

C.B.



THE LABOUR FORCE

DECEMBER 1970

In the week ended December 12, 1970, the Canadian labour force was estimated at 8,329,000. This total included 7,791,000 persons employed for all or part of the reference week and 538,000 unemployed persons. Compared with November, the labour decreased by 71,000; with employment down by 133,000 and unemployment up by 62,000. The declines in the labour force and employment were above average in percentage terms; the increase in unemployment was seasonal. The labour force, the employed and the unemployed were higher than in December 1969 by 234,000, 79,000, and 155,000 respectively.

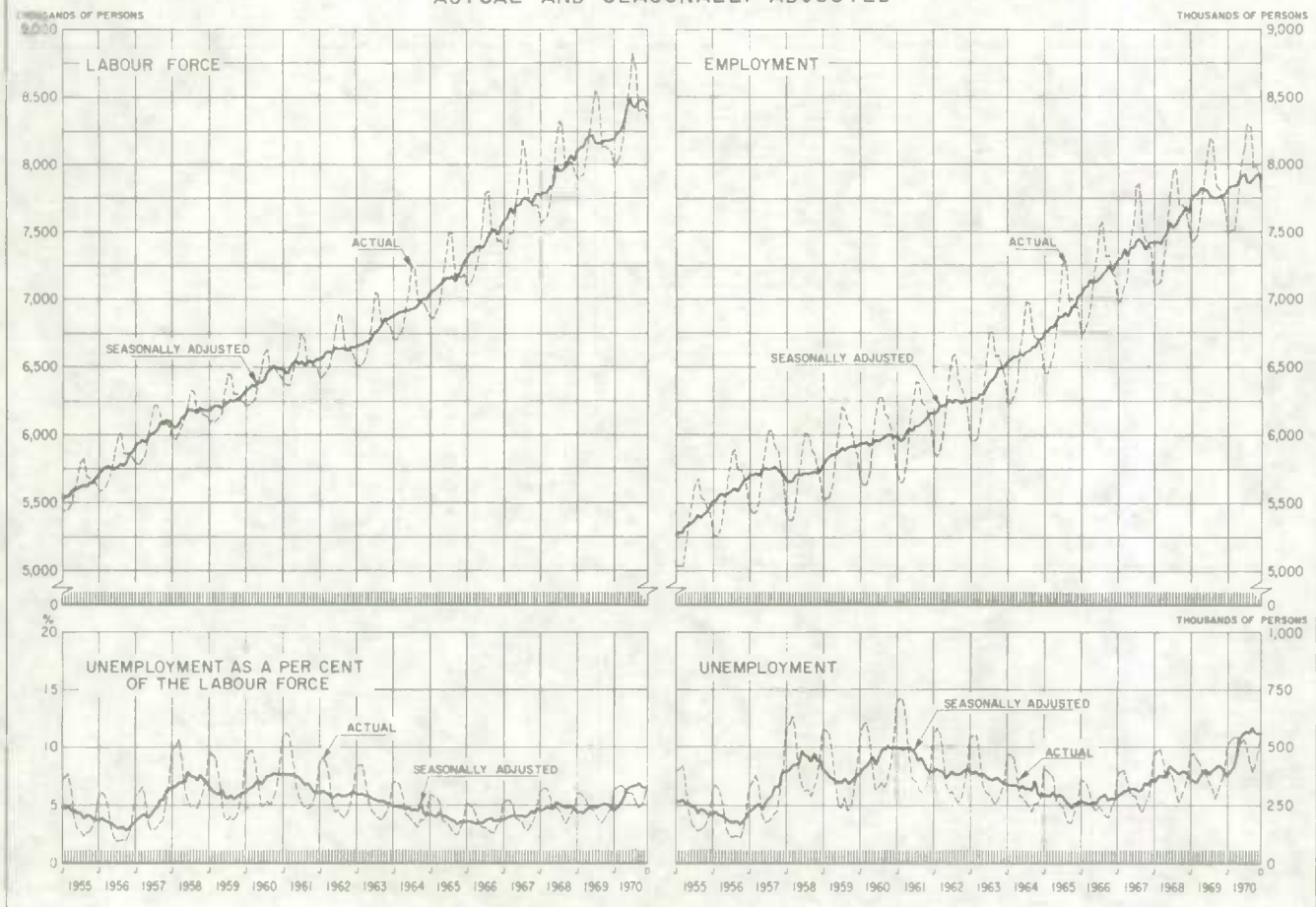
Between November and December, employment decreased in all regions except British Columbia, where a slight increase was recorded. The smallest decline was in the Atlantic region (28,000); the largest in Ontario (43,000). Compared to

December 1969, Ontario, Quebec, and British Columbia had higher employment; the Atlantic and Prairie regions lower. All of the regions had increases from November in unemployment, ranging from 7,000 in the Prairie region to 29,000 in Quebec, except British Columbia where unemployment declined. Compared to December 1969, unemployment was higher in all regions.

Unemployment in December was 6.5 per cent of the total labour force, compared with rates of 5.7 in November this year and 4.7 in December 1969. Seasonally-adjusted, the unemployment rate in December 1970 was 6.6, up from 6.5 in November.

(see page 8 for a note on Seasonal Adjustment).

LABOUR FORCE, EMPLOYMENT AND UNEMPLOYMENT IN CANADA
ACTUAL AND SEASONALLY ADJUSTED



Unemployment by Sex, Age and Marital Status
Canada 1961-1970

The Labour Force Survey regularly collects data about the sex, age and marital status composition of the labour force and its components. From these data, unemployment rates (the ratio of the unemployed to the labour force) can be calculated. The following three tables indicate the unemployment situation by sex and age, by sex and marital status, and by sex, age and marital status for Canada from 1961 to 1970 (except for Table 3 where data are not readily available prior to 1966). This eleven year period corresponds to a cycle of unemployment; during this period unemployment moved from peak (1961) to trough (1965 and 1966) and back up again (1970).

TABLE 1 Unemployment by Age and Sex
Canada 1961-1970

Sex and Age	Estimates in 000's			Rates									
	1970	1966	1961	1970	1969	1968	1967	1966	1965	1964	1963	1962	1961
Both sexes - all	495	267	466	5.9	4.7	4.8	4.1	3.6	3.9	4.7	5.5	5.9	7.1
Men - all	374	209	401	6.6	5.2	5.5	4.6	4.0	4.4	5.3	6.4	6.9	8.4
14-19	74	42	58	15.0	12.3	12.7	10.9	9.7	10.2	12.3	14.0	14.4	16.4
20-24	80	33	59	10.5	7.5	7.7	6.1	5.3	5.7	7.9	9.6	10.0	11.8
25-34	69	35	94	5.3	3.9	4.4	3.7	3.1	3.5	4.5	5.6	6.1	8.1
35-44	56	33	73	4.6	3.7	4.1	3.3	2.7	3.2	3.8	4.6	5.2	6.5
45 plus	94	67	117	4.9	4.2	4.4	3.9	3.7	3.9	4.5	5.3	6.0	7.1
Women - all	121	58	65	4.5	3.6	3.4	3.0	2.6	2.7	3.1	3.3	3.3	3.7
14-19	42	22	24	11.4	8.9	8.3	7.3	6.4	6.9	7.6	7.7	7.9	8.6
20-24	27	10	12	5.1	3.7	4.2	3.2	2.5	3.1	3.3	4.1	3.7	4.2
25 plus	52	26	29	2.9	2.4	2.1	1.9	1.8	1.7	2.0	2.1	2.2	2.5

TABLE 2 Unemployment by Age and Marital Status
Canada 1961-1970

Sex and Marital Status	Estimates in 000's			Rates									
	1970	1966	1961	1970	1969	1968	1967	1966	1965	1964	1963	1962	1961
Both sexes - all	495	267	466	5.9	4.7	4.8	4.1	3.6	3.9	4.7	5.5	5.9	7.1
married	228	128	244	4.0	3.3	3.4	2.9	2.6	2.9	3.3	4.1	4.6	5.6
other	266	139	223	10.0	7.6	7.9	6.6	5.8	6.2	7.5	8.4	8.6	10.2
Men - all	374	209	401	6.6	5.2	5.5	4.6	4.0	4.4	5.3	6.4	6.9	8.4
married	182	108	224	4.3	3.6	3.7	3.3	2.8	3.2	3.7	4.6	5.2	6.4
other	192	101	177	12.8	9.8	10.3	8.5	7.5	8.1	10.0	11.4	11.8	14.0
Women - all	121	58	65	4.5	3.6	3.4	3.0	2.6	2.7	3.1	3.3	3.3	3.7
married	46	20	19	3.0	2.6	2.2	1.9	1.7	1.9	2.0	2.2	2.2	2.3
other	75	38	46	6.4	4.9	4.8	4.2	3.6	3.7	4.2	4.5	4.4	5.0

TABLE 3 Unemployment by Sex and Marital Status, 20-64 years
Canada 1966-1970

Sex and Age	Married							Other than Married						
	Est. in 000's		Rates					Est. in 000's		Rates				
	1970	1966	1970	1969	1968	1967	1966	1970	1966	1970	1969	1968	1967	1966
Men 20-64	176	101	4.4	3.5	3.7	3.2	2.7	116	59	11.7	8.7	9.3	7.5	6.7
20-44	107	55	4.3	3.3	3.7	3.1	2.4	98	46	12.1	8.8	9.0	7.3	6.4
45-64	68	46	4.3	3.7	3.6	3.3	3.2	19	12	10.7	7.7	10.0	8.4	7.1
Women 20-64	44	19	3.0	2.6	2.1	1.8	1.7	34	17	4.3	3.1	3.4	2.9	2.4
20-44	33	14	3.2	2.7	2.5	2.1	1.9	26	13	4.8	3.3	3.7	3.0	2.7
45-64	11	*	2.3	2.2	*	*	*	*	*	*	*	*	*	*

* Less than 10,000 unemployed.

Technical Notes

Scope of Labour Force Survey

The statistics contained in this report are based on information obtained through a sample survey of households. Interviews are carried out in about 30,000 households chosen by area sampling methods across the country(1). The Labour Force Survey, started in November 1945, was taken at quarterly intervals until November 1952. Since then it has been carried out monthly. Estimates of employment, unemployment and non-labour force activity refer to the specific week covered by the survey each month.

The sample used in the surveys of the labour force has been designed to represent all persons in the population 14 years of age and over residing in Canada, with the exception of: residents of the Yukon and Northwest Territories, Indians living on

reserves, inmates of institutions and members of the armed forces. These excluded categories amount to about three per cent of the total population 14 years of age and over.

Estimates derived from a sample survey are subject to sampling and non-sampling errors. Aspects of this subject in relation to the Labour Force Survey are reviewed under "Reliability of Estimates" on page 8.

(1) For a comprehensive description of the design of the Labour Force Survey, see Dominion Bureau of Statistics, Canadian Labour Force Survey - Methodology, Catalogue No. 71-504, Ottawa, 1965.

Labour Force Statistics

Contents of the Tables - The results of the survey are presented in the tables on pages 4 to 7 of this report.

Canada, Labour Force (pages 4 and 5).

Tables 1 to 3 refer to the labour force, employment and unemployment and contain labour force participation and unemployment rates.

Canada, Employed (page 6). Tables 4 to 6 contain further detail on employment.

Canada, Unemployed (page 7). Table 7 contains further detail on unemployment.

Regions, Labour Force (page 7). Table 8 contains labour force data for the regions.

Supplementary Data - From time to time, additional data on particular aspects of the labour force or its components will be obtained. Such material, as it becomes available, will be either included in this report or released in separate reports.

Other Data Available - In addition to the published statistics, there is a considerable amount of data which can be obtained on request. Following is a list of material available.

For Canada only:

1. Age and sex distributions.
2. Marital status and sex distributions.
3. Employed -
 - (a) Reasons for working less than full-time.
 - (b) Hours worked by sex for total employed, agriculture and non-agriculture, and for paid workers, non-agriculture.
 - (c) Industry and occupation groups, by sex for total employed and for paid workers.
4. Persons not in the labour force by category.

For regions:

5. Labour force: by age; by sex, agricultural and nonagricultural.
Employed: by age.

For individual provinces of Atlantic and Prairie regions:

6. Population 14 years of age and over and labour force: by sex.
Total employed, total unemployed, and total persons not in labour force.

Definitions and Explanations

Labour Force - The civilian labour force is composed of that portion of the civilian noninstitutional population 14 years of age and over who, during the reference week, were employed or unemployed.

Employed - The employed includes all persons who, during the reference week:

- (a) did any work for pay or profit;
- (b) did any work which contributed to the running of a farm or business operated by a related member of the household; or
- (c) had a job, but were not at work, because of bad weather, illness, industrial dispute, or vacation, or because they were taking time off for other reasons.

Persons who had jobs but did not work during the reference week and who also looked for work are included in the unemployed as persons without work and seeking work.

Unemployed - The unemployed includes all persons who, through the reference week:

- (a) were without work and seeking work, i.e., did not work during the reference week and were looking for work; or would have been looking for work except that they were temporarily ill, were on indefinite or prolonged layoff, or believed no suitable work was available in the community; or
- (b) were temporarily laid off for the full week, i.e., were waiting to be called back to a job from which they had been laid off for less than 30 days.

Not in the Labour Force - Those not in the labour force include all civilians 14 years of age and over (exclusive of institutional population) who are not classified as employed or unemployed. This category includes those: going to school; keeping house; too old or otherwise unable to work; and voluntarily idle or retired. Housewives, students and others who worked part-time are classified as employed. If they looked for work they are classified as unemployed.

Canada, Labour Force

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(Estimates in thousands)

Note: Due to the introduction of revised weighting factors in March 1965, small adjustments have been made to estimates published before that time. See the March 1965 edition of this report, page 8.

Table 1 Summary	S.D. (1)	1970		1969		1968	
		Dec. 12	Nov. 14	Dec. 13	Nov. 15	Dec. 14	Nov. 16
<u>Total</u>							
Population 14 years of age and over(2)		15,186	15,158	14,809	14,778	14,435	14,407
Labour force	a	8,329	8,400	8,095	8,115	7,940	8,015
Employed	a	7,791	7,924	7,712	7,761	7,567	7,677
Agriculture	d	449	482	457	491	467	523
Non-agriculture	a	7,342	7,442	7,255	7,270	7,100	7,154
Unemployed	d	538	476	383	354	373	338
Not in the labour force	a	6,857	6,758	6,714	6,663	6,495	6,392

Participation rate (3)	a	54.8	55.4	54.7	54.9	55.0	55.6
Unemployment rate (4)							
Actual	d	6.5	5.7	4.7	4.4	4.7	4.2
Seasonally adjusted		6.6	6.5	4.8	5.0	4.8	4.9
<u>Men</u>							
Population 14 years of age and over(2)		7,524	7,511	7,339	7,324	7,156	7,142
Labour force	a	5,631	5,669	5,488	5,502	5,401	5,433
Employed	a	5,219	5,322	5,192	5,243	5,107	5,174
Agriculture	d	400	422	407	429	412	451
Non-agriculture	a	4,820	4,900	4,785	4,814	4,695	4,723
Unemployed	d	412	347	296	259	294	259
Not in the labour force	b	1,893	1,842	1,851	1,822	1,755	1,709

Participation rate (3)	a	74.8	75.5	74.8	75.1	75.5	76.1
Unemployment rate (4)	d	7.3	6.1	5.4	4.7	5.4	4.8
<u>Women</u>							
Population 14 years of age and over(2)		7,662	7,647	7,470	7,454	7,279	7,265
Labour force	b	2,698	2,731	2,607	2,613	2,539	2,582
Employed	b	2,572	2,602	2,520	2,518	2,460	2,503
Agriculture	e	49	59	50	62	55	72
Non-agriculture	b	2,522	2,543	2,470	2,456	2,405	2,431
Unemployed	e	126	129	87	95	79	79
Not in the labour force	a	4,964	4,916	4,863	4,841	4,740	4,683

Participation rate (3)	b	35.2	35.7	34.9	35.1	34.9	35.5
Unemployment rate (4)	e	4.7	4.7	3.3	3.6	3.1	3.1

(1) "S.D." = Standard deviation. For explanation, see "Reliability of Estimates", page 8.

(2) Excludes inmates of institutions, members of the armed services, Indians living on reserves and residents of the Yukon and Northwest Territories.

(3) The labour force as a percentage of the population 14 years of age and over.

(4) The unemployed as a percentage of the labour force.

Note: With the exception of Table 2, all statistics refer to a specific week, the last day of which is indicated.

Note: Due to the introduction of revised weighting factors in March 1965, small adjustments have been made to estimates published before that time. See the March 1965 edition of this report, page 8.

Table 2 Annual averages, 1948-1970		S.D. (1)	1970	1969	1968	1967	1966	1965	1964	1963	1962	1961	1960	
Population 14 years of age and over (2)			15,016	14,638	14,264	13,874	13,475	13,128	12,817	12,536	12,280	12,053	11,831	
Labour Force	a		8,374	8,162	7,919	7,694	7,420	7,141	6,933	6,748	6,615	6,521	6,411	
Employed	a		7,879	7,780	7,537	7,379	7,152	6,862	6,609	6,375	6,225	6,055	5,965	
Agriculture	d		511	535	546	559	544	594	630	649	660	681	683	
Non-agriculture	a		7,368	7,245	6,992	6,820	6,609	6,268	5,979	5,726	5,565	5,374	5,282	
Unemployed	d		495	382	382	315	267	280	324	374	390	466	446	
Not in the labour force	a		6,642	6,475	6,344	6,179	6,055	5,986	5,884	5,787	5,665	5,531	5,420	
Participation rate(3)	a		55.8	55.8	55.5	55.5	55.1	54.4	54.1	53.8	53.9	54.1	54.2	
Unemployment rate (4)	d		5.9	4.7	4.8	4.1	3.6	3.9	4.7	5.5	5.9	7.1	7.0	
			1959	1958	1957	1956	1955	1954	1953	1952	1951	1950	1949	1948
Population 14 years of age and over (2)			11,605	11,388	11,123	10,807	10,597	10,391	10,164	9,956	9,732	9,615	9,268	9,141
Labour force			6,242	6,137	6,008	5,782	5,610	5,493	5,397	5,324	5,223	5,163	5,055	4,988
Employed			5,870	5,706	5,731	5,585	5,364	5,243	5,235	5,169	5,097	4,976	4,913	4,875
Agriculture			700	718	748	777	819	878	858	891	939	1,018	1,077	1,096
Non-agriculture			5,170	4,988	4,983	4,808	4,546	4,365	4,377	4,278	4,158	3,958	3,837	3,779
Unemployed			372	432	278	197	245	250	162	155	126	186	141	114
Not in the labour force			5,363	5,250	5,115	5,025	4,987	4,898	4,767	4,632	4,509	4,453	4,213	4,153
Participation rate(3)			53.8	53.9	54.0	53.5	52.9	52.9	53.1	53.5	53.7	53.7	54.5	54.6
Unemployment rate (4)			6.0	7.0	4.6	3.4	4.4	4.6	3.0	2.9	2.4	3.6	2.8	2.3

Table 3 Age, sex, and marital status Week ended December 12, 1970	Total	14-19 years all persons	20-64 years				65 years and over all persons
			Men		Women		
			Married	Other	Married	Other	
Population 14 years of age and over(2)	15,186	2,516	4,286 a	1,226 b	4,409 a	1,161 c	1,588
Labour force	8,329 a	785 c	4,072 a	964 c	1,516 c	790 c	204 d
Employed	7,791 a	679 c	3,860 a	840 c	1,466 c	753 c	193 d
Unemployed	538 d	106 e	212 d	123 e	50 f	37 f	10 g
Not in the labour force	6,857 a	1,731 b	214 d	262 d	2,893 b	372 d	1,384 a
Participation rate (3) - 1970							
Dec. 12	54.8 a	31.2 c	95.0 a	78.6 a	34.4 c	68.0 b	12.8 d
Nov. 14	55.4	32.2	95.2	79.5	35.1	68.2	13.4
Unemployment rate (4) - 1970							
Dec. 12	6.5 d	13.5 e	5.2 d	12.8 e	3.3 f	4.7 f	4.9 g
Nov. 14	5.7	13.1	4.1	10.8	3.0	5.2	3.8

(1) (2) (3) (4) See footnotes on opposite page.

Note: a) The alphabetic symbol following each estimate in table 3 indicates its standard deviation. For explanation, see "Reliability of Estimates", page 8.

b) Newfoundland included in estimates only from 1950.

Canada, Employed

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(Estimates in thousands)

Note: Due to the introduction of revised weighting factors in March 1965, small adjustments have been made to estimates published before that time. See the March 1965 edition of this report, page 8.

Table 4 Summary	S.D. (1)	1970		1969		1968	
		Dec. 12	Nov. 14 (2)	Dec. 13	Nov. 15(2)	Dec. 14	Nov. 16(2)
Total employed	a	7,791	7,924	7,712	7,761	7,567	7,677
Agriculture	d	449	482	457	491	467	523
Non-agriculture	a	7,342	7,442	7,255	7,270	7,100	7,154
Employed, non-agriculture	a	7,342	7,442	7,255	7,270	7,100	7,154
Usually work 35 hours or more	a	6,418	6,489	6,347	6,383	6,248	6,295
At work 35 hours or more	a	5,896	4,751	5,900	4,706	5,769	4,732
At work less than 35 hours, or not at work	c	522	1,738	447	1,677	479	1,563
Due to economic reasons(3)	e	83	75	73	76	80	79
Due to other reasons(4)	c	439	1,662	374	1,601	399	1,484
Usually work less than 35 hours	c	924	953	908	887	852	859

Table 5 Industry	S.D. (1)	1970		1969		1968	
		Dec. 12	Nov. 14	Dec. 13	Nov. 15	Dec. 14	Nov. 16
Total employed	a	7,791	7,924	7,712	7,761	7,567	7,677
Agriculture	d	449	482	457	491	467	523
Other primary industries	d	206	215	206	215	219	225
Manufacturing	c	1,735	1,765	1,757	1,796	1,765	1,782
Construction	c	446	476	461	489	466	500
Transportation and other utilities	c	700	692	687	670	675	639
Trade	c	1,380	1,374	1,347	1,323	1,314	1,313
Finance, insurance, real estate	d	378	383	358	354	331	335
Community, personal, other services	c	2,006	2,049	1,971	1,970	1,873	1,882
Public administration	c	490	488	468	453	457	478

Note: Since late 1962, statistics in Table 5 have been published on a 3-month average basis. However since January 1966, it has been possible to provide monthly estimates of the employed by industry. Accordingly, beginning with the February 1968 report, the statistics in Table 5 refer to the monthly reference periods. Industry estimates on the 3-month average basis are available on request from the Special Surveys Division.

Table 6 Class of worker, agriculture and non-agriculture, and sex Week ended December 12, 1970	Total	Paid workers	Own account workers	Employers	Unpaid family workers
Total employed	7,791 a	6,817 a	501 c	321 c	153 d
Agriculture	449 d	82 e	243 d	34 f	90 e
Non-agriculture	7,342 a	6,735 a	257 d	287 d	63 e
Men	5,219 a	4,433 a	424 c	292 c	70 d
Agriculture	400 d	69 e	239 d	33 f	58 e
Non-agriculture	4,820 a	4,363 a	185 d	259 d	12 f
Women	2,572 b	2,384 b	76 e	29 e	83 d
Agriculture	49 e	12 f	4 g	1 g	32 e
Non-agriculture	2,522 b	2,371 b	72 e	28 e	51 e

(1) "S.D." = Standard deviation. For explanation, see "Reliability of Estimates", page 8. (2) In the reference weeks of November 1968, 1969 and 1970, unusually large numbers worked fewer than 35 hours due to Remembrance Day holidays. (3) Economic reasons for not working 35 hours or more include short time, layoff for part of the week and termination or start of employment during the week. (4) Other reasons for not working 35 hours or more include illness, bad weather, industrial dispute, vacation, and reasons such as a statutory holiday in the week. **Note:** The alphabetic symbol following each estimate in table 6 indicates its standard deviation. For explanation, see "Reliability of Estimates", page 8.

Canada, Unemployed
and
Regions, Labour Force

Note: Due to the introduction of revised weighting factors in March 1965, small adjustments have been made to estimates published before that time. See the March 1965 edition of this report, page 8.

(Estimates in thousands)

Table 7 Unemployed	S.D. (1)	1970		1969		1968	
		Dec. 12	Nov. 14	Dec. 13	Nov. 15	Dec. 14	Nov. 16
Total unemployed	d	538	476	383	354	373	338
Without work and seeking work	d	495	451	350	331	343	318
Seeking full-time work	d	470	419	328	306	320	298
Seeking part-time work	f	25	32	22	25	23	20
On temporary layoff up to 30 days	f	43	25	33	23	30	20

Without work and seeking work	d	495	451	350	331	343	318
Seeking under 1 month	d	124	130	106	111	110	118
Seeking 1-3 months	d	203	168	149	132	142	112
Seeking 4-6 months	e	84	78	49	41	47	44
Seeking more than 6 months	e	84	75	46	47	44	44

Table 8 Regional distributions Week ended December 12, 1970		Canada	Atlantic region	Quebec	Ontario	Prairie region	British Columbia
Population 14 years of age and over		15,186	1,391	4,322	5,475	2,436	1,562
Men		7,524	689	2,130	2,702	1,226	777
Women		7,662	702	2,192	2,773	1,210	785
Labour force		8,329 a	648 b	2,339 b	3,117 a	1,346 b	879 b
Men		5,631 a	447 b	1,602 a	2,076 a	918 a	588 b
Women		2,698 b	201 c	737 c	1,041 c	428 c	291 d
Employed		7,791 a	594 b	2,142 b	2,971 a	1,275 b	809 b
Men		5,219 a	399 b	1,455 b	1,970 a	863 b	532 b
Women		2,572 b	195 c	687 c	1,001 c	412 c	277 d
Agriculture		449 d	21 e	92 e	120 e	200 d	15 f
Non-agriculture		7,342 a	573 b	2,050 b	2,851 b	1,075 c	794 c
Paid workers		6,817 a	524 c	1,890 b	2,679 b	995 b	729 c
Men		4,433 a	346 c	1,261 b	1,727 b	627 b	472 b
Women		2,384 b	178 c	628 c	952 c	368 c	258 d
Unemployed		538 d	54 e	197 e	146 e	71 e	70 e
Men		412 d	48 e	147 e	106 e	55 e	56 e
Women		126 e	6 f	50 f	40 e	16 g	14 f
Not in the labour force		6,857 a	743 b	1,983 b	2,358 b	1,090 b	683 c
Men		1,893 b	242 c	528 c	626 c	308 c	189 c
Women		4,964 a	501 b	1,455 b	1,732 b	782 b	494 c

Employed	1970 December 12	7,791 a	594 b	2,142 b	2,971 a	1,275 b	809 b
	November 14	7,924	622	2,178	3,014	1,305	805
	1969 December 13	7,712	595	2,104	2,927	1,290	796
	November 15	7,761	606	2,131	2,925	1,292	807
	1968 December 14	7,567	588	2,069	2,852	1,286	772
	November 16	7,677	602	2,100	2,905	1,309	761

Unemployed	1970 December 12	538 d	54 e	197 e	146 e	71 e	70 e
	November 14	476	42	168	126	64	76
	1969 December 13	383	46	152	95	44	46
	November 15	354	40	143	82	41	48
	1968 December 14	373	45	152	87	45	44
	November 16	338	40	134	82	35	47

(1) "S.D." = Standard deviation. For explanation, see "Reliability of Estimates", page 8.

Note: The alphabetic symbol following each estimate in table 8 indicates its standard deviation. For explanation, see "Reliability of Estimates", page 8.



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Reliability of Estimates(a) Sampling Error

The estimates in this report are based on a sample of households. Somewhat different figures might have been obtained if a complete census had been taken using the same questionnaires, interviewers, supervisors, processing, etc. as those actually used in the Labour Force Survey. This difference is called the sampling error of the estimates. In the design and processing of the Labour Force Survey extensive efforts have been made to minimize the sampling error. The sampling error (expressed as a per cent of the estimate it refers to) is not the same for all estimates; of two estimates the larger one will likely have a smaller per cent sampling error and of two estimates of the same size the one referring to a characteristic more evenly distributed across the country will tend to have a smaller per cent sampling variability. Also, estimates relating to age and sex are usually more reliable than other estimates of comparable size.

(b) Non-sampling Errors

Errors, which are not related to sampling, may occur at almost every phase of a survey operation. Interviewers may misunderstand instructions, respondents may make errors in answering questions, the answers may be incorrectly entered on the questionnaires and errors may be introduced in the processing and tabulations of the data. All these errors are called non-sampling errors. Some of the non-sampling errors will usually balance out over a large number of observations but systematically occurring errors will contribute to biases. Non-sampling errors can be reduced by a careful design of questionnaires, intensive training and supervision of interviewers and a thorough control of the processing operation. In general, the more personal and more subjective inquiries are subject to larger errors. Also, data referring to persons with less stable labour force status will have relatively large non-sampling errors.

(c) Alphabetic Indicators of Standard Deviation

The sampling error, as described under (a) is not known. A quantity, called the standard deviation, can however be estimated from sample data itself. The standard deviation of an estimate is a statistical measure of its sampling error. It also partially measures the effect on non-sampling errors, but does not reflect any systematic biases in the data. The chances are about 68 out of 100 that the difference between a sample estimate and the corresponding census figure would be less than the standard deviation. The chances are about 95 out of 100 that the difference would be less than twice the standard deviation and about 99 out of 100 that it would be less than 2 1/2 times as large.

The standard deviations of the estimates, expressed as a per cent of the estimates, are indicated by letters. The letter "a" indicates that the standard deviation is smaller

than 0.5% of the estimate, the letter "b" indicates that the standard deviation is between 0.6% and 1.0% of the estimate and so on as shown in the table below.

Alphabetic designation of per cent standard deviations

Alphabetic indicator	Per cent standard deviation
a	0.0% - 0.5%
b	0.6% - 1.0%
c	1.1% - 2.5%
d	2.6% - 5.0%
e	5.1% - 10.0%
f	10.1% - 15.0%
g	15.1% -

The actual standard deviation of an estimate is not the same each month. Since the standard deviations of the current estimates are not available at the time when this report is published, the alphabetic indicators are based on the average standard deviations during the last year. They should, therefore, be interpreted only as indications of the order of magnitude of the standard deviations.

(d) Standard Deviation of Month-to-Month Changes

A rough upper limit for the standard deviation of the difference (change) between two estimates referring to two months up to a year apart may also be indicated using the table above. For most characteristics published in this report the standard deviation of the difference between two estimates is likely to be somewhat smaller than the standard deviation of the smaller of the two estimates or in the immediately preceding range.

For example, suppose that a hypothetical estimate in May and June was 513,000 and 625,000 respectively and the per cent standard deviation of both estimates was indicated by the letter "c", i.e. it was between 1.1% and 2.5%. The difference between the May and June estimates (112,000) would, therefore, have a standard deviation which would likely be smaller than 2.5% of 513,000, i.e. it would likely be smaller than 12,600.

(e) Current Estimates of Standard Deviations

Standard deviations are computed monthly for several estimates and month-to-month changes. These are available usually in a few weeks after the publication of this report and can be obtained on request. Beginning with 1966, an annual report on the standard deviations during the last year will be released.

WHAT IS SEASONAL ADJUSTMENT

Fluctuations in economic time series, such as unemployment rates, are caused by seasonal, cyclical and irregular movements. A seasonally-adjusted series is one from which the seasonal movements have been eliminated. Seasonal movements are defined as those which are caused by regular annual events such as climate, crop cycles, holidays and vacation periods. Thus, a seasonally-adjusted series is one which has been modified for normal annual conditions (the seasonal component), but which retains both longer-term trends (the cyclical component) and other residual movements such as strikes or unusual weather conditions (the irregular component). The annual average of a seasonally-adjusted series is equal to the annual average of an unadjusted series (within a small fraction) because over the course of a year the seasonal factor averages unity. Seasonal adjustment is an essential tool in business cycle analysis because it eliminates the seasonal element which tends to obscure the underlying trend-cycle.