9	37.4	7.8
65 and over	2.5	1.5	19.5	37.5	5.2
14 and over	5.3	2.6	15.4	28.3	12.6
Industry					
Agriculture	3.3	1.5	19.2	50.2	6.1
Other primary	26.5	11.8	19.6	57.9	41.8
Manufacturing	6.4	2.5	13.6	39.5	16.6
Construction	21.9	7.5	17.2	55.4	39.1
Transportation	7.5	3.0	17.6	44.8	13.6
Trade	5.0	2.2	14.4	31.7	12.1
Finance	2.7	1.3	11.7	12.7	8.7
Service	5.1	2.5	17.0	35.2	10.4
Public administration	5.8	2.7	17.5	45.4	11.2
Occupation					
Managerial	1.7	0.8	15.9	28.6	3.6
Professional and technical	1.7	0.9	14.8	22.6	4.3
Clerical	3.9	1.6	12.6	23.3	11.5
Sales	4.9	2.1	15.2	29.2	10.9
Agriculture	3.5	1.5	18.1	50.6	6.3
Other primary	32.1	14.3	20.7	61.6	47.3
Service	7.1	3.6	17.1	36.7	14.3
Transportation and communication	10.0	3.4	15.7	45.0	20.2
Craftsmen, production process and related workers	8.6	3.1	14.1	45.9	20.6
Labourers n.e.s... ..	22.9	10.3	30.1	52.7	36.8
Regions					
Atlantic	15.7	8.0	21.7	47.0	23.5
Quebec	10.1	4.3	17.7	44.8	18.7
Ontario	5.1	2.2	14.4	36.7	12.9
Prairies	5.3	2.3	15.8	39.3	11.9
British Columbia	6.4	2.4	14.7	36.2	16.0
Canada	7.6	3.3	16.7	41.1	15.6

^a Number of persons unemployed 14 weeks or more as percentage of number of persons in labour force during 1964.

^b Number of persons unemployed 27 weeks or more as percentage of number of persons in labour force during 1964.

^c Total number of weeks of unemployment experienced by unemployed in 1964 divided by number of persons with some unemployment experience during 1964.

^d Number of persons with some unemployment during 1964 as percentage of number of persons in labour force during 1964.

SOURCE: Based on data from *Annual Work Pattern Survey*, taken in conjunction with *Labour Force Survey*, January 1965.

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As one would expect, a larger proportion of unemployed men than of unemployed women experienced lengthy unemployment in 1964. Thus both the long-term (14 weeks and over) and very long-term (27 weeks and over) unemployment percentages as well as the measure of average duration of unemployment were higher for men than for women. As was mentioned above in connection with over-all unemployment comparisons, this sex differential reflects differences in occupational and industrial patterns between the two sexes and also fundamental differences in the degree of labour force attachment between men and women.

Among both men and women there was a distinctive age pattern evident in long-term unemployment. For males, the impact of long-term joblessness was lowest for prime age workers, 25-44. The younger worker (14-24) and the "older worker" (45-64) showed evidence of somewhat greater difficulties in finding work once separated from a job. Average duration was highest for workers past the customary retirement age. Although some proportion of men in this age group may leave the labour force rather than continue to look for work, those who maintain a labour force attachment evidently suffer very extended periods of unemployment once they become jobless.¹ The higher average duration of unemployment of the older worker was evidently not due to repeated spells of unemployment over the year since the difference in the proportion of the unemployed with two or more stretches of work-seeking during 1964 were not very marked among men of different ages (see column 5).

For women, the rise in the long-duration unemployment percentages after middle age was not apparent: both long-term and very long-term unemployment declined steadily with increasing age. But there was a quite marked rise in the average duration of job-seeking for the unemployed woman over the age of 45. Again (as was the case for the oldest male worker) older women who do not exercise the option of labour force withdrawal evidently experience greater difficulty than do younger workers in regaining employment once separated from a job. In some degree, the longer average duration of unemployment experienced by these women who have passed their mid-forties was accounted for by recurrent unemployment over the course of the year. Thus, as may be observed from Table 12, the proportion of unemployed with two or more stretches of joblessness during 1964 was considerably higher for women over the age of 45 than for the younger female worker.

¹The 1931 Census data showed that average weeks lost per wage-earner losing time fell to a minimum for the prime age category but then continued to rise steadily with advancing age.

The incidence of long-term and very long-term unemployment among broad industry and occupation groups appears to be roughly similar to the incidence of over-all unemployment. It was lowest for agricultural workers and workers in service-producing industries and very marked in construction and in primary industries other than agriculture. In construction and in the primary industry sector as a whole, recurrent unemployment was particularly troublesome and contributed to the higher-than-average duration of unemployment which characterized these industries.

Among occupations it is evident that long-duration unemployment was especially severe for unskilled workers who not only found it very difficult to regain employment once they lost their jobs but, apparently also had less steady jobs, i.e. were more subject to recurrent unemployment during the year than most other groups of workers. An interesting contrast between the white collar occupations and the skilled and semi-skilled manual group (craftsmen, production process and related workers) emerges from Table 12. The incidence of long-duration unemployment was very much higher for the blue collar worker, but once unemployed, his average duration of work-seeking did not differ greatly from that of the white collar worker. In fact, the higher incidence of long-term unemployment in the manual as compared with the white collar work-force, was mainly the result of a much greater frequency of repeated stretches of unemployment during the course of the year (column 5). These recurrent spells of unemployment resulted in a larger proportion of the craftsmen and semi-skilled work-force experiencing fourteen or more cumulative weeks of unemployment over the year.

Finally, it may be observed that there were some rather marked differences in the incidence of longer-term and over-all unemployment among the five main regions in Canada in 1964. Thus, the impact of longer-duration unemployment was especially severe in both the Atlantic region and Quebec. In both regions, but particularly in the Atlantic Provinces, the "differential" in the long-term rate (when compared with the Canada rate) was very much higher than in the over-all rate. Part of this difference in incidence was undoubtedly due to the greater frequency of repeated unemployment in these two areas (column 5), a condition which, in turn, is probably linked to the industrial composition of the regions' labour force (see below for a discussion of industrial structure and provincial unemployment patterns). A contrasting situation was apparent in British Columbia where the risk of unemployment was somewhat above that prevailing in the country as a whole but the risk of a worker experiencing long-term joblessness and the average duration of unemployment were well below the Canada average. Thus, unemployment in British Columbia was much more clearly of a short-term (and non-recurring) nature than in, say, Quebec which had a similar over-all level of unemployment in 1964.

UNEMPLOYMENT IN CANADA

GEOGRAPHY

Another Study in this Series examines the changing provincial distribution of employment over the past intercensal decade and notes some tendency to convergence of industrial and occupational structures in the provinces as well as some decline in the inequality of distribution of unemployment. None the less, wide inter-regional and interprovincial differences in the level of unemployment persist as a characteristic feature of the "unemployment profile" in this country. This is clearly evident from the rates presented in Table 13 for the years 1946 to 1966.

**Table 13 - Unemployment Rates by Region,
Annual Averages, 1946 to 1966**

NOTES. - Rates from 1946 to 1952 inclusive have been adjusted for timing of the Labour Force Survey which was conducted quarterly before November 1952. Newfoundland is included in estimates for the Atlantic Region.

Rates from 1956 to 1966 are based on estimates revised to take account of 1961 Census population counts.

Year	Region					
	Atlantic	Quebec	Ontario	Prairies	B.C.	Canada
	%	%	%	%	%	%
1946	7.7	4.3	2.8	2.4	4.2	3.8
1947	6.5	2.7	1.8	1.8	3.1	2.6
1948	6.2	2.5	1.7	1.7	3.5	2.6
1949	6.9	3.6	2.3	2.2	3.9	3.3
1950	8.4	4.6	2.5	2.2	4.4	3.8
1951	4.7	3.2	1.8	1.8	3.7	2.6
1952	4.6	3.9	2.2	1.9	4.1	3.0
1953	5.5	3.8	2.1	1.9	4.0	3.0
1954	6.6	5.9	3.8	2.5	5.2	4.6
1955	6.5	6.2	3.2	3.1	3.8	4.4
1956	6.0	5.0	2.4	2.2	2.8	3.4
1957	8.4	6.0	3.4	2.6	5.0	4.6
1958	12.5	8.8	5.4	4.1	8.6	7.0
1959	10.9	7.9	4.5	3.2	6.5	6.0
1960	10.7	9.1	5.4	4.2	8.5	7.0
1961	11.2	9.2	5.5	4.6	8.5	7.1
1962	10.7	7.5	4.3	3.9	6.6	5.9
1963	9.5	7.5	3.8	3.7	6.4	5.5
1964	7.8	6.4	3.2	3.1	5.3	4.7
1965	7.4	5.4	2.5	2.5	4.2	3.9
1966	6.4	4.7	2.5	2.1	4.5	3.6

SOURCE: Based on data from Labour Force Surveys.

In the postwar period the absolute differences among regional unemployment rates have been greater in years of low economic activity than in periods of prosperity. Indeed, an index of dispersion based on (weighted) percentage point differences between the regional rates and the Canada average moves closely in accordance with the over-all unemployment level,

rising when unemployment increases, diminishing when it declines.¹ In other words, as economic conditions in Canada worsen (improve), the absolute increases (decreases) in unemployment tend to be greater in the high unemployment regions like the Atlantic Provinces, Quebec and British Columbia than in the more favoured Prairie Provinces or Ontario. Further, there has been very little change in the ranking of regional unemployment rates over this period: only Quebec and British Columbia have, from time to time, exchanged places as the province with the second highest rates in the country.² (See Table 13.)

The regional differences in unemployment levels reflect for the most part differences in regional labour market conditions, i.e. greater or lesser degrees of structural maladjustment,³ and—of considerable importance in the Canadian context—greater or lesser seasonality of employment. (See Table 14, which indicates the severity of seasonal unemployment in the Atlantic Region and Quebec compared with Ontario and the Prairies.) But unemployment rates across Canada also reflect regional differences in labour force composition, in respect to the personal characteristics of workers (age, sex, marital status, education) as well as deployment by industry and occupation. The data in Table 15 illustrate the extent of some of these “compositional” effects of provincial unemployment rates in 1961.

Table 15 presents provincial unemployment rates which have been standardized (reweighted) on the basis of the Canadian labour force distribution in respect to a number of components: occupation, industry, marital status, residence, age, education. A similar procedure was followed in the analysis of provincial participation rates in order to separate out that part of the interprovincial variation in participation due to differences in

¹ The index was calculated as follows: the regional unemployment rate was subtracted from the Canadian rate and the absolute differences multiplied by the regional share of the Canadian labour force. Cf. Denton and Ostry, *op. cit.*, pp. 9-11. See also Frank T. Denton, *An Analysis of Interregional Differences in Manpower Utilization and Earnings*, Economic Council of Canada, Staff Study No. 15 (Ottawa: 1966).

² In the 1930's, however, unemployment rates were lowest in Quebec and Ontario and highest in the Western Provinces. The Maritimes were in an intermediate position in respect to unemployment levels. Cf. *1931 Census Monographs*, *op. cit.*, p. 243.

³ Structural unemployment arises not from a deficiency of aggregate demand but from structural changes in the character of the demand for labour which require transformation of labour supply, usually a time-consuming process. Major shifts in consumer demand, exhaustion of natural resources, changes in the organization of ownership of industry that result in the closing down of plants are examples of structural changes which can reduce job opportunities for workers in a specific local area or region. Technological changes, within a given industry or industries, which reduce the demand for particular groups of workers, will also have a differential regional impact insofar as the affected industries are concentrated geographically. The ease and rate of adjustment to structural change may also vary regionally since it will be affected by, among other factors, the personal characteristics of the individuals concerned and the institutional environment.

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Table 14 - Unemployment Rates, by Region,
Months of Lowest^a and Highest^b Seasonal Unemployment,
Four Month Averages, 1953 to 1966

NOTES.—The months were selected on the basis of an examination of the seasonal adjustment factors (Census Method II). Although these particular groupings of months are not, in every year and in every region, invariably those with the lowest or highest deviation between adjusted and unadjusted unemployment rates, they generally prove to be so and provide a better comparison than, say, the third and first quarter.
Rates from 1956 to 1966 are based on estimates revised to take account of 1961 Census population counts.

Year	Region									
	Atlantic		Quebec		Ontario		Prairies		B.C.	
	Low ^a	High ^b	Low ^a	High ^b	Low ^a	High ^b	Low ^a	High ^b	Low ^a	High ^b
1953	3.5	7.5	2.6	5.0	1.5	2.7	0.8	3.2	2.6	5.8
1954	3.9	10.2	4.6	7.8	3.2	4.7	1.3	4.0	3.4	7.7
1955	4.2	10.2	3.6	10.1	2.2	5.0	1.3	5.5	1.9	6.4
1956	2.9	10.2	2.7	8.2	1.8	3.4	0.7	4.3	1.4	4.0
1957	5.8	11.8	4.0	8.3	3.0	3.8	1.2	4.1	3.6	5.8
1958	8.3	17.8	6.2	12.3	4.3	7.0	1.9	6.9	6.5	11.5
1959	7.0	16.8	4.8	12.1	3.2	6.4	1.7	5.1	4.5	8.7
1960	6.5	16.2	6.5	12.9	4.8	6.2	2.5	6.1	7.3	9.6
1961	6.9	17.3	6.3	14.0	3.9	8.0	3.0	7.0	5.8	12.2
1962	6.6	16.1	5.5	10.4	3.4	6.1	2.1	6.4	5.2	8.4
1963	5.7	15.1	5.5	10.6	2.8	5.4	1.2	5.9	5.1	8.5
1964	5.0	12.8	4.8	8.8	2.6	4.3	2.0	4.9	4.1	6.9
1965	4.0	12.4	4.0	7.5	1.9	3.4	1.5	4.2	3.3	5.5
1966	4.2	10.1	3.7	6.2	2.3	2.9	1.4	3.1	3.8	5.3

^a July, August, September, October.

^b January, February, March, April.

SOURCE: Based on data from *Labour Force Surveys*.

labour force behaviour or propensity and that arising from differences in demographic composition (see *Provincial Differences in Labour Force Participation*, a Study in this Series). The present Study is concerned with exposing interprovincial differences in unemployment rates which stem from differences in the risk of being unemployed, province by province, rather than from differences in provincial labour force structure.¹ It is apparent from Table 15 that, with very few exceptions, the effects of differences in

¹ A caveat is in order. Theoretically, given the labour force cross-classified in sufficient detail (i.e. according to all the relevant characteristics which are associated with "employability"), it would be possible to eliminate statistically the effect of labour force composition and isolate the pure differences in "risk" of unemployment — on the assumption that the propensity to be employed is independent of labour force composition at any given time. Not only is the latter assumption open to question, but labour force data of sufficient detail to yield the requisite "homogeneous" categories are not available. Therefore, the differences in the "risk of unemployment" exposed in Table 15 are certainly not entirely free from "compositional" influences.

Table 15 - 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: Based on data from 1961 Census of Canada.

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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 15 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 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 15). 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 rates relative to the country as a whole.

Finally, as may be seen in Table 16, the interprovincial variation of the standardized unemployment rates (as measured by the average absolute percentage point deviation of the provincial from the Canada rate) is lower than that of the actual rates. Not surprisingly, in view of the findings described above, the effect of standardization in reducing dispersion is much stronger where economic structure (industry and occupational distribution) is considered than when the demographic factors only are taken into account.¹ This analysis suggests, then, that interprovincial differences in the risk of becoming unemployed in any given type of economic activity are somewhat less than those revealed by the actual provincial unemployment

¹ The dispersion of the rates standardized by occupation and industry should be compared with that of the rates for *experienced* unemployed: the basis for comparison of the other standardized rates is the total rate. The lesser dispersion of the weighted rates reflects the lesser deviation of the larger provinces from Canada in respect to unemployment rates.

Table 16 – Average Absolute Deviation of Provincial Unemployment Rates, Standardized^a and Actual, from Canada^b Rate, June 1961

Deviation from Canada rate	Actual rates		Rates standardized ^b by sex and:					
	Total	Experi- enced	Occupation	Industry	Marital status and age	Residence and age	Age	Educa- tion
Average absolute unweighted deviation ^c	1.49	1.30	0.82	0.84	1.37	1.04	1.25	1.32
Average absolute weighted deviation ^d	0.87	0.72	0.49	0.50	0.76	0.75	0.68	0.77

^a On the basis of the all-Canada weights.

^b Excluding Yukon and Northwest Territories.

^c Average absolute percentage point deviation, disregarding sign, of provincial rates from Canada rate.

^d Average absolute percentage point deviation, disregarding sign, of provincial rates from Canada rates weighted by province's share of the Canada labour force.

SOURCE: Based on data from 1961 Census of Canada.

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levels. This should not obscure the fact, however, amply evident from both Tables 15 and 16, that industry by industry and occupation by occupation, 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. (See Appendix B.) It is of some interest to note that the authors of the 1931 Census Monograph on Unemployment arrived at quite the opposite conclusion. "It is obvious (they say) that regional aspects (of unemployment) are not really regional.... The region suffers, but it is as a victim; it is not to any marked extent a culprit."¹

¹ *Op. cit.* p. 18.

3. Underemployment

PART-TIME EMPLOYMENT

Within the conceptual framework of the Monthly Labour Force Survey an unemployed person is one who has not worked during the reference week and was actively seeking employment.¹ If he performed any work at all, he is classified as employed. Of course, there is a wide range of activity included within the employed category and the Monthly Labour Force Survey records the numbers of employed workers distributed according to the number of hours worked during the week. Such distributions reveal that, in any given survey week, a certain proportion of the employed labour force works less than a full week and, over the postwar period, an increasing number of persons have been working part-time (defined for labour force purposes as less than 35 hours). Some of this part-time work is involuntary and represents an under-utilization of manpower akin to unemployment. But there is another dimension of employment which is also measured by the current survey: a growing number of persons *habitually* work part-time, most of them presumably by choice.² The basic information on part-time employment derived from the current survey is presented for the 1954-64 decade in Table 17.

From the data in Table 17 it may be calculated that over one-third of the increase in total employment between 1953 and 1964 was in part-time employment³ and most of this increase in part-time work was voluntary. While the voluntary part-time work force more than doubled over the period, total employment grew by less than one-quarter. Women workers made up almost 70 per cent of the growth in the labour force reporting a usual work week of less than 35 hours. Further, a majority of these women (see Table 18) have found part-time jobs in the service and trade industries.

¹ Also included among the unemployed are the "inactive seekers" described in *Historical Estimates of the Canadian Labour Force*, by Frank T. Denton and Sylvia Ostry (Ottawa: 1967), another Study in this Series.

² This is the group classified as "usually work less than 35 hours a week". The United States *Monthly Report on the Labor Force* distinguishes between those who usually work part-time for "non-economic" reasons, i.e. the voluntary part-time employed and those who say they usually work part-time because they could only find part-time employment. We do not distinguish between these two groups in the published statistics derived from the Monthly Labour Force Survey and, for purposes of analysis, therefore, define voluntary part-time employment as the total count of persons who report that they "usually" work less than 35 hours per week.

³ Over the entire period 1946 to 1964 growth in part-time employment constituted about 20 per cent of the increase in total employment. Unfortunately, there are no data available on either voluntary or economic part-time for the earlier postwar years.

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Table 17 - Part-time Employment, by Sex, Canada,
Annual Averages, 1953 to 1964

NOTES. - * Employed persons who usually work 35 hours or more, at work 1-34 hours during the reference week due to short-time and turnover.
** Employed persons who usually work less than 35 hours a week.

Year	Total employed (1)	(2) Total	(3) Economic part-time*	(4) Voluntary part-time**	(2) as % of (1)	(3) as % of (2)	(4) as % of (2)
	'000	BOTH SEXES - (At work 1-34 hours)					
		'000	'000	'000			
1953	5,235	308	48	197	5.9	15.6	64.0
1954	5,243	349	62	208	6.7	17.8	59.6
1955	5,364	355	54	225	6.6	15.2	63.4
1956	5,585	360	45	243	6.4	12.5	67.5
1957	5,725	444	66	289	7.8	14.9	65.1
1958	5,695	529	80	349	9.3	15.1	66.0
1959	5,856	530	68	366	9.1	12.8	69.1
1960	5,955	580	77	400	9.7	13.3	69.0
1961	6,049	642	77	475	10.6	12.0	74.0
1962	6,217	663	66	495	10.7	9.9	74.7
1963	6,364	719	68	530	11.3	9.5	73.7
1964	6,595	785	65	595	11.9	8.3	75.8
		MALES - (At work 1-34 hours)					
		'000	'000	'000			
1953	4,063	163	37	72	4.0	22.7	44.2
1954	4,044	188	47	74	4.6	25.0	39.4
1955	4,128	186	42	80	4.5	22.6	43.0
1956	4,265	174	33	79	4.1	19.0	45.4
1957	4,325	221	51	98	5.1	23.1	44.3
1958	4,256	265	63	121	6.2	23.8	45.7
1959	4,353	255	53	125	5.9	20.8	49.0
1960	4,362	277	60	134	6.4	21.7	48.4
1961	4,378	298	59	161	6.8	19.8	54.0
1962	4,487	303	50	170	6.8	16.5	56.1
1963	4,567	323	52	176	7.1	16.1	54.5
1964	4,696	340	47	197	7.2	13.8	57.9
		FEMALES - (At work 1-34 hours)					
		'000	'000	'000			
1953	1,172	145	11	125	12.4	7.6	86.2
1954	1,199	161	15	134	13.4	9.3	83.2
1955	1,236	169	12	145	13.7	7.1	85.8
1956	1,320	186	11	164	14.1	5.9	88.2
1957	1,400	223	15	191	15.9	6.7	85.6
1958	1,439	264	18	227	18.4	6.8	86.0
1959	1,502	275	15	241	18.3	5.4	87.6
1960	1,593	303	17	265	19.0	5.6	87.5
1961	1,671	344	18	314	20.6	5.2	91.3
1962	1,730	360	16	325	20.8	4.4	90.3
1963	1,797	396	16	354	22.0	4.0	89.4
1964	1,899	445	18	398	23.4	4.0	89.4

SOURCE: Based on data from Labour Force Surveys. Estimates of Employed at Work 1-34 hours have been revised to eliminate effect of holidays which fell during the reference week in particular years. Estimates were prepared by Mr. John Kuiper. They have not been revised to take account of 1961 Census population counts.

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These have been rapidly expanding sectors of the economy in the postwar years and have absorbed a large share of the growth in the female labour force. The nature of operations in these industries permits a highly flexible scheduling of work (to accommodate the preferences of both the work force and the consumer) which is usually not the case in the primary or secondary (goods-producing) industries.

The steady increase in the number of workers who, by *choice*, work less than a full week reflects long-run trends in the composition of labour supply (in particular, an increase in the proportion of women) and the composition of labour demand (especially the shift in employment to the service-producing sectors of the economy). The level of *economic* part-time employment, however, fluctuates in accordance with changing pressures in the labour market (see Chart 2 and Table 17). Indeed, some experts have argued that since the time lost by the involuntary part-time worker is a form of unemployment it should be added to the regular unemployment figures to provide a more comprehensive measure of under-utilization of manpower in the economy. The United States Bureau of Labor Statistics has recently undertaken to provide such an indicator and regularly publishes, in addition to the conventional unemployment rate, an estimated "percentage of labour force time lost".¹

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The discussion thus far has been confined to the information derived from the current labour force statistics which focus attention on the week's activity. In that context, "part-time" work was equated with less than a full week's work, conventionally defined as less than 35 hours. As has been noted, to the degree that such part-time is involuntary ("for economic reasons") it represents an under-utilization of manpower analagous to unemployment and hence is sometimes referred to as one form of under-employment, "visible underemployment".² Implicit in the concept of

¹ The series are published in chart form in the Monthly Report on the Labour Force. The calculation is based on the assumption that the unemployed and involuntary part-time employed would have worked 37.5 hours a week. The total man-hours lost estimate is related to the total man-hours provided by the employed plus the total man-hours lost - i.e. to the man-hours potentially available if the total labour force were fully utilized. For details of the estimation procedure (and variants of the 37.5 hour "standard") see Gertrude Bancroft, "Alternative Indexes of Employment and Unemployment", *Monthly Labour Review*, Feb. 1962.

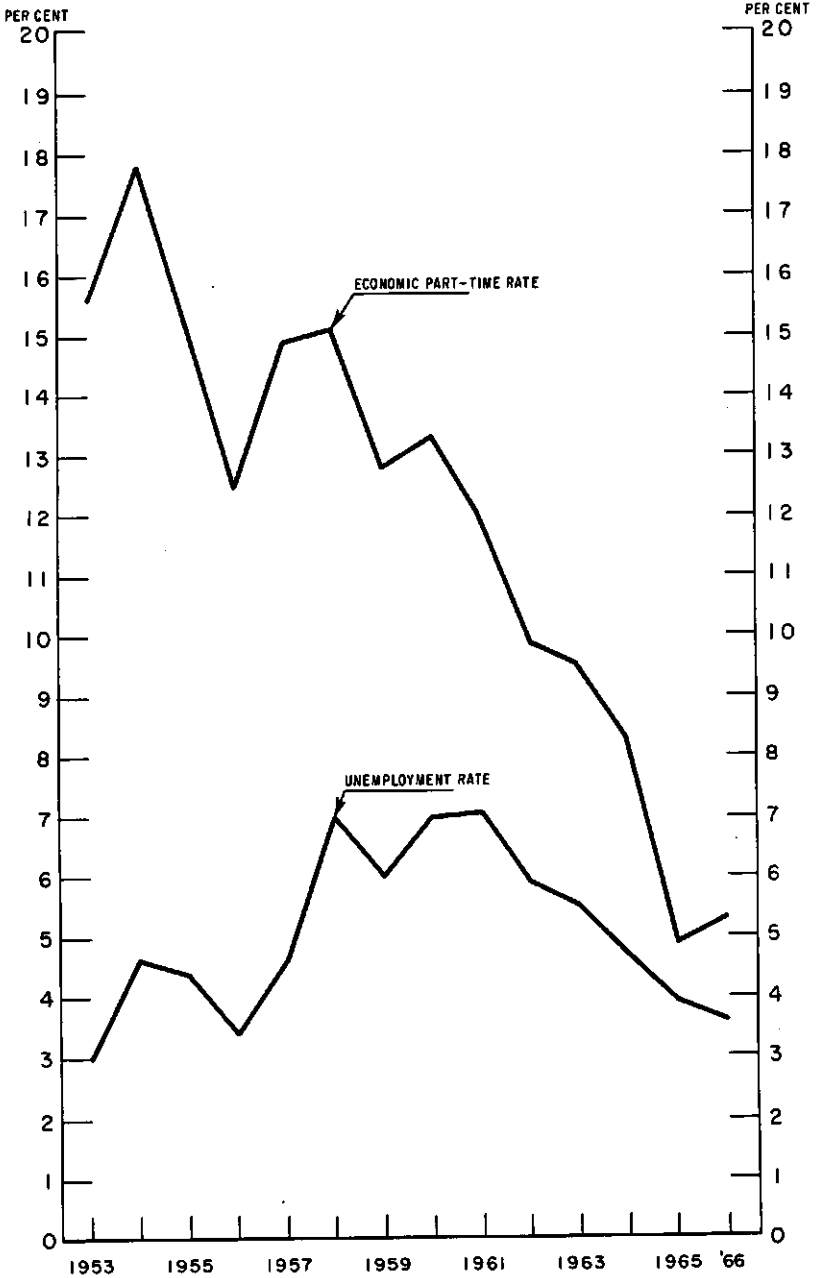
² The Ninth International Conference of Labour Statisticians identified the following major categories of underemployment:

- (a) *Visible underemployment*, which involves persons involuntarily working part-time or for shorter than normal periods of work;
- (b) *Invisible underemployment*, which exists when a person's working time is not abnormally reduced but whose employment is inadequate in other respects such as
 - (1) when his job does not permit full use of his highest existing skill or capacity;
 - (2) when his earnings from employment are abnormally low;
 - (3) when he is employed in an establishment or economic unit whose productivity is abnormally low."

[Report of Working Party, Eleventh International Conference of Labour Statisticians, *Measurement of Underemployment: Concepts and Methods* (Geneva: 1966)].

CHART-2

ECONOMIC PART-TIME EMPLOYMENT: 1953 TO 1966



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Table 18 - Paid Workers Who Usually Worked Less than 35 Hours,
by Industry and Sex: Selected Months and Years

Industry	Survey week ended					
	Sept. 19 1953	Sept. 21 1957	Sept. 20 1958	Sept. 19 1959	Sept. 17 1960	Sept. 16 1961
MALES						
	'000	'000	'000	'000	'000	'000
Primary industries	-	9	6	-	8	8
Manufacturing	9	14	14	18	18	22
Construction	3	7	5	6	6	6
Transportation and other utilities	5	5	5	6	3	8
Trade	11	23	19	25	25	33
Finance	1	2	3	2	4	4
Service	8	19	19	29	27	30
Community	5	9	8	15	10	9
Domestic	-	-	-	-	-	1
Other	3	10	11	14	17	20
All industries	37	79	71	91	91	111
FEMALES						
Primary industries	-	2	5	1	4	3
Manufacturing	8	15	13	15	17	23
Construction	-	-	1	1	2	3
Transportation and other utilities	-	4	4	6	4	4
Trade	23	43	46	50	52	62
Finance	5	6	9	8	9	8
Service	43	80	83	98	109	125
Community	16	35	38	42	44	49
Domestic	10	16	18	21	23	31
Other	17	29	27	35	42	45
All industries	79	150	161	179	197	228
BOTH SEXES						
Primary industries	-	11	11	6	12	11
Manufacturing	17	29	27	33	35	45
Construction	3	7	6	7	8	9
Transportation and other utilities	5	9	9	12	7	12
Trade	34	66	65	75	77	95
Finance	6	8	12	10	13	12
Service	51	99	102	127	136	155
Community	21	44	46	57	54	58
Domestic	10	16	18	21	23	32
Other	20	39	38	49	59	65
All industries	116	229	232	270	288	339

SOURCE: Based on data from *Labour Force Surveys*.

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under-utilization is some notion of capacity. Implicit in the conceptual framework of the current survey, with the week's activity as reference, is a definition of capacity as a work week of 35 hours or more.

By extending the reference period of activity to a full year—as, for example, in an annual survey such as the Work Patterns Survey already referred to—another dimension of “part-time” work is revealed. By adopting some standard of capacity—for example, by defining a full year's work as 50 or 52 weeks—it is apparent that the notion of under-utilization could be extended to include both part-time (working less than 35 hours a week “for economic reasons”) and part-year (working less than 50 or 52 weeks a year “for economic reasons”) employment. Unfortunately, the statistics presently available do not allow us to estimate the extent of this second type of underemployment in Canada. Such data permit us to distinguish weeks of employment, weeks of unemployment and weeks outside the labour force. For those workers who remain in the labour market a full year and seek work when they are not employed, “underemployment” is simply unemployment—and little is gained by this semantic transformation! But—as noted in the discussion of the Work Patterns Survey, below—some groups in the labour force work or seek work for only a part of the year. Hence part-year employment results not only from unemployment during the year but also from labour force withdrawal for a portion of the year. Only if such withdrawal is involuntary, however, can one cite it as evidence of underemployment or under-utilization of manpower. To determine the reasons for rather than simply the amount of non-participation during the course of a year requires a different type of survey than hitherto undertaken in this country.¹ Despite the fact, however, that the annual survey does not measure underemployment, the information which it does provide on the extent and incidence of part-year participation and part-year employment permits one at least to outline the over-all dimensions of this phenomenon in the Canadian economy in any given year.

It is evident from Table 19 that there are marked differences in the labour force activity of the male and female population during the course of a year. In January 1965, out of a total of 5,273,700 males with some labour force experience during the previous 12 months, almost 88 per cent reported that they had maintained a labour market attachment for virtually a full year.

¹ Cf. Wolfbein, *op. cit.*, pp. 312-313. See also the paper prepared by Robert L. Stein and Daniel B. Levine for presentation to the 1965 meetings of the American Statistical Association which describes the experimental survey which led to the recommendation and adoption of a revised labour force definition in January 1967. More extensive probing of the non labour force population is a feature of the new schedule. Cf. Susan S. Holland, “Adult Men Not in the Labour Force”, *Monthly Labour Review*, March 1967, which analyzes some of the data from the Monthly Labour Survey, i.e. the experimental sample. All these surveys involve some probing of attitude and motive, not simply determining activity.

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but the comparable proportion for women was less than 64 per cent. Thus, despite the much higher unemployment rate among men than women, nearly three out of every four males who were in the labour force in 1964 worked a full year, but just over 60 per cent of women were fully employed in this sense. Substantial numbers of women entered the labour force for only a portion of the year and withdrew to a non-labour force activity when they were not working. As Table 19 shows, nearly one-third of the women with labour force experience in 1964 worked only part of the year but did not look for work when they were not employed. Only 10 per cent of the men were in a similar position. It is quite clear that part-year employment among women, far more than among men, is the result of labour force withdrawal rather than unemployment.

Table 19 - Work Pattern of Population, 14 years and over, by Sex, Canada, 1964

Participation and employment pattern	Males		Females	
	Number	Per cent	Number	Per cent
Total labour force	5,273,700	100.0	2,458,700	100.0
In labour force 50-52 weeks	4,631,200	87.8	1,563,000	63.6
Employed 50-52 weeks	3,854,900	73.1	1,372,600	55.8
In labour force 1-49 weeks	642,500	12.2	895,700	36.4
Employed 1-49 weeks	525,300	10.0	777,200	31.6
In labour force 27-49 weeks	234,700	4.5	315,100	12.8
Employed 27-49 weeks	173,300	3.3	264,200	10.7
In labour force 14-26 weeks	150,000	2.8	256,400	10.4
Employed 14-26 weeks	123,200	2.3	219,600	8.9
In labour force 1-13 weeks	257,800	4.9	324,200	13.2
Employed 1-13 weeks	228,700	4.3	293,400	11.9

SOURCE: Based on data from *Annual Work Pattern Survey*, taken in conjunction with *Labour Force Survey*, January, 1965.

This contrast in the labour force experience of men and women is brought out more sharply by the information in Table 20 which was also based on the January 1965 Work Patterns Survey and derived in the following way. "Full capacity utilization" of the labour force may be defined as the total man-weeks of employment which would have been available if every person with labour force experience during the year had remained in the market and worked for a full 52 weeks. An estimate of full capacity employment, in this sense, may be calculated by simply multiplying the total count of persons who worked or sought work at any time in the year by 52.

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Table 20 - Under-utilization of Labour Force, Males and Females,
14 years and over, Canada, 1964

NOTE. - Annual labour force is the total number of persons who have been employed or unemployed at some time during 1964.

Under-utilization	Males (14 years and over)	Females (14 years and over)
(1) Annual labour force (persons)	5,273,700	2,458,700
(2) Capacity (1) × 52 weeks (man weeks)	274,232,400	127,852,400
(3) Man weeks employed	239,270,800	95,699,700
(4) Total gap: (2) - (3) (man weeks)	34,961,600	32,152,700
(5) Per cent total gap (4) ÷ (2)	12.7	25.1
(6) Man weeks unemployed	15,316,200	4,751,700
(7) Per cent unemployment gap (6) ÷ (2)	5.6	3.7
(8) Actual man weeks in labour force (3) + (6) . .	254,587,000	100,451,400
(9) Withdrawal gap (2) - (8) (man weeks)	19,645,400	27,401,000
(10) Per cent withdrawal gap (9) ÷ (2)	7.1	21.4

SOURCE: Based on data from *Annual Work Pattern Survey*, taken in conjunction with *Labour Force Survey*, January 1965.

The difference between this *theoretical maximum* employment and the actual total man-weeks of employment as recorded in the Work Patterns Survey may then be expressed as a percentage "under-utilization gap" and is shown in line 1 of Table 20. The gap between actual and maximum employment was 13 per cent for males and 25 per cent for females, indicating a much higher degree of "under-utilization" of the female than the male labour force. But the "under-utilization" of the female labour force was mainly a consequence of labour force withdrawal for some portion of the year: the gap due to withdrawal was 21 per cent; that arising from unemployment, less than 4 per cent. For males, the unemployment gap was almost 6 per cent, while the withdrawal gap was just over 7 per cent. Within the framework of this present analysis, if one could assume that all labour force withdrawal was involuntary, then the estimated gap due to forced exit from the labour market (line 4) would represent the rate of "underemployment" prevailing in the economy. However, in the absence of any specific and direct information about the motives for part-year participation, the estimates of the "under-utilization gaps" arising from labour force withdrawal should be viewed as *limiting values* of the "underemployment rate" in Canada (as defined in the present discussion) and ranged between zero (assuming all labour force withdrawal was voluntary) to 7 per cent for males and 21 per cent for females. In fact, an examination of further detail on the incidence of part-year participation, particularly by age (and, for women, by marital status as well) suggests that the rate was almost certainly not zero, i.e.,

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that for particular groups of workers a good part of the labour force withdrawal was most probably involuntary. The relevant information is shown in Tables 21 and 22.

**Table 21 - Under-utilization of Labour Force,
Males, by Age, Canada, 1964**

NOTE. - Annual labour force is the total number of persons who have been employed or unemployed at some time during 1964.

Under-utilization	Age			
	14 and over	14 - 19		
		Total	Student	Non-student
(1) Annual labour force (persons).....	5,273,700	523,600	186,000	337,600
(2) Capacity (1) × 52 (man weeks)	274,234,400	27,227,200	9,672,000	17,555,200
(3) Man weeks employed ...	239,270,800	13,701,600	1,810,000	11,891,600
(4) Total gap (2) - (3) (man weeks)	34,961,600	13,525,600	7,862,000	5,663,600
(5) Per cent total gap (4) ÷ (2)	12.7	49.7	81.3	32.3
(6) Man weeks unemployed	15,316,200	2,555,400	306,800	2,248,600
(7) Per cent unemployment gap (6) ÷ (2)	5.6	9.4	3.2	12.8
(8) Actual man weeks in labour force (3) + (6) ...	254,587,000	16,257,000	2,116,800	14,140,200
(9) Withdrawal gap (2) - (8) (man weeks)	19,645,400	10,970,200	7,555,400	3,415,000
(10) Per cent withdrawal gap (9) ÷ (2)	7.1	40.3	78.1	19.5
	20 - 24	25 - 44	45 - 64	65 and over
(1) Annual labour force (persons).....	632,700	2,316,500	1,591,900	209,000
(2) Capacity (1) × 52 (man weeks)	32,900,400	120,458,000	82,788,800	10,868,000
(3) Man weeks employed ...	26,773,800	113,247,800	76,673,000	8,874,600
(4) Total gap (2) - (3) (man weeks)	6,126,600	7,210,000	6,105,800	1,993,400
(5) Per cent total gap (4) ÷ (2)	18.6	6.0	7.4	18.4
(6) Man weeks unemployed	2,593,400	5,297,100	4,310,100	560,200
(7) Per cent unemployment gap (6) ÷ (2)	7.9	4.4	5.2	5.2
(8) Actual man weeks in labour force (3) + (6) ...	29,367,200	118,544,900	80,983,100	9,434,800
(9) Withdrawal gap (2) - (8) (man weeks)	3,533,200	1,913,100	1,805,700	1,433,200
(10) Per cent withdrawal gap (9) ÷ (2)	10.7	1.6	2.2	13.2

SOURCE: Based on data from *Annual Work Pattern Survey*, taken in conjunction with *Labour Force Survey*, January 1965.

Table 22 - Under-utilization of Labour Force, Females, Marital Status by Age, Canada, 1964

NOTE. - Annual labour force is the total number of persons who have been employed or unemployed at some time during 1964.

Under-utilization	SINGLE						
	14 and over	14-24	25-34	35-44	45-64	65 and over	25 and over
(1) Annual labour force (persons)	877,000	601,300	101,600	68,100	94,100	11,800	275,700
(2) Capacity (1) × 52 (man weeks)	45,604,000	31,267,600	5,283,200	3,541,200	4,893,200	613,600	14,336,400
(3) Man weeks employed	33,672,700	20,158,100	4,913,300	3,361,200	4,682,200	557,900	13,514,600
(4) Total gap (2) - (3) (man weeks)	11,931,300	11,109,500	369,900	180,000	211,000	55,700	821,800
(5) Per cent total gap (4) ÷ (2)	26.2	35.5	7.0	5.1	4.3	9.1	5.7
(6) Man weeks unemployed	1,893,100	1,601,800	147,000	72,000	65,000	7,100	291,300
(7) Per cent total gap (6) ÷ (2)	4.2	5.1	2.8	2.0	1.3	1.2	2.0
(8) Actual man weeks in labour force (3) + (6)	35,565,800	21,759,900	5,060,300	3,433,200	4,747,200	565,000	13,805,900
(9) Withdrawal gap (2) - (8)	10,038,200	9,507,700	222,900	108,000	146,000	48,600	530,500
(10) Per cent withdrawal gap (9) ÷ (2)	22.0	30.4	4.2	3.1	3.0	7.9	3.7
	MARRIED						
	14 and over	14-24	25-34	35-44	45-64	65 and over	
(1) Annual labour force (persons)	1,366,500	219,600	339,100	375,400	416,500	15,900	
(2) Capacity (1) × 52 (man weeks)	71,058,000	11,419,200	17,633,200	19,520,800	21,658,000	826,800	
(3) Man weeks employed	52,347,900	7,356,800	12,097,400	14,702,200	17,528,200	663,300	
(4) Total gap (2) - (3) (man weeks)	18,710,100	4,062,400	5,535,800	4,818,600	4,129,800	163,500	
(5) Per cent total gap (4) ÷ (2)	26.3	35.6	31.4	24.7	19.1	19.8	
(6) Man weeks unemployed	2,507,100	548,600	670,400	612,500	660,400	15,200	
(7) Per cent total gap (6) ÷ (2)	3.5	4.8	3.8	3.1	3.0	1.8	
(8) Actual man weeks in labour force (3) + (6)	54,855,000	7,905,400	12,767,800	15,314,700	18,188,600	678,500	
(9) Withdrawal gap (2) - (8)	16,203,000	3,513,800	4,865,400	4,206,100	3,469,400	148,300	
(10) Per cent withdrawal gap (9) ÷ (2)	22.8	30.8	27.6	21.5	16.0	18.0	

SOURCE: Based on data from Annual Work Pattern Survey, taken in conjunction with Labour Force Survey, January 1965.

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As may be seen from Table 21, there was a very marked variation in the size of the "withdrawal gap" among males of different ages. It was extremely high for teen-agers, even if one excludes those who were attending school at the time of the survey (January), and well above-average for young men in their early twenties. The gap diminished to its lowest point for men in the prime ages (25-44) and "older workers" (45-64) and then rose again for workers who were past the customary retirement age (65 and over).

A plausible argument could be made that most prime-age males in Canada are strongly committed to the labour market and therefore most of the part-year participation which gave rise to the withdrawal gap of about 2 per cent was involuntary, i.e. most of the gap represented "underemployment".¹ Men in the "older worker" category are, perhaps, more marginal in this sense, especially those in their late fifties and early sixties. But at least some portion of their "withdrawal gap" likely stems from discouragement with labour market conditions and might be counted as "underemployment". The same is undoubtedly true of the most senior group, those over 64. On the other hand, most students work (or look for work) only during vacation periods and a great many teen-agers who are not full-time students are still not yet fully integrated into the "world of work" and their labour force behaviour tends to be rather volatile. A substantial part, then, of the very high withdrawal gap of the 14-19-year-olds shown in Table 21 undoubtedly resulted from voluntary part-year participation. One might make a similar case, though with rather less certainty, for young men in their early twenties some of whom were also probably full-time students but not separately identified in this Survey. None the less, for both the teen-agers and the 20-24-year-olds, some part of the withdrawal gap represented underemployment. As observed above, both these groups of male workers suffer from very high unemployment which is evidence of their difficulties in achieving a satisfactory accommodation in the labour market. Discouragement and involuntary withdrawal is not an unlikely consequence of such experience.

An evaluation of the nature or source of the "withdrawal gap" is much more difficult in the case of the female than the male worker. This is so essentially because women, or at least married women, are far less firmly committed to the labour force than are men. Much more frequently than men

¹ It has been suggested that in some areas in Canada, particularly in the Atlantic Region and parts of Quebec, a good many workers have become so accustomed to seasonal lay-off (and the collection of seasonal unemployment benefits) that they do not, in fact, want to work during the winter even if jobs were available - which is rarely the case. Cf. Senate of Canada, *Proceedings of the Special Committee on Manpower and Employment* (Ottawa: 1960). To the extent that this is so - and it is extremely difficult to "prove" one way or the other - then labour force withdrawal is voluntary and the under-utilization of manpower which results from it cannot be described as underemployment.

they will move into and out of the labour market, back and forth between a job and the home. Because there is so little direct information about their motives for labour force participation one cannot distinguish, with any certainty, involuntary from voluntary part-year activity. For the male labour force it would be possible to calculate a defensible though admittedly rough estimate of the rate of underemployment. A similar calculation would be out of the question for the female work force. None the less, the information in Table 22 is presented because it is of some interest in demonstrating the variation in the pattern of labour force activity of the female working population over a twelve-month period, especially the differences between the married and single woman in this respect.

Surprisingly enough, the over-all "withdrawal gap" for married women was no higher than for single women but this was entirely due to the preponderance of teen-agers and young women in the latter category. Almost 70 per cent of the single females with some labour force experience in 1964 were between the ages of 14 and 24. A good number of the teen-agers would have been full-time students¹ who were unable to work except during vacation periods. For these, and for many of the younger women, part-year participation is likely to be voluntary so that only a small part of the 30 per cent "withdrawal gap" shown in Table 22 for the group of single women aged 14-24 years would represent "underemployment". If one recalculates the "withdrawal gap" for single women over the age of 24, it is drastically reduced to less than 4 per cent, and contrasts sharply with the 23 per cent figure shown for the married labour force. As the Study of the Female Worker in this Series shows, there is a strong similarity in the labour force activity of the single woman and the male worker. Here is further evidence of the high degree of labour force commitment of this group of women.

It is apparent from Table 22 that part-year participation (and employment) is characteristic of the labour force behaviour of all married women: the variation, by age, in the size of the "withdrawal gap" is not particularly marked. There are, however, some differences worth noting. Not unexpectedly the gap was highest for the youngest group, the 14-24-year-olds. Further, it appears that part-year participation is more frequent among married women who are likely to have pre-school or young children to care for: the "withdrawal gap" was above-average for the 25-34 year group and relatively high also for the next older cohort. The "withdrawal gap" was lower, however, for the older married women, between the ages of 45 to 64. Many of

¹ Among women with a labour force attachment during 1964, there were over 100,000 teen-agers who were at school in January 1965, at the time of the survey. Most of these were probably single, although this information was not available. The total number of single women aged 14-24 in the "annual labour force" was just over 600,000.

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these would be labour force "re-entrants", the middle-aged and older women who have come back into the labour force in such large numbers over the postwar period. They generally have lighter family responsibilities since their children are older and require less constant attention in the home. Consequently, their labour force attachment is likely to be stronger than that of the younger married women. Some part of the 16-per cent gap shown for this group in Table 22 may well have stemmed from involuntary withdrawal but it is clearly impossible to hazard a guess at even a rough estimate of the "underemployment" rate without much more information about their motives and behaviour.

This examination of the incidence of part-year participation has suggested that for all groups of men, with the probable exception of full-time students, and at least for some women workers, a part of the "withdrawal gap" likely represents underemployment. One important implication of this analysis is that the rate of unemployment does not fully reveal the extent to which manpower is under-utilized in the economy at any given time. Further, it is not unlikely that a more comprehensive measure of under-utilization would exhibit a somewhat different incidence – by age, perhaps by sex, by occupation or region, etc., – than does unemployment, insofar as voluntary withdrawal is an alternative to prolonged work seeking. As suggested here, the annual survey affords one method of approach to such a measure, although at present a rather severely limited one: other techniques have been tried and have produced interesting results.¹ As manpower policy grows in importance a variety of measures of utilization will no doubt be required.

¹ See separate Study in this Series on Participation Rates by Frank T. Denton. See also Thomas Dermburg and Kenneth Strand, "Cyclical Variation in Civilian Labor Force Participation", *Review Economics and Statistics*, November 1964. "Hidden Unemployment 1953-62: A Quantitative Analysis by Age and Sex", *American Economic Review*, March 1966. For bibliographic references see Jacob Mincer, "Labor Force Participation and Unemployment: A Review of Recent Evidence", *Prosperity and Unemployment*, R. A. Gordon and Margaret Gordon (eds.), (New York: 1966). For analysis of Canadian data along similar lines, see S. F. Kaliski, "The Relation Between Labour Force Participation and Unemployment in Canada", and Discussion by Frank T. Denton, Canadian Political Science Association Conference on Statistics, 1962 (mimeographed); Pierre-Paul Proulx, "The Cyclical Variability of Labour Force Participation Rates in Canada" (mimeographed), 1967.

4. Family Patterns

Discussion on the labour force is for the most part centred on the behaviour of individuals. This orientation is primarily dictated by theoretical considerations, i.e. because in a good deal of manpower analysis a focus on the individual is both meaningful and appropriate. However, many economic decisions including decisions relating to labour market activity are often made in a *family* context. This is amply apparent, for example, in any analysis of the labour force behaviour of married women and, no doubt, an exploration of the participation of other family members (especially secondary workers) would also reveal family-based links. Although data are lacking for a full-scale exposition of the family impact of unemployment, it is of some interest to include in this study on unemployment a brief outline of the incidence of unemployment among family members (as revealed at the 1961 Census date) as well as an analysis of more current information from the Monthly Labour Force Survey on the family characteristics of the unemployed.

From Table 23, it may be observed that there is considerable variation in the unemployment rates of different family members as measured in the 1961 Census. It has already been noted that the unemployment rate of married males is consistently lower than that of other males not only

Table 23 - Unemployment Rates, by Relationship to Head of Family,^a by Sex and Age, Canada, June, 1961

Family membership	Age				
	15-24	25-44	45-64	65 and over	15 and over
	%	%	%	%	%
Heads (male).....	3.6	2.6	2.9	3.0	2.8
Heads (female).....	2.1	2.1	1.9	1.6	2.0
Wives.....	4.9	2.4	1.7	1.5	2.5
Single sons.....	11.0	7.5	5.2	3.5	9.7
Other male family members...	7.2	5.7	5.3	5.6	5.9
Single daughters.....	6.5	2.0	1.3	1.0	5.1
Other female family members	2.6	2.0	1.7	1.3	2.1

^a A family, as defined in the Census, consists of a husband and wife (with or without children who have never married) or a parent with one or more single children, living together in the same dwelling. See *1961 Census*, Volume II, Part I, Introduction.

SOURCE: Based on data from *1961 Census of Canada*.

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because of age differences in the underlying "population at risk" but also because of a genuinely lesser incidence of joblessness within this category of the labour force. Thus it is not surprising to find that the unemployment rates of male heads of families are lower than those of either sons or other male family members for each of the age categories shown in Table 23. The unemployment rates of female heads of families are generally lower than those of male family heads and — at least for women under 45 — somewhat lower than the rates of wives. However, within each category of the working population classified according to family membership the now familiar variation in unemployment rates by age and by sex is clearly in evidence. Thus male rates throughout are higher than those for females and the incidence of unemployment is greater for the younger age group than for prime-age or older workers.

The composition, as well as the incidence of unemployment, is different for heads and other family members. One aspect of these compositional differences is shown in Table 24. By and large, the majority of unemployment family heads are experienced workers, most of them, no doubt, involuntarily separated from their jobs.¹ On the other hand, a substantial proportion of single sons and daughters, especially those in the younger age groups, are new entrants to the labour market, beginning to look for jobs for the first time or after many months outside the labour force. In June, when the Census is taken, there is an influx of these new jobseekers, many of whom are students looking for summer employment. Thus, as Table 2 shows, 29 per cent of the unemployed sons and 45 per cent of the unemployed daughters aged 15 to 24 were, in June 1961, new labour force entrants. Among unemployed male family heads, however, 96 per cent were experienced workers.

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Labour force data from the Monthly Survey relating to families in which someone was unemployed are tabulated quarterly and normally published in the Monthly Bulletin two or three times a year. These data portray some aspects of the family characteristics of the unemployed. The statistics in the following tables are based on two-year annual averages of the 1964 and 1965 quarterly observations.

¹ Unfortunately, there is no information available in Canada on reasons why the unemployed look for work. Cf., however, "The Unemployed: Why They Started Looking for Work", *Monthly Labor Review*, Washington, October 1965, p. 1197. This report states "for men aged 25 to 64, whose earnings are normally the primary means of support for their families, loss of job was the major cause of unemployment".

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Table 24 – Percentage Distribution of Unemployed by Unemployment Status,^a by Relationship to Head of Family,^b by Sex and Age, Canada, June, 1961

Family ^b membership and age	Unemployed persons		
	Total unemployed	Experienced unemployed	New seekers ^a
	%	%	%
Heads (male)			
15-24	100.0	96.0	4.0
25-64	100.0	96.0	4.0
Total 15-64	100.0	96.0	4.0
Wives			
15-24	100.0	84.6	15.4
25-64	100.0	82.8	17.2
Total 15-64	100.0	83.2	16.8
Sons			
15-24	100.0	71.0	29.0
25-64	100.0	90.7	9.3
Total 15-64	100.0	75.4	24.6
Daughters			
15-24	100.0	54.9	45.1
25-64	100.0	85.4	14.6
Total 15-64	100.0	58.1	41.9

^a Experienced unemployed persons are those who report previous employment experience. New seekers are those who report that they were looking for work for the first time. ^b A family as defined in the Census, consists of a husband and wife (with or without children who have never married) or a parent with one or more single children, living together in the same dwelling. See 1961 Census, Volume II, Part I, Introduction.

SOURCE: Based on data from 1961 Census of Canada.

As may be seen in Table 25, out of an average of 323,000 persons unemployed over this period, 138,000 or 43 per cent were heads of families,¹ that group in the population for whom loss of employment is considered to be most serious. In an earlier year (1961) when over-all unemployment levels were higher, family heads made up a somewhat larger proportion (46 per cent) of the unemployed. Similar information from the United States – available over a much longer period – demonstrates that married male family heads comprise a greater proportion of the unemployed in times of poor economic conditions than in prosperity. Two explanations are offered for this phenomenon,² undoubtedly valid in Canada as well as in the United

¹ Including unattached individuals.

² See Jacob Schiffman, *Marital and Family Characteristics of Workers*, March 1962, Bureau of Labor Statistics, Special Labor Force Report No. 26, p. 26.

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States. Married male heads of families are concentrated in the goods-producing or secondary industry sector which is highly sensitive to fluctuations in employment over the business cycle. Further, a married man with family responsibilities is less likely to leave the labour force when laid off but usually persists in looking for work until he is re-hired or finds a new job. This latter condition probably also accounts for the fact, observed in Table 26, that the duration of work seeking is slightly higher for family heads than other family members.

**Table 25 - Unemployed Persons by Family Status,
Average, 1964 and 1965**

NOTES.—The family unit used in these tables is defined as "a group of two or more persons who are living together in the same dwelling and who are related by blood, marriage or adoption". A person living alone or who is related to no one else in the dwelling where he lives is classified as an "unattached person".

The head of a family unit is defined generally as the person who is mainly responsible for the maintenance of the unit. However, in families consisting of husband and wife (with or without unmarried children), the husband is always designated as the head. In families composed of parent and unmarried child (or children) the parent is recorded as the head.

Total, unemployed persons	Members of family units				Unattached persons
	Heads of families	Single sons and daughters	Wives	Other relatives	
Thousands of persons 323	138	114	17	27	27
Per cent distribution 100.0	42.6	35.4	5.2	8.4	8.4

SOURCE: Based on data from *Labour Force Surveys*.

**Table 26 - Unemployed Persons by Family Status and Duration of
Unemployment: Percentage Distribution, Average 1964 and 1965**

NOTE.—See Table 25.

Duration of unemployment	Unemployed persons			
	Members of family units			Unattached persons
	Heads of families	Single sons and daughters	Wives and other family relatives	
	%	%	%	%
Less than 1 month	34.9	36.5	37.5	34.8
1-3 months	34.4	36.9	33.5	32.6
4 months or more	30.7	26.6	29.0	32.6
Total.....	100.0	100.0	100.0	100.0

SOURCE: Based on data from *Labour Force Surveys*.

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As one would expect, the majority of unemployed family heads are in the prime age group, 20 to 44 years. This may be seen in Table 27. Among the largest group of other family members – single sons and daughters – teenagers predominate. Over half this group of unemployed is between the ages of 14 to 19 and well over 80 per cent is under 25 years of age. The other family relatives (wives included) are more evenly distributed by age.

Table 27 – Unemployed Persons by Family Status, Percentage Distribution by Age, Average 1964 and 1965

NOTE. – See Table 25.

Age	Unemployed persons			
	Members of family units			Unattached persons
	Heads of families	Single sons and daughters	Wives and other family relatives	
	%	%	%	%
14-19	^a	55.7	11.6	8.5
20-24	6.0	28.1	19.2	13.3
25-44	47.0	14.7	45.0	35.5
45-64	41.3	1.4	22.6	40.0
65 and over	5.0	^a	1.6	4.7
Total	100.0	100.0	100.0	100.0

^a less than 1.0%.

SOURCE: Based on data from *Labour Force Surveys*.

As has been emphasized, the impact of unemployment on the family unit is especially serious when the head of the family – the chief breadwinner – is unemployed. During the period under consideration, in just over half (52 per cent) of the family units¹ with one or more members unemployed, the head of the family was unemployed. The situation is made more serious when the head is unemployed and there is no one else in the family working or there is another family member also looking for work. As Table 28A shows, during this period (1964-65), in over 60 per cent of families with the head unemployed there was no other person in the family who was employed. In only 30 per cent of the family units with unemployed heads was some other family member (or members) working full-time. The comparable figure for families with heads who were not out of work was more than twice as high – 74 per cent. Further (Table 28B) in 10 per cent of the families with unemployed heads at least one other family member was also unemployed. By way of contrast, in less than 4 per cent of families with employed heads²

¹ Excluding unattached individuals – for complete definition see headnotes to Table 25.

² The number of families with heads employed was estimated from labour force data on married males. No current information on the total number of family units in Canada is available.

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was there a family member unemployed. Thus it appears that the characteristics of the family head—lack of skill, low education, etc.—which affect his employability also impair the employment prospects of his family.

Table 28A – Families with some Unemployment by Employment Status of Head and Other Members, Percentage Distribution, Average 1964 and 1965

NOTES. – See Table 25.

Status of head	Family units with unemployment		
	No person employed	One or more persons employed	
		Less than full-time	Full-time ^a
	%	%	%
Head unemployed	61.7	8.3	30.0
Head not unemployed	16.3	9.6	74.1
Total families (with one or more persons unemployed)	39.9	8.9	51.2

^a 35 hours or more a week.

SOURCE: Based on data from *Labour Force Surveys*.

Table 28B – Unemployment in Families by Employment Status of Head, Average 1964 and 1965

NOTES. – See Table 25.

Status of head	Percentage of families with one or more family members ^a unemployed
Head unemployed	9.9
Head employed ^b	3.2

^a Other than head. ^b The number of families with employed heads was estimated from labour force data on married males.

SOURCE: Based on data from *Labour Force Surveys*.

Finally, the loss of income and other problems occasioned by the unemployment of the family head becomes more serious as the number of dependent children living at home increases. As may be seen in Table 29, in over one-third of families with unemployed heads there were three or more single children under the age of 25 who, at the time of the surveys, were not in the labour force and therefore could be presumed to be dependent.

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The proportion of the larger family units was rather less among families in which some member other than the head was unemployed. Further, as the census data in Table 30 demonstrates, there was in June 1961 a slightly higher proportion of "large" families (three or more single children under 18 years) among family¹ units with unemployed heads than among those in which the head was working.²

¹ Normal, i.e. husband-wife families.

² In fact, these same data reveal that while the unemployment rate of heads of all normal (husband-wife) families was 2.8 per cent at the time of the census, the rate for heads of "large" (3 or more single children under 18) was 3.2 per cent.

Table 29 - Dependent Children^a in Family Units with One or More Persons Unemployed, Average 1964 and 1965

NOTES. - See Table 25.

Status of head	Family units with unemployment			
	No children ^a	One or two children ^a	Three to five children ^a	Six or more children ^a
	%	%	%	%
Head unemployed	31.2	34.4	26.0	8.4
Head not unemployed	38.6	36.1	19.4	5.9
Total families (with one or more persons unemployed)	34.7	35.2	22.9	7.2

^a Single children under 25 years of age not in the labour force.

SOURCE: Based on data from *Labour Force Surveys*.

Table 30 - Normal^a Families by Employment Status of Head, by Number of Children,^b June, 1961

Status of head	Normal ^a family units			
	Total	No children ^b	One or two children ^b	Three or more children ^b
Head employed				
Number	3,241,070	916,286	1,364,853	959,931
Per cent	100.0	28.3	42.1	29.6
Head unemployed				
Number	94,382	27,114	35,575	31,693
Per cent	100.0	28.7	37.7	33.6

^a Husband-wife families.

^b Single children under 18 years.

SOURCE: Based on data from *1961 Census of Canada*.

5. *Income and Unemployment*

No data presently available provide direct information on the income losses sustained by unemployed individuals and their families. From the 1961 Census some information is available which relates income for the twelve months preceding the Census date to employment status in June 1961. Such information is of limited usefulness because it does not reveal the association between unemployment experience over the year with income earned in that period. More meaningful data, in this respect, are provided by the 1962 Survey of Consumer Finance and described below. These statistics relate annual income in 1961 to duration of unemployment during 1961 and allow one to explore more directly the impact of loss of work on the income of individuals and families although, as will be evident, they are deficient in other respects. Following the brief review below of the 1961 Census information on the income of the currently unemployed, the Study concludes with a more detailed analysis of the relationship between annual income and annual work experience.

INCOME AND CURRENT EMPLOYMENT STATUS

In Table 31, it may be seen that the average annual wage and salary income of wage earners who were unemployed in June 1961 was less than half that of employed wage earners. The income of the unemployed as a ratio of the average income of the employed is shown in column (3): for males it was just over 43 per cent, for females it is somewhat higher, 46.4 per cent. There is some variation in this ratio according to the age of the workers. For both males and females the income of the unemployed relative to that of the employed is higher for the youngest (15-24) and the oldest (65 and over) groups of workers. A similar type of age pattern will be observed in the more complex sample survey data and possible reasons for it will then be discussed.

The unemployment of the family head, who is usually the main breadwinner, will have a serious impact on the family's financial position. As may be observed in Table 32, the average wage and salary income of families¹ with heads unemployed in June 1961 was \$2,648 or just over half (52.7 per cent) that for families whose heads were employed at the census

¹ Normal families with wage-earner heads.

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Table 31 – Average Annual Wages and Salaries, Wage Earners, by Sex and Age, by Employment Status, Canada, June, 1961

Sex and age (1)	Annual earnings of:		(3) (2)
	Employed wage earners	Unemployed wage earners	
	(2) \$	(3) \$	(4) %
Males			
15-24	1,095	2,130	51.4
25-44	1,994	4,162	47.9
45-64	1,753	4,223	41.5
65 and over	1,547	2,952	52.4
Total 15 and over	1,626	3,766	43.2
Females			
15-24	762	1,656	46.0
25-44	1,113	2,194	50.7
45-64	1,027	2,239	45.8
65 and over	984	1,596	61.6
Total 15 and over	936	2,019	46.4

SOURCE: Based on data from 1961 Census of Canada.

Table 32 – Family Income^a of Normal Families with Wage Earner Heads, by Employment Status^b and Weeks Employed^c of Head, Canada, 1961

Employment status ^b and weeks employed ^c of family head	Number of families reporting income ^a	Average family income
		\$
Employed^b.....	2,472,934	5,025
Worked 49-52 weeks ^c	1,971,196	5,515
Worked 1-48 weeks ^{c,d}	501,738	3,101
Unemployed^b.....	79,298	2,648
Worked 49-51 weeks ^c	5,167	4,534
Worked 1-48 weeks ^{c,d}	74,131	2,517

^a Wages and salaries. ^b As of June, 1961. ^c Number of weeks in which family head worked for wages and salaries during twelve months preceding census. ^d Includes a few persons who worked less than a week.

SOURCE: Based on data from 1961 Census of Canada.

date. However, as Table 2 shows, most (93.5 per cent) of the family heads who were unemployed in June had been unemployed – or out of the labour force – for some period during the preceding year and it was the experience

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of broken employment rather than their current status which clearly imposed a drastic financial loss. Thus the income of families with heads who were unemployed at the census date but had worked 49-51 weeks prior to that time was \$4,534, or over 80 per cent of the income of families with employed heads. Similarly, the income of families with heads *currently employed* but unemployed or out of the labour force for part of the preceding year was only \$3,101, not very much higher than the income of families with *currently unemployed* heads. Further, as Table 33 demonstrates, almost half (47.6 per cent) of the families in the lowest quartile of the income distribution were headed by men who had worked less than a full year although they were employed at the census date. Clearly, current employment status is, as was mentioned at the outset, of limited usefulness in assessing the financial impact of job loss and attention now turns to the more revealing survey data which relates annual income to work experience over the year.

Table 33 - Percentage Distribution of Normal Families with Wage Earner Heads by Employment Status^a and Weeks Worked^b of Head, Total Families, Lowest and Highest Quartile, Canada, 1961

Employment status ^a and weeks worked ^b of family head	All families	Lowest quartile	Highest quartile
	%	%	%
Total families with heads in labour force ^a	100.0	100.0	100.0
Employed ^a	96.9	91.3	96.1
Worked 49-52 weeks ^b	77.2	43.7	71.9
Worked 1-48 weeks ^{b,c}	19.7	47.6	24.2
Unemployed ^a	3.1	8.7	3.9
Worked 49-51 weeks ^b	0.2	0.2	0.2
Worked 1-48 weeks ^{b,c}	2.9	8.5	3.7

^a As of June, 1961. ^b Number of weeks in which family head worked for wages and salaries during twelve months preceding Census. ^c Includes a few persons who worked less than a week.

SOURCE: Based on data from 1961 Census of Canada.

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The impact of unemployment on income earned during any given period will, of course, vary with the total duration of unemployment, counting all spells of joblessness, over the period. As noted above, the Census information on the employment status of individuals relates to their *current* status and (except for the limited data on weeks of employment of wage earners cited above) does not distinguish among individuals in respect to

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variations in work experience over the preceding year. The following data from the 1962 Survey of Consumer Finances,¹ however, does permit us to analyze some aspects of the relationship between annual income² and the total duration of unemployment over the year.

From Table 34 we may compare the incomes of family members classified by their duration of unemployment during 1961. For ease of analysis, the absolute income figures in Table 34 have been converted into "income relatives" or indexes, of which the base is the income of individuals with no unemployment during the year.

¹ For a full description of the survey, definition of terms, etc., see Dominion Bureau of Statistics, *Distribution of Non-Farm Incomes in Canada by Size, 1961* (Ottawa: Queen's Printer, 1964), Special tabulations of the survey statistics were provided for this Study.

² These income estimates relate to the calendar year 1961. Census income statistics relate to the 12 months preceding the enumeration although limited post-censal response analysis suggests that some respondents may have replied to income questions in terms of the calendar year. In any case, the income data from the 1961 Census and the 1962 Survey of Consumer Finances should not be directly compared because of a number of other differences between the Census and the Survey including differences in coverage (the sample survey covers only non-farm households), questionnaire, quality and method of enumeration as well as, of course, differences due to sampling.

Table 34 – Income of Family^a Members, by Relationship to Family^a Head,^b by Duration of Unemployment, Canada, 1961

Relation to head ^b of family ^a	Duration of unemployment				
	Nil	9 weeks or less	10-19 weeks	20-29 weeks	30-52 weeks
	AVERAGE INCOME				
	\$	\$	\$	\$	\$
Heads ^b	5,067	3,742	3,073	2,469	1,536
Wives	1,868	1,459	1,161	1,163	768
Children ^c under 20	1,025	1,075	949	985	467
Children ^c over 20	2,788	2,255	1,901	1,534	785
	INDEXES ^d OF RELATIVE INCOME				
Heads ^b	100.0	73.8	60.6	48.7	30.3
Wives	100.0	78.1	62.2	62.3	41.1
Children ^c under 20	100.0	104.9	92.6	96.1	45.6
Children ^c over 20	100.0	80.9	68.2	55.0	28.2

^a The family unit used in these tables is defined as "a group of two or more persons who are living together in the same dwelling and who are related by blood, marriage or adoption". ^b Excluding female heads. ^c Sons, daughters, sons-in-law, daughters-in-law.

^d Base is average income of persons with nil unemployment.

SOURCE: Based on data from 1962 Survey of Consumer Finance.

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One would expect the average income reduction to increase steadily as unemployment is prolonged and indeed such is the case for all family members except teen-age sons and daughters. The probable reason for the exception will be discussed shortly but for the present it may be observed from these data how drastic a loss long-duration unemployment imposes on the income of heads of families and other adult members of family units. Thus the average income of the family heads who had been unemployed for 20-29 weeks during 1961 was less than half that of the fully employed¹ heads. The average income of the very long-term (30 weeks or more) unemployed (among the heads of families) was only about \$1,500, or less than one-third that of family heads who had experienced no unemployment in 1961. The pattern of income reduction was roughly similar for adult sons and daughters and family heads, as Table 34 shows, but for wives the income loss was much less severe as unemployment lengthened beyond 20 weeks.

Table 35 presents similar information on the income of males² classified by age (rather than family relationships) and duration of unemployment. The most striking feature of these data – seen most clearly in Table 35 – is the curious and erratic pattern of the indexes of relative income for teen-agers. The same apparently perverse relationship, i.e. a rise in income with prolongation of unemployment, was observed for children under 20 years (Table 34). From Table 35 it may be seen that the income of teen-age males who had been unemployed up to 29 weeks in 1961 was higher than the average for teen-agers experiencing no unemployment. The main reason for this is that almost half the young people in the latter group were part-year participants, probably attending school during the major portion of the year. Their average annual income would be very low, most of it earned from work during school vacation periods. Teen-age males who are no longer at school full-time, i.e. who are more fully committed to the labour force, will earn a higher income over the year even though they suffer relatively long periods of joblessness. The same phenomenon of labour force withdrawal for part of the year will, though to a far lesser degree, “distort” the indexes of relative income of workers in other age categories. In order to eliminate this “distorting” effect of part-year participation so that one may focus attention on the relationship between unemployment and income, Table 36 presents the same information on the income of individuals classified by

¹ The term “fully employed” in this context implies only that these individuals experienced no *unemployment* during the year, but does not imply that they *worked* for a full year. In other words, some may have withdrawn from the labour force for part of the year.

² This analysis is confined to males because the sample of unemployed females was judged too small to yield statistically reliable estimates for many of the age-duration categories. For the same reason, males over the age of 64 were omitted from the analysis.

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age and duration of unemployment; but the persons selected are full-year participants.¹

Table 35 - Income of Males 14-64 years, by Duration of Unemployment, by Age, Canada, 1961

Age	Duration of unemployment				
	Nil	9 weeks or less	10-19 weeks	20-29 weeks	30-52 weeks
AVERAGE INCOME					
	\$	\$	\$	\$	\$
14-19.....	1,020	1,202	1,164	1,226	576
20-24.....	2,973	2,531	2,217	1,662	817
25-34.....	4,782	3,777	2,804	2,595	1,469
35-44.....	5,485	4,010	3,300	2,462	1,589
45-54.....	5,314	3,658	2,832	2,438	1,421
55-64.....	4,934	3,229	3,219	2,140	1,409
Total 14-64.....	4,720	3,263	2,796	2,201	1,290
INDEXES^a OF RELATIVE INCOME					
14-19.....	100.0	117.8	114.1	120.2	56.5
20-24.....	100.0	85.1	74.6	55.9	27.5
25-34.....	100.0	79.0	58.6	54.3	30.7
35-44.....	100.0	73.1	60.2	44.9	29.0
45-54.....	100.0	68.8	53.3	45.9	26.7
55-64.....	100.0	65.4	65.2	43.4	28.6
Total 14-64.....	100.0	69.1	59.2	46.6	27.3

^a Base is average income of persons with nil unemployment.

SOURCE: Based on data from 1962 *Survey of Consumer Finance*.

Table 36 presents indexes of relative income of males who were in the labour force 50-52 weeks in 1961. The first part of this Table contains indexes relating to income *employment* (wages and salaries and income from self-employment); those in the second part of the Table were calculated from *total* income estimates, i.e. including transfer payments such as

¹ While a tabulation of the numbers of full-year participants (classified by age and duration of unemployment) was available, because of the methods of data storage no information on the income of these full-year participants could be tabulated. However, the average income of the full-year labour force (classified by age and duration of unemployment) was estimated from special tabulations relating income, weeks of employment and weeks of unemployment. The estimates of the numbers of full-year participants (by age) derived from these tabulations were checked against the direct survey estimates of the full-year labour force and proved to be slightly higher. The overstatement was less than 2 per cent for every age group except 14-19-year-olds: for this group our estimate was almost 4 per cent higher.

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**Table 36 - Indexes^a of Income by Duration of Unemployment,
Males,^b 14-64 years, by Age, Canada, 1961**

Age	Duration of unemployment				
	Nil	9 weeks or less	10-19 weeks	20-29 weeks	30-52 weeks
RELATIVE INCOME FROM EMPLOYMENT^c					
14-19	100.0	94.1	77.0	58.9	31.1
20-24	100.0	85.8	66.2	44.9	18.1
25-34	100.0	79.8	53.6	45.2	20.1
35-44	100.0	70.6	55.2	37.0	15.6
45-54	100.0	67.9	49.5	37.6	18.2
55-64	100.0	71.3	59.6	36.9	14.8
Total 14-64	100.0	71.2	53.5	39.1	16.6
Hypothetical index ^d	100.0	90.5	72.0	53.0	21.0
RELATIVE INCOME					
14-19	100.0	98.2	82.6	65.4	33.4
20-24	100.0	87.2	71.5	53.0	24.5
25-34	100.0	81.3	59.4	53.0	29.9
35-44	100.0	73.1	60.7	45.0	28.1
45-54	100.0	69.6	53.1	45.6	26.1
55-64	100.0	71.6	65.0	42.3	27.0
Total 14-64	100.0	72.5	58.3	46.2	25.5

^a Base is average income of persons with nil unemployment. ^b In the labour force 50-52 weeks. ^c Wages and salaries and income from self employment. ^d Calculated in terms of time lost from unemployment.

SOURCE: Based on data from 1962 Survey of Consumer Finance.

unemployment insurance, etc. and other forms of income. Table 36 also presents *hypothetical* indexes calculated on the assumption that the decline in income for each category of unemployment duration is simply a function of the time lost from work.¹ In fact, of course, the income of the unemployed may differ from that of the employed not only because the unemployed lose income when they stop working, but also because even when they are employed they may be working in lower paying jobs. As observed in the preceding analysis of the profile of unemployment, the jobless are, on average, less highly skilled and less well educated than the employed. These and other characteristics of individuals which increase the risk of unemployment are also associated with below-average earnings. Unfortunately, no direct information exists on the earnings of the unemployed

¹ Based on mid-points of the categories of "weeks of unemployment".

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when at work so it is not possible to estimate in any precise fashion the effect on the income of the unemployed, of their lower earnings "potential". The hypothetical "time lost" index is simply a device for getting around this difficulty. It must be pointed out, however, that since the hypothetical indexes are calculated in terms of the mid-points of the categories of unemployment duration¹ — on the perhaps questionable assumption that workers are distributed evenly within each category—they can provide only a rough indication as to whether or not the reduction in income appears to be mainly a function of time lost from work.

Confining our attention for the present to income from employment (Table 36) it appears that for all workers, except teen-agers, the reduction of income with increasing duration of unemployment was rather more than would be expected solely as a result of time lost from work. The gap between the actual and hypothetical indexes would appear to arise, at least in part, from the lower earnings of the unemployed when they are working presumably because of their lower educational levels, greater concentration in unskilled occupations and greater susceptibility to involuntary part-time employment.² Although the pattern is by no means consistent (no doubt, in part, due to deficiencies in the underlying data) this gap appears to be somewhat greater for workers over the age of 35 and also for the long-duration unemployed (20 weeks or more). These data suggest that the link between unemployment and poverty cannot be adequately examined with the available information on current unemployment or even annual unemployment patterns. Much more detailed information on work history and income is required in order to distinguish the impact of unemployment *per se* from that of other economic causes of poverty. Moreover, for a full analysis of the relationship between unemployment and poverty, such information must be oriented to a family context, since we have already seen limited evidence to suggest, in effect, that unemployment may "run in families", i.e. the likelihood of a family member being unemployed is much greater in units with unemployed than employed heads.

Before turning to a discussion of total income, it is of some interest to comment on the pattern of relative income exhibited by teen-agers in

¹ The mid-point of each category of unemployment duration, expressed as a percentage of 52 (weeks) was taken to represent the income loss sustained by loss of work.

² Professor John Vandercamp has questioned the relationship suggested here between unemployment risk and earnings potential for the seasonally and possibly even some of the cyclically unemployed. Seasonal unemployment, being largely predictable, should — if the market is functioning "properly" — be compensated for by higher-than-average earnings rates and therefore the relationship between seasonal unemployment propensity and earning capacity should be the reverse of that suggested by these data. The same may be true for some of the cyclically-prone industries. This line of reasoning opens up interesting problems for further investigation when more data become available.

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Table 36. For these workers the actual index is consistently well above the hypothetical index. Although lack of data precludes any further analysis of this phenomenon, two explanations may be offered for consideration. It would appear from existing knowledge of the nature of teen-age unemployment that it is not unlikely that the distribution of the 14-19-year-old unemployed was "bunched" at the lower border of each duration category - in other words the average duration of unemployment was probably less for teen-agers than adult workers. Further, the "base" of the indexes of relative income - the average income of workers with no unemployment during the year - was probably too low for this group because of the inclusion of some part-year workers. This is borne out by the fact that while estimates of the full-year labour force in every other age category were very close to the survey results, for teen-agers the estimated count was 4 per cent higher than the survey total (see footnote 1, p. 60). Taking both these factors into account would imply that the *actual* indexes for the 14-19-year-old males are somewhat too high and the *hypothetical* index is probably too low and hence there is probably no very significant gap between the two. This would imply, further, that the differences in "earning potential" between the employed and unemployed, noted above in connection with more mature workers, are not nearly so marked within the teen-age "full-time" labour force. Many of these youngsters are school dropouts, undifferentiated in terms of work experience, so that the apparent "homogeneity" between the employed and the unemployed is perhaps not surprising.

A comparison of the indexes of relative income in Table 36 is instructive chiefly in pointing up the extent to which unemployment insurance and assistance payments - which account for most of the difference between income from employment and total income of the unemployed¹ - cushion the loss of income from joblessness. As one would expect, for the short-term unemployed (less than 9 weeks) the contribution of unemployment compensation was negligible. Also, insurance payments were very small for teen-agers, whatever their unemployment experience over the year, probably because many in this age group are unable to establish eligibility requirements under the Unemployment Insurance Act. Even for those groups for whom the contribution was most marked - workers suffering very long-duration unemployment (30 weeks or more) - unemployment payments apparently compensated for something less than 10 per cent of income lost through loss of work. Looking at this another way, however, as may be seen in Table 37, transfer payments (mainly unemployment insurance) were a very substantial component - roughly one-third - of the income of the

¹ On average, unemployment insurance and assistance made up around 95 per cent of transfer payment income.

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long-term unemployed, although even for this group wages and salaries constituted the major source of income.

Table 37 – Percentage Distribution of Major Components of Income of Males,^a 14-16 years, by Duration of Unemployment, Canada, 1961

Duration of unemployment	Components of income				
	Salaries and wages	Self employment	Transfer payments	Other ^b	Total
	%	%	%	%	%
Nil unemployment	84.8	10.3	2.8	2.1	100.0
9 weeks or less	90.9	2.5	5.3	1.3	100.0
10-19 weeks	82.7	4.6	11.4	1.3	100.0
20-29 weeks	77.3	3.7	18.1	0.9	100.0
30-52 weeks	57.0	4.9	33.6	4.5	100.0
Total, males 14-64 ^a ..	84.3	9.4	4.3	2.0	100.0

^a In the labour force 50-52 weeks. (retirement pensions, alimony, etc.).

^b Investment income and miscellaneous income

SOURCE: Based on data from 1962 Survey of Consumer Finance.

Table 38 – Indexes^a of Relative Income of Heads and of Families,^b by Number of Earners in Family,^b by Duration of Unemployment of Head, Canada, 1961

Type of family ^b unit	Duration of unemployment of head				
	Nil	9 weeks or less	10-19 weeks	20-29 weeks	30-52 weeks
One earner					
Head	100.0	79.1	63.0	51.4	34.6
Family	100.0	75.0	60.1	49.6	35.1
Two or more earners					
Head	100.0	82.7	67.8	55.4	38.5
Family	100.0	85.4	74.3	67.2	52.9

^a Base is average income of persons with nil unemployment.

^b Families with two or more persons.

SOURCE: Based on data from 1962 Survey of Consumer Finance.

In Table 38 is presented some information on the effect on family income of the year's unemployment experience of the family head. As one would expect, in one-earner families the drop in family income, with prolongation of unemployment of the head, roughly matches the reduction in the head's income. Where someone other than the head is also contributing

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earnings to the family, the impact of the head's unemployment on the family's financial position is mitigated to quite a considerable extent. Thus, to take the extreme cases, for families with heads experiencing very long-duration unemployment, the earnings of non-head members provide an offset of, on average, about 14 per cent of the income lost through the unemployment of heads.¹ This advantage of multiple-earner families was only slightly counterbalanced by the fact that the incomes of heads of such families were somewhat lower than those of families where only the head was employed. The longer the duration of unemployment, however, the narrower the gap between the average incomes of the heads (Table 39). Thus, the average income of fully employed heads in one-earner families was \$4,983, as compared with \$4,430 in multiple-earner families. At the other extreme, the average income of heads suffering very long-duration joblessness over the year (30-52 weeks) was \$1,722 in one-earner families and \$1,707 in multiple-earner families, a negligible difference.

Table 39 – Average Income of Heads by Number of Earners in Family,^a by Duration of Unemployment of Head, Canada, 1961

Type of family ^a unit	Duration of unemployment of head					
	Nil	9 weeks or less	10-19 weeks	20-29 weeks	30-52 weeks	Some unemployment
	\$	\$	\$	\$	\$	\$
One earner	4,983	3,941	3,137	2,563	1,722	2,985
Two or more earners	4,430	3,663	3,003	2,455	1,707	2,866

^a Families with two or more persons.

SOURCE: Based on data from 1962 Survey of Consumer Finance.

Finally, there appears to be some tendency for the average earnings of secondary family members to decline as the unemployment of the family head lengthens (Table 40). This shows up particularly for the group of families with heads experiencing very long-duration unemployment – 30 weeks or more.² Possibly the earning capacity of family members in this group is lower or perhaps persons in such families are more liable to be unemployed. Again a family “link” between unemployment and poverty is

¹ This is only a rough estimate, of course, since as has been suggested by the foregoing analysis the entire reduction of the heads' income cannot be attributed to unemployment.

² Taking into account the sampling and other error in the underlying data, it is perhaps arguable whether the differences in average income of non-head members among the other categories of unemployment are significant.

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implied. The characteristics of family heads which increase *their* risk of very long-duration unemployment appear also to impair the employment opportunities of other family members.

Table 40 – Average Income of Head, of Other Earners and Family^a for Multiple Earner Families,^a by Duration of Unemployment of Head, Canada, 1961

Income of	Duration of unemployment of head				
	Nil	9 weeks or less	10-19 weeks	20-29 weeks	30-52 weeks
	\$	\$	\$	\$	\$
Family	6,911	5,899	5,133	4,643	3,658
Head	4,430	3,663	3,003	2,455	1,707
Other earners	2,481	2,236	2,130	2,188	1,951

^a Families with two or more persons.

SOURCE: Based on data from 1962 *Survey of Consumer Finance*.

6. Conclusion

This Study has sought to expose some of the more important compositional aspects of unemployment in Canada in recent years. As was stated at the outset the composition of unemployment is related to the level and although the main features described here would not be fundamentally altered if one were examining a different set of data, the reader should be wary of translating this essentially descriptive and static material into a more analytical and dynamic context of causality and economic relationships.

Hopefully, however, the presentation of a wide range of data on excess labour supply will provide useful background material for research into the general problem of manpower utilization. A variety of other studies, in addition to labour market models – for example, poverty studies – also utilize unemployment information. This outline of the profile of unemployment, of the extent of “underemployment” and of some of the family and income links should prove of use in these areas as well.



Appendices A - B

A. DIFFERENCES BETWEEN LABOUR FORCE SURVEY "UNEMPLOYED" AND 1961 CENSUS "PERSONS LOOKING FOR WORK"¹

The Census was taken in June, 1961, and recorded a total of approximately 251,000 "persons looking for work". The May Labour Force Survey produced a figure of 454,000 unemployed, and the June Survey, which took place somewhat later than most of the census enumeration, produced a figure of 367,000.² On the basis of careful interpolation to allow for seasonal changes at this time of year, it is estimated that the Survey would probably have produced a figure in the neighbourhood of 400,000 had it been carried out at the same time as the census, leaving a difference between the two measures of roughly 150,000. This Appendix provides some information on the nature and causes of this difference. For convenience, it is divided into two parts, the first dealing with the more important general considerations and the second with specific causes.

1. GENERAL CONSIDERATIONS

Difference Not Attributable To Sampling

The first point to be made is that the difference should *not* be attributed to any deficiency in the probability sampling approach used in the Labour Force Survey. Specific verification of the Canadian sample design was sought and obtained by means of a special test. A calculation was made of what the result would have been if, instead of covering all households in Canada, the census enumerators had enumerated only households which were in the June 1961 Labour Force Survey. This involved locating the completed questionnaire for a sample (or subsample of the original sample) of about 3,100 of the June Survey households and then "blowing up" this sample, using regular Labour Force Survey procedures, to obtain an artificial estimate of the national total of "persons looking for work". A comparison of this total with the actual census total revealed a difference of only 20,000 or 8 per cent, a difference that is well within the range of random variability to be expected from such a small sample. Thus the test revealed absolutely no evidence of any hidden bias or distortion in the Labour Force Survey design.

¹ This Appendix was jointly prepared by Frank T. Denton and Sylvia Ostry in consultation with W. A. Nesbitt, Assistant Director, Special Surveys Division, Dominion Bureau of Statistics.

² Revised to take account of 1961 Census counts of population. See *The Labour Force*, Supplement to the March 1965 report.

Labour Force Survey a Better Vehicle for Measuring Unemployment

Aside from sampling variability, the Labour Force Survey has every advantage over the census for the measurement of unemployment. At the middle of 1961, the Survey enumerators numbered about 700, all carefully selected on the basis of personal suitability and aptitude. The 1961 Census, on the other hand, engaged some 30,000 enumerators. Faced with the necessity of hiring such a large number of people for temporary employment, there was no choice but to accept the people who were available, the mediocre along with the good ones. Thus the average level of competence of enumeration staff was appreciably and unavoidably lower in the Census than in the Survey. The Survey staff is much better trained, too. Because of the numbers involved, the diversity of questionnaires and procedures on which instruction must be given, and the scarcity of time and experienced personnel, it is simply impossible to give the census enumerators the sort of careful and thorough training which is given to Survey enumerators. Whereas the census enumerator is employed for only a brief period, the Survey enumerator is employed month after month and not only does he learn by experience but his performance can be watched and retraining or other remedial action taken when necessary.

It should also be noted that questions dealing with employment and unemployment are only a few among many in the census. The census forms cover a vast array of subject matter, ranging from personal characteristics such as age, marital status, and place of birth, to housing characteristics, income, migration, and agriculture. In all, the 1961 Census enumerator might have had to concern himself with 200 or more separate questions. The regular Survey questionnaire, on the other hand, contains only about 20 questions to be put to the respondent, all of them having to do with various aspects of labour force activity or related matters. Thus the task of obtaining accurate labour force information is much more the focus of attention in the mind of the Survey enumerator than in the mind of his census counterpart.

Wording of Questions Different

There are substantial differences between the census and Survey in the wording of the relevant labour force questions. The actual wording is as follows:

1961 Census -

Question 16. Did you have a job of any kind last week?
(even if not at work, or part-time)

Question 17. Did you look for work last week?

Labour Force Survey -

Question 14. What did this person do mostly last week?

Question 15. Did this person do anything else last week?

The Survey questions avoid reference to any particular type of activity so as to minimize the risk of influencing the respondent's answers, a very real risk in questioning of this sort. The census questions, on the other hand, give prominence to the possibility of having a job by specifically mentioning it first and by the addition of the qualifying expressions "of any kind" and "even if not at work, or part-time". A "yes" in question 16 would have meant that the question 17 would not be asked. The implications of the differences in wording will be discussed further below.

Net Difference the Result of Large Gross Differences

It is of interest to note that the gross differences are much greater than the net difference, as revealed by a comparison of the census and Survey questionnaires for individuals in the special sample referred to above. A large number of persons reported as unemployed in the Survey were reported as with jobs or not in the labour force at all in the census. At the same time, a smaller but still substantial number of persons who were looking for work according to the census were otherwise classified in the Survey. Timing no doubt was an important factor. Some persons who were looking for work in the census reference week would have found jobs or withdrawn from the labour force by the Survey reference week, while others would have become newly unemployed. Movement of this kind is known to be quite substantial from week to week and month to month. Another important consideration is that an individual census enumerator might have classified a borderline case in one way and a Survey enumerator might have classified it another way. Added to this is the possibility that the census enumerator would obtain his information from one member of the household (e.g., the wife) and the Survey enumerator from another member (e.g., the daughter), with the result that the information might be different or differently interpreted by the enumerator. (This source of difference, of course, is present in any two enumerations - e.g., any two Labour Force Surveys - and not simply the Census and the Survey.) In any event, substantial variation in the classification of individuals seems to be inevitable. The Canadian experience has its counterpart in the United States where similar variation has been found between data from the censuses of 1950 and 1960 and data from the monthly Current Population Survey.

2. SPECIFIC CAUSES

Wording of Census Question 16

As noted above, the wording and priority of question 16 on the census questionnaire is such as to emphasize the possibility of having a job. For the majority of people this would make no difference; for a small but significant proportion it would. The concept of "job" is somewhat ambiguous and it is not unlikely that in some cases the respondent would interpret it as meaning "trade" or "occupation". Thus, a carpenter might be reported by his wife as having a "job" even though he was, in fact, out of work in the particular week to which the census enumeration referred. The casual response, "Yes, my husband is a carpenter" might be accepted uncritically by the census enumerator and a "yes" recorded for question 16, with the result that question 17 would not be asked. In addition to misunderstanding, there is the possibility that the respondent would be inadequately informed about the situation of another member of the household in the reference week, or would recall the situation only vaguely, particularly if the interview took place towards the end rather than the beginning of the following week. Moreover, if the respondent felt that there was some degree of stigma associated with not having a job he would have a natural inclination to answer question 16 in the affirmative. Finally, if the person had a job during the particular week but was not at work for some reason and was seeking work, he would be classified as unemployed by a Survey enumerator but more probably as employed in the census in view of the emphasis on the criterion of job attachment. In all, census question No. 16 clearly invites some overstatement of the "with jobs" total at the expense of the "looking for work" and "not in the labour force" categories.

Timing of Enumeration

The difference in timing of the census and Survey enumerations has already been mentioned. The May 1961 Survey referred to the week ending on the 20th of the month, and the June Survey to the week ending on the 17th. The census reference period is less precisely defined since the labour force questions referred to the week preceding the visit of the enumerator and this would vary from one household to another. However, the largest part of the enumeration was completed in the first two weeks of June, and the best estimate of the average reference period places it at about the week ending June 4. The interpolated Survey figure of 400,000 is based on this estimate.

Labour Force Survey Sampling Variability

The result of the special matched-sample test reported above provides reassuring verification of the basic reliability of the Labour Force Survey design. However, it is quite possible that normal variability made some contribution to the difference between the Census and Survey figures, although it would almost certainly have been a small one. It is possible to calculate the mathematical probability of an overstatement caused by random error in excess of any given amount. An overestimate greater than 20,000 would have occurred with a probability of about one in twenty, and an overestimate greater than 30,000 with a probability of only about one in a hundred.

Classification of Persons on Temporary Layoff

Persons on layoff from their jobs but with definite instructions to return within thirty days are counted as unemployed in the survey even if they are not looking for work. The intention was that they would be similarly classified in the census and instructions to this effect were given to enumerators. However, in view of the wording and priority of question 16 it seems almost certain that most of this group would in fact have been classified as having jobs. (The qualifying expression "even if not at work" is particularly important here). Whereas there is a specific and clearly designated place on the Survey questionnaire where temporary layoff is to be recorded, there was no such place on the census questionnaire to remind the enumerator of his instructions on this point.

Classification of Persons on Indefinite Layoff

Persons laid off without definite instructions to return to their jobs in 30 days are classified in the Survey as unemployed (a) if they are actively seeking work or (b) if they give as a reason for not doing so the fact of their indefinite layoff. But otherwise they are counted as outside the labour force. As with persons on temporary layoff, it is probable that the wording and priority of question 16 would have resulted in some of these persons being reported as having jobs in the census. It is also likely that some of them, being "inactive seekers" (see below), would be missed by the census enumerator and counted as non-labour force. In either case, they would not appear in the census count of unemployed.

Classification of Other "Inactive Seekers"

Persons without jobs who did not actively look for work because they believed none to be available are regarded as unemployed in the Survey. The census enumerators were also instructed to treat such persons

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as if they were looking for work and record a "yes" in question 17. However, in view of the lack of experience of the census enumerators and their necessarily limited training, it is highly probable that a large proportion of such "inactive seekers" were classified as outside the labour force.

B. A NOTE ON THE VARIATION OF UNEMPLOYMENT RATES IN CANADA

VARIANCE ANALYSIS

The main features of the unemployment "profile" in postwar Canada – the demographic, social and economic characteristics of the unemployed – have been described in some detail in the preceding text of this Study. No systematic attempt was made, however, to estimate the influence of the various factors (and categories within each factor) and the purpose of this Note is to provide such estimates by means of regression analysis with dummy variables. The techniques used for this analysis are fully described in the Appendix of another Study in this Series, *Provincial Differences in Labour Force Participation*. As in the previous Study, the data used were derived entirely from the 1961 Census.

The aim of the present analysis must be viewed as illustrative rather than, in any sense, definitive. This is so for two reasons. One concerns the limitations of the 1961 Census statistics on unemployment which have been fully described both in the preceding text and in Appendix A and need not be repeated here. The other stems from the form of the available data. For a variety of reasons, having to do with time limitations and problems of data retrieval, it was not possible to secure unemployment and labour force information with the degree of cross-classification detail appropriate to this type of analysis. Certain classifications relevant to an exploration of the incidence of unemployment were not available at all although certainly the main "determinants" were all included. More inhibiting, undoubtedly, was the fact that only a maximum of three factors could be examined together. However, while this restriction is serious, since it limits the depth of analysis, it should not invalidate the major conclusions.

The basic input consisted of unemployment rates for each of the factor-category combinations shown in Table B.1.

Table B.2 provides a view on the relative importance of the factors examined in each of the five "sets" of cross-classification. It should be noted that for all but set C, involving marital status, age and region¹, the information relates to unemployment rates for both sexes combined. Although in each case equations were also fitted for male rates, the differences in results for all but set C were small and of little interest. They were, therefore, not included.

¹ Because of the prevalence of small or empty cells in the data cross-classified by age, sex, marital status and province, it was decided to group the data by region for this set of regressions.

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As may be seen from Table B.2, the proportion of total variance explained¹ ranged from just over 72 per cent (province and industry) to almost 81 per cent (province and occupation). It is worth reminding the reader that the generally high level of explanation was secured from aggregated data which averaged unemployment rates in terms of, at best, only three given factors and thus averaged out the variation arising not only from the other main factors but also other characteristics, associated with the incidence of unemployment, for which no data at all were available.

Table B.2 underlines the importance, already stressed in the main text, of a worker's occupational and industrial attachment in affecting his risk of joblessness. Thus these two factors explained 69 per cent and 56 per cent respectively of the total variation in unemployment rates when province was the only factor considered. (Since industry and occupation are themselves closely associated, it would be most interesting to repeat this analysis for – at least – a three-way cross-classification including industry by occupation in order to ascertain the separate influence of each). It is worth noting that for both industry and occupation, the total number of categories were 12 and 10 respectively whereas for each of the "demographic" variables the number was (apart from province) 3 or 4. This greater "explanatory power" of the economic factors may, at least in part, be attributable to the lesser degree of aggregation involved² although another explanation is also considered below. Finally these results suggest that the interaction effects between industry and province are somewhat greater than those between occupation and province.³

The influence of age on the unemployment rate is seen to be much stronger than that of the other "demographic" factors – residence, marital status and education. In the two regressions in which age is included with residence and marital status, it accounted for about one-third of the total variation with province (or region) accounting for another third but residence and marital status only 9 and 12 per cent respectively. When education is included with age and province, the contribution of age is somewhat higher – over two-fifths of the total sum of squares – and that of province much lower, only 15 per cent. It is not unlikely that province, in regression A and C, acted in part as a "proxy" for education and this accounts for its very

¹ These percentages are identical to the coefficients of determination shown in Table B.4.

² In regression B, when age is fitted with seven instead of four categories, its contribution to total variation rises from 43 per cent to over 55 per cent.

³ This is unlikely to have arisen from differences in aggregation of the two factors. If anything, in view of the other results cited, one would have expected the level of explanation for industry (12 categories) to be somewhat higher than for occupation (11 categories).

much higher level of explanation in the equation from which education is excluded.

In like vein, since one knows that economic activity is concentrated geographically in Canada – i.e. that there are marked interprovincial differences in economic structure – the “provinces” factor may be acting as a proxy for industry and occupation. If true, this (in conjunction with the degree of aggregation of the data, already mentioned) would account for the higher level of explanation of this factor in regressions A and C than in D and E. Clearly, these problems cannot be sorted out until more detailed data are available.

In Table B.3 the results of Regression C – unemployment rates cross-classified by age, marital status and region – are shown for males and females separately. The contrast between males and females is rather striking; age exerts a much more important influence on females than males while for marital status the reverse is true. These results echo the findings in the main text: when standardized for age, female unemployment rates exhibited little difference by marital status but the rates for unemployed men continued to exhibit a substantial (though somewhat reduced) variation.

REGRESSION RESULTS

The regression equations are shown in Table B.4. A full explanation of their derivation is contained in the Study on Participation Rates already cited but a couple of examples will serve to illustrate the interpretation of these results. Thus the estimated unemployment rate for persons aged 25-44 living in urban areas in the province of Ontario is:

$$4.14 - 0.59 - 0.12 - 1.05 = 2.83\%$$

(Table B.4 – Regression Equation A)

and the rate for persons 15-24 years, with one to three years of high school education, living in Newfoundland is estimated at:

$$3.52 + 3.48 + 0.13 + 1.91 = 9.04\%$$

(Table B.4 – Regression Equation B)

In using these Tables the reader should note that the constant term differs slightly in some of the equations because it represents the *un-weighted* mean of the observations, the unemployment rates for each given factor-category. Further, the standard errors of the coefficients can be used to test the significance of any two coefficients *within* the set to which they apply. As an approximation to the standard *t* test a difference of twice the standard error (shown in brackets) may be taken as indicative of a significant difference between the two coefficients.

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Using this yardstick, a brief review of the Table reveals that unemployment rates are significantly higher for persons under 25 years of age than for older persons; for men who are single rather than married, widowed or divorced; for persons who had failed to go beyond elementary school than for those with better education; for workers living in Newfoundland than elsewhere in Canada and for those whose last job was unskilled manual work rather than white collar activity, in the construction or mining (other primary) industries rather than in the tertiary sector or in light manufacturing. Little purpose is served in detailing here the contents of Table B.4. The reader will observe, in examining these data, that the results obtained from the regression analysis confirm and amplify the analysis of unemployment patterns in the main text.

Finally, despite the limitations imposed by the form in which the data were available – limitations already stressed in the preceding discussion – the results of the regression analysis can serve to illustrate the effect of association between some of the variables used. Thus a comparison of the age coefficients in Table B.4 shows a much wider range in the former, when age is included with residence and province, than in the latter when marital status is considered along with age and province. Age and marital status are closely associated and, of course, both are strongly associated with the risk of unemployment. In Equation A, when marital status is excluded, age acts in part as a proxy for it. There is not, however, such a close correlation between age and residence. Further along these lines, the coefficients for the provinces, although exhibiting the same pattern – higher unemployment in Newfoundland and British Columbia and markedly lower in the Prairie Provinces – vary in magnitude according to which other variables are included in the equation.

Table B.1 – Regression Input Data: Cross-Classification of Unemployment Rates

NOTE.—In this and the following Tables, all data were derived from the 1961 Census of Canada. Unemployment rates for A, B and C refer to the total unemployed as a percentage of the total labour force; for occupation and industry (D and E) the rates refer to the experienced unemployed and labour force, i.e. they exclude persons seeking work for the first time. All rates refer to both sexes unless otherwise specified.

Cross-classification	Number of observations
A. Age (4), Residence (3), Province (10).....	120
B. Age (7), Education (4), Province (10).....	280
C. Age (4), Marital Status (3), Region (5).....	60
D. Occupation (11), Province (10).....	110
E. Industry (12), Province (10).....	120

Table B.2 – Components of Total Variance in Five Regression Analyses on Unemployment Rates of Males and Females Combined

Factor	Regression				
	A	B	C	D	E
Provinces	32.73	14.88	33.07 ^a	11.55	16.27
Age	34.31 ^b	43.43 ^b	31.66 ^b		
Residence	8.80				
Education		21.30			
Marital status			11.71		
Occupation				69.35	
Industry					56.10
Total explained variance (per cent)	75.84	79.61	76.44	80.90	72.37
Unexplained variance ^c (per cent)	24.16	17.66	23.56	19.10	27.63
Total variance	100.00	100.00	100.00	100.00	100.00

^a Five regions. ^b Four age groups. ^c Equal to the effect of interactions between the factors.

Table B.3 – Components of Total Variance in Regression Analysis of Unemployment Rates: Region, Age and Marital Status by Sex

Factor	Males	Females
	%	%
Region	31.61	17.12
Age	18.46	62.47
Marital status	23.16	2.45
Total explained variance	73.22	82.03
Unexplained variance	26.78	17.97
Total variance	100.00	100.00

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Table B.4 - Unemployment Rate Analysis: Regression Equations

Regression equation	Constant = overall mean	Coefficients of						
		Age		Residence		Province		
Regression Equation A R ² = 0.7584 N = 120	4.14	15-24	3.33	Urban	-0.12	Nfld.	4.64	
		25-44	-0.59			P.E.I.	-1.50	
		45-64	-1.28	Rural (non-farm)	1.27	N.S.	-0.09	
		65 and over	-1.46	Rural (farm)	-1.14	N.B.	1.44	
(Standard error of coefficients)		(0.4515)		(0.3910)		(0.7139)		
Regression Equation B R ² = 0.8234 N = 2.80	3.52	Age		Education		Province		
		15-24	3.48	Elementary	2.25	Nfld.	1.91	
				Second. 1-3	0.13	P.E.I.	-1.38	
		25-44	-0.92	Second. 4-5	-1.00	N.S.	0.14	
		45-64	-1.345	University	-1.38	N.B.	0.92	
		65 and over	-1.221			Que.	0.09	
(Standard error of coefficients)		(0.3256)		(0.3256)		(0.5149)		
Regression Equation C	4.15	Age		Marital status		Province or region		
		BOTH SEXES						
		15-24	1.82	Single	0.96	Atlantic	0.32	
		25-44	-0.14	Married	-0.49	Que.	-0.26	
		45-64	-0.52	Widowed and divorced	-0.46	Ontario	-0.62	
		65 and over	-1.15			Prairie	-1.41	
		(Standard error of coefficients)		(0.3834)		(0.3320)		(0.4286)
		MALES						
		15-24	1.79	Single	1.55	Atlantic	0.48	
		25-44	0.00	Married	-1.72	Que.	-0.30	
45-64	-0.21	Widowed and divorced	0.17	Ontario	-0.64			
65 and over	-1.58			Prairie	-2.16			
(Standard error of coefficients)		(0.5766)		(0.4994)		(0.6447)		
FEMALES								
15-24	2.32	Single	-0.31	Atlantic	-0.38			
25-44	-0.31	Married	0.35	Que.	-0.10			
45-64	-0.89	Widowed and divorced	-0.04	Ontario	-0.26			
65 and over	-1.11			Prairie	-0.64			
(Standard error of coefficients)		(0.2935)		(0.2542)		(0.3281)		

**Table B.4 – Unemployment Rate Analysis:
Regression Equations (concluded)**

Regression equation	Constant = overall mean	Coefficients of					
		Occupation		Province			
Regression Equation D $R^2 = 0.8090$ $N = 110$	4.14	Managerial	-3.50	Nfld.	2.61		
		Professional and technical	-3.46	P.E.I.	-1.62		
		Clerical	-1.70	N.S.	-0.18		
		Sales	-1.47	N.B.	1.14		
		Service and recreation	-1.29	Que.	0.17		
		Transportation and communication	0.16	Ont.	-0.52		
		Farmers and farm workers	-2.70	Man.	-0.48		
		Other primary	4.31	Sask.	-1.47		
		Craftsmen	0.83	Alta.	-0.98		
		Labourers	6.68	B.C.	1.33		
		Not stated	2.13				
		(Standard error of coefficients)		(0.8080)	(0.7704)		
		Regression Equation E $R^2 = 0.7237$ $N = 120$	4.06	Industry		Province	
				Agriculture	-2.62	Nfld.	2.79
				Other primary	3.58	P.E.I.	-1.47
Manufacturing				N.S.	0.02		
Durable	0.52			N.B.	1.18		
Non-durable	-0.62			Que.	0.16		
Construction	5.43			Ont.	-0.59		
Transport	-0.12			Man.	-0.74		
Wholesale trade	-0.91			Sask.	-1.48		
Retail trade	-1.29			Alta.	-1.16		
Finance, insurance and real estate	-2.63			B.C.	1.30		
Community service	-1.99						
Public administration	-1.75						
Not stated industries	2.41						
(Standard error of coefficients)				(0.8473)	(0.7735)		



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