# CANADIAN LABOUR FORCE ESTIMATES 1931-1945 



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## DOMINION BUREAU OF STATISTICS

Labour and Prices Division
Unemployment Insurance Section

## PREFACE

Originally this project had as its objective the provision of estimates of the Canadian Civilian Labour Force and its chief components for the years 1931 1945. The estimates so prepared were published in D.B.S. Reference Paper No. 23, issued early in 1951. Widespread use has been made of these data with the result that the earlier reference paper is out of print. In order to incorporate new population estimates for the years 1942-1945 and to include estimates for those living in remote areas as has been done in the current labour force surveys, revised labour force estimates for 1931-1945 have been prepared. At the same time an appendix has been added giving estimates of the civilian labour force and its main elements from 1921-1930.

This revision and expansion of the original estimates has been prepared in the Unemployment Insurance Section of the Labour and Prices Division under the supervision of Messrs. D.J. Bailey and N.L. McKellar by Mr. G. Palamedes assisted by a committee composed of Miss H.C. Driscoll, Miss Mary George, Mr. W. MacLeod and Mr. G.R. S. Ilusk.

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## INTRODUCTION

This revision of D.B.S. Reference Paper No. 23 - Canadian Labour Force Estimates 1931-1950contains estimates of the civilian labour force and its components for June 1st 1931-1945 which are consistent in coverage and concept with those obtained from the Labour Force Surveys and published in D.B.S. Reference Paper No. 58-The Labour Force November 1954-January 1955. Monthly labour force bulletins bring the series up to date. Estimates of the civilian labour force and its main elements for the years 1921-1930 are presented in the appencix.

Two main revisions of the Labour Force Survey series are incorporated in the revised estimates for 1945 and earlier years. One of these stems from revised population estimates for theyears 1942-1945 resulting from final 1951 census figures; the other
comes from including estimates for certain remote areas. It should be noted that the remote areas referred to here are located within certain provinces; the Yukon and Northwest Territories are not included.

In addition to the above revisions of basic estimates, changes have been made in the kind of material presented in the new reference paper. Comparative labour force participation rates in Canada and the United States have been deleted. Estimates of the main labour force categories for 1921-1930 have been added in response to repeated requests for such estimates, particularly for the years 1926 1929. Population census data which serve as bench marks are available for June 1, 1931 and June 2, 1941 (as well as for June 1, 1921) so the estimates for other years relate to the beginning of June.

## COMMENTS ON DATA

The Canadian non-institutional population 14 years of age and over increased in the period 1931 to 1945 by about 1.7 million (from 7.1 million to 8.8 million) or, on the average, by about 120,000 a year.

In the same period, the strength of the armed forces rose very considerably from an average of about 5,000 for the prewar period to 779,000 in 1944 and then fell slightly to 736,000 in 1945. Consequently the civilian non-institutional population, which increased steadily from 1931 to 1939 , levelled off in 1940, started to decrease in 1941 and reached a turning point in 1943.

On the other hand, the civilian labour force despite large withdrawals to the armed forces during the war years, substantially maintained its strength (1942 being about 103,000 greater, and 194554,000 greater than 1941) mainly by recruiting from among those who would normally be outside the labour force.

The group classed as "not in the labour force" normally represents a fairly constant percentage of the population, but during the war years this category fell to a low point in 1943 (169,000 fewer than in 1939) increased by 68,000 between 1943 and 1944 and then moved shamly upward with the decline in wartime employment (the increase between 1944 to 1945 being some 156,000 ).

The number of civilian jobs showed a marked increase during the war as compared with pre-war
experience despite a decline in agricultural employment, reaching a wartime peak of 4.491 .000 in 1943 (371,000 greater than 1939) and then dropping to $4,447,000$ by 1945 .

The occupational status of persons with jobs in non-agricultural industry was also affected by the war and the period of adjustment immediately following the war. The immediate effect of increasing economic activity following the outbreak of hostilities in 1939 was to slightly decrease the number of business establishments (employers and ownaccounts) and to increase job opportunities for paid workers. By 1941, the pressure on available supplies of critical materials led to the imposition of controls and, at the same time, licensing of existing establishments with consequent control over the setting up of new business enterprises. Critical manpower shortages also developed so that by the late summer of 1942 effective control of manpower allocation was in operation. These factors, along with the plentiful opportunities for steady well paid employment in those industries having a high priorityrating for material and labour, drew considerable numbers from the employer, own-account and unpaid family worker status groups into paid-worker employment. Thus, estimates of employers, own-accounts and unpaid family workers declined steadily from 1939 to 1945.

Tables 3 and 4 present more detailed information on the industrial and geographical movements of paid workers during the periods covered.

## CONCEPTS, SOURCES AND METHODS

## A. Concepts of Measuring the Working Population

The Census of Canada since 1891 has included tabulations showing separately that part of the population which is considered as economically active. In earlier censuses the "gainfully occupied" concept was used, but in 1951 the "labour force" concept was adopted to provide data on a basis similar to those obtained from the current Labour Force Sample Surveys inaugurated in November 1945.

## 1. The "Gainfully Occupied" concept

In volume VII Census of Canada 1941, "gainfui occupation" is defined as follows: "A gainful occupation is... one by which the person who pursues it eams money or in which he assists in the production of marketable goods; ... . Older persons who because of physical disability or other reasons had given up their former occupations were enumerated as "Retired". while only those young persons not attending school and regularly employed in some gainful occupation were included among the gainfully occupied. Children, 14 years and over, assisting parents in the work of the farm or in some family business in a "No pay" capacity were considered as gainfully occupied, but daughters assisting with household duties in their own homes without wages were not included in the gainfully occupied population",

It should be emphasized that many persons not considered gainfully occupied are usefully occupied, e.g. housewives and students are not included among the gainfully occupled. In this connection all persons of working age (in the 1941 Census, those 14 years of age and over and in the 1921 and 1931 Censuses those 10 years and over) were classified as being either "gainfully occupied" (employer. own-account, wage-eamer, unpaid family worker) or "not gainfully occupied" (homemaker, student, retired, other). The customary activity was used in deciding an individual's category, so that, e.g. women normally engaged in keeping house who may have done some work outside the home during the year, were classed as "homemakers".

At the same time, in order to obtain a measure of employment and unemployment, each wage-earner (defined, for census purposes, as synonymous with employee, i.e. wage and salaried worker) was asked, in 1931 and 1941, whether or not he was at work on the census date. If the answer were "No", he was further asked to indicate the reason for not being at work on that date. The reason given was classed under one of the following heads: no job, lay-off, holiday, illness, accident, strike or lockout, other cause.

## 2. The "Labour Force" concept

The labour force sample survey, which commenced in November 1945, uses the "labour force" concept in classifying the population 14 years of age and over. In this system persons are classified as "in the labour force" or "not in the labour force" on the basis of their activity during the
survey week. Briefly, those who were at work during any part of the week, or had jobs from which they were temporarily absent, or were looking for work, are included in the labour force (as either employers, own-accounts, paid workers, or unpaid family workers). Those who did not work for pay or profit during the survey week and had no job and were not looking for work, are classed as not in the labour force (as either permanently unable or too old to work, keeping house, going to school, retired or voluntarily idle, or other).

In order to provide the information necessary to assign each individual to a "labour force" category enumerators on the labour force sample survey ask a number of questions conceming those covered. The first question relates to the person's major activity in the survey week. The answer is recorded as: worked, looked for work, had a job but did not work, kept house, went to school, permanently unable, too old to work, retired or voluntarily idle, other. The next question is concemed with any other activity carried on in the survey week under the headings: did some work, looked for work, had a job but did not work, or no activity. By this means all those who (either as a major or secondary activity) worked, looked for work or had a job but did not work, are classed as in the labour force.

As a preliminary step to utilizing Census data as bench marks in the construction of estimates for the years 1931-1945, it was necessary to adjust the figures obtained from the use of the gainfully occupied concept. The labour force includes some who would not be considered "gainfully occupied" since groups such as pensioners, housewives and students who did some work, had a job or were seeking work during the survey week are included in the labour force. In addition, young persons out of school who have never worked (and therefore have no occupation) but are looking for work are not included in the gainfully occupied but are in the labour force. On the other hand the voluntarily idle are excluded from the labour force whereas some of them, on the basis of usual activity, would be included in the gainfully occupied.

Differences in the Census data as compared with those obtained from the Labour Force Sample Survey arise also from the fact that the gainfully occupied concept is not primarily designed to yield information on the activity of the population at the census date. It is for this reason that the Census recorded the activity of wage-eamers ${ }^{1}$ (paid workers) on the census day in 1931 and 1941. In fact, then, data concerning activity on one day and applying to wage-earners only, must be used to supplement

1. The Census has confined "current activity" questions to wage-earners since it was thought that those classed as own-accounts, employers and unpaid family workers could provide much less specific information regarding activity on a particular day. An employer or own-account may have done little of consequence on a certain day but, since he operates his own business, he is available and therefore tends to consider himself at work.
the information on occupational status available for the gainfully occupied and based on usual activity. The following explanations of methods used in connection with each group for which estimates are provided contain more detailed expositions of the adjustments made.

The tables of paid workers by industry, province and sex, present more detailed information on the industrial and geographical movements of this important segment during the period covered.

## B. The Civilian Labour Force and its Main Components

## 1. The Civilian Labour Force

The starting point for any investigation of the labour force is the civilian non-institutional population 14 years of age and over, since this is the population from which the civilian labour force is drawn. Those under 14 years of age can be ignored on the ground that their labour force participation is negligible, while inmates of institutions not being free to accept outside employment cannot properly be said to form part of the labour force although some of them may be performing useful work. In addition, because of their special position in the economy and because of enumeration difficulties, Indians on reservations are excluded from the labour force surveys and from these estimates.

The labour force includes the members of the armed services since it consists of all those who have jobs (whether they worked or not during the survey week) from which they derive remuneration or who work without stated pay in a family enterprise or who are looking for work. Statistics are available, however, from the Department of National Defence, regarding the numbers in the armed services and therefore it is not necessary to include the armed forces in the current surveys of the labour force. The estimates contained herein, then, relate to the civilian non-institutional labour force (the total labour force less the armed forces, inmates of institutions, Indians living on reservations and residents of the Yukon and Northwest Territories).

Intercensal estimates of population are published annually by age and sex for Canada and the provinces ${ }^{1}$. These estimates are based upon the most recent census figures projected by means of information on births, deaths and immigration as well as estimates of emigration and inter-provincial migration. Thus population estimates subsequent to the latest year for which final census figures are available are subject to revision on the basis of more recent census results. When these labour force estimates were published originally in 1951 the most recent census results were those for 1941 and the population estimates for the years 1942 to 1946 were preliminary. Final results of the 1951 Census have provided revised population estimates which

1. See: D.B.S. Vital Statistics, Analytical Report No. 1, second edition 1948 and D.B.S. Reference Paper No. $40,1953$.
are incorporated in the new estimates of the labour force. The resulting adjustment in the civilian noninstitutional population 14 years of age and over for June 1, 1946 was a reduction of 46,000 . At the same time, however, the scope of the labour force estimates (and the population base) has been widened to include certain remote areas. The correction based upon 1951 census results was apportioned over the years back to 1943 inclusive. Estimates of the civilian non-institutional population for the years 1931 to 1945 were adjusted for remote areas on the basis of 1953 experience. The percentage increase due to the inclusion of remote areas in June 1953 was applied to the population estimates of the years 1931 to 1945.

Over a period of a few years the degree of labour force participation of a population with fairly constant characteristics exhibits a great deal of stability. Particular features of a population which determine the extent of participation include age and sex composition, stage of economic development and structure of industry, level and distribution of income, extent of urbanization, birth rate (in that, on the whole, mothers with school age children are not available for work outside the home) ${ }^{2}$. At the same time a dramatic change in circumstances, such as changeover from peace to war conditions (or viceversa) with consequent withdrawal of significant numbers of young adult males to the armed services, will alter the extent of labour force participation for the whole population ${ }^{3}$.

Although the degree of labour force participation of the Canadian population is not identical with that of the United States, the characteristics and circumstances of the two populations are sufficiently alike and the impact of the war on the two economies produced such similar reactions, that the pattern of wartime change in labour force participation in the U.S. can be taken as a guide in establishing the Canadian pattern. Comparison of the labour force participation of males and females in the Canadian and U.S. non-institutional populations for years in which data are available for both, made possible estimates for Canada, based on U.S. experience, in years for which Canadian data are lacking. In order to make these comparisons the Canadian non-institutional population was adjusted to include Indians on reservations since this group is included in the United States population estimates.

Originally it was thought that the civilian noninstitutional population 14 years of age and over for the two countries would provide a suitable base for this comparison. Experiments with this base yielded unsatisfactory results, however, because of the difference in timing and extent of withdrawals for, and demobilization of, the armed forces. As a result, the non-institutional populations 14 years of age

[^0]and over were used and these were found to follow almost identical pattems over the period 1941-1950. Thus, the first estimates arrived at related to the total non-institutional labour force.

Adjusting the Census Data: As a preliminary step in bridging the gap between 1931 and 1945, it was necessary to adjust 1931 and 1941 Population Census figures, which were assembled according to the "gainfully occupied" concept, to provide data for June 1, 1931 and 1941, using the "labour force" definitions. These data could then be used as bench marks for projections from 1945 back to 1931.

One significant difference between the census "gainfully occupied" and the "labour force" is due to the practices followed with respect to those whose major activity is keeping house but who, in addition, work part time either for an outsider or in a family farm or business. Those working part time for an outside entemrise are included in the labour force while farm women (the largest group affected in the unpaid family worker category), are included in the labour force if they devoted 20 hours or more in the survey week to farm work as distinct from housework. Such persons are excluded from the gainfully occupied since their principal activity is that of homemaker.

A labour force sample survey conducted simultaneously with the Census of the Prairie Provinces early in June 1946 revealed that the difference between the Census count of gainfully occupied women in non-agricultural industry $(131,000)$ and the labour force estimate for the same industry group ( 140,000 ) was negligible. The same comparison for agriculture however, showed that a substantial difference existed between the census "gainfully occupied" count of females ( 8,000 ) and the "labour force" ( 103,000 ).

1941 census data on female unpaid family workers on farms were therefore adjusted to labour force concepts by increasing the census count on the basis of information obtained from the labour force surveys concerning the relationship between the number of persons with jobs in agriculture, other than female unpaid family workers, and female unpaid family workers in agriculture. Thus, persons with jobs in agriculture less female unpaid workers in that industry for the June Labour Force Surveys 1946 to 1950 were expressed as percentages of total persons with jobs in agriculture for the respective years. The result was considered to be equivalent to the gainfully occupied, less those with no job on the census date and unpaid females in agriculture, when expressed as a percentage of the total gainfully occupied in agriculture.

Using the averase percentage derived from Labour Force Surveys for 1946 to 1949 ( 88.8 p.c.) the 1941 census count of the gainfully occupied (less those with no job and female unpaid family workers) in agriculture was inflated to provide an estimate of persons with jobs in agriculture at June 2, 1941 according to the labour force definitional system, including unpaid family workers. Female unpaid family workers in agriculture were found by subtracting the uninflated census count described above from the inflated estimate.

1931 census results for female unpaid family workers on farms were adjusted to labour force definitions in similar fashion. The experience of the immediate post-war years, which were characterized by a scarcity of farm labour, was not, however, considered suitable for adjusting 1931 data and therefore the Labour Force Sample Surveys of 1949 and 1950 only were used to provide a percentage for inflating the 1931 census data to labour force definitions.

In the circumstances of 1931 and 1941, the other factor contributing to a significant difference between the "gainfully occupied" and "labpur force" would be the practice of including in the labour force young persons who have never worked but who are looking for work. To be included in the gainfully occupied a person must have an occupation and therefore, in effect, must have worked. Provision was made, however, in recording occupation in the 1941 Census, to segregate young persons 14 to 24 years of age not attending school and seeking work. Males so recorded numbered 67,000 (slightly less than 2 p.c. of gainfully occupied males) and females 85,000 (about 10 p.c. of gainfully occupied females). In view of the fact that a 2 p.c. difference existed also between gainfully occupied males and those in the labour force in the Prairie Provinces in June $1946^{1}$, the number of males in the labour force at the Census date in in 1931 and 1941 was obtained by adding 2 p.c. to the gainfully occupied.

The situation with respect to females is, however, more complex. Other information available indicates that young females were, in fact, less able to answer definitely the question regarding their seeking work than were the males. Knowledge of the employment situation in 1941 leads one to suspect an overestimate of young females seeking work from the census question since it is unlikely that more young females than males were so engaged. In fact, the quarterly labour force sample surveys since 1946 have indicated that the number of young females seeking their first job constitutes a consistent 25.5 per cent of young males in the same category. On this basis, the census count of gainfully occupied females was increased by 17,000 to account for young women seeking their first job.

No separate tabulation of young persons seeking their first job was made in 1931. The problem of estimating the number of such young persons was narrowed down by taking the population $14-24$ by sex and deducting those known not to be seeking their first job. From the males such groups as those at school, in institutions, and gainfully occupied, were deducted and almost all of the remainder were included as seeking their first job. As in adjusting the 1941 census, females were taken to be 25.5 p. c. of the males.

[^1]Estimates of the civilian labour force for the years 1932 to 1940 were obtained by first expressing the labour force (including the armed forces) at June 1, 1931 and June 2, 1941 as percentages of the non-institutional population 14 years of age and over. These percentages were 57.1 p.c. in 1931 and 56.0 in 1941. The small difference of $1.1 \mathrm{p} . \mathrm{c}$. was then prorated over the intervening years and the resulting percentages applied to estimates of the civilian non-institutional population for these years to yield estimates of the civilian Iabour force.

The sex composition of the civilian labour force 1932-1940 was estimated in a manner similar to that used in estimating the total civilian labout force in those years. Thus the males in the labour force at June 1, 1931 and June 2, 1941, were expressed as percentages of the males in the non-institutional population 14 years of age and over in the same years, yielding percentages of 87.15 and 84.97 respectively. The difference of 2.18 was prorated over the intervening years on a straight line basis and the percentages so obtained applied to the appropriate population estimates to provide estimates of males in the labour force 1932-1940. Estimates of females in the labour force in these years were obtained as residuals.

To obtain estimates of the civilian labour force by sex for 1942-1945 it was assumed that the pattem of change in labour force participation of civilians by sex in Canada was similar to that of the United States. Thus the June 1946 civilian labour force estinate for males was projected back to 1941 in the same manner as described, above for the total (basing the pattern, of course, on males in the civilian labour force as a percentage of the male non-institutional population 14 years of age and over). Females were taken to be the residual.

## 2. Persons without Jobs and Seeking Work

In addition to those who have jobs (whether currently working at them or not) the labour force at all times contains some who are without jobs and are looking for work. The few who have jobs at which they are not working and who are looking for work, are included among those without jobs.

A continuous monthly series covering employment and unemployment among wage-earners (paid workers) in Canada is available from January 1921 to June $1936^{1}$. This series was constructed on the basis of Census definitions and therefore is confined to "wage-earners" which, in the gainfully occupied concept, includes those who customarily work for a wage, salary, piece-rate, commission or similar contractual return. As explained above (p. 8) in order to obtain information on employment and unemployment at the 1931 and 1941 censuses, all wage-earners were asked whether or not they were at work on the census date, and if not, to give

1. Census of Canada, 1931, Volume XII, pp. 274276 monograph, Unemployment.
the reason. In the 1931 Census monograph Linemployment ${ }^{2}$ wage-earners were considered employed if they were at work or absent from work for any cause other than "no job" or "temporary lay-off". Thus, the unemployed were considered to be those absent from work because of "no job" or "temporary layoff". According to labour force definitions, however, those on temporary lay-off with definite instructions to return to work within thirty days are considered to have a job. In addition the "gainfully occupied" excludes those who have never worked, whether or not they are looking for work, whereas the labour force includes all who are seeking work. The present series for persons without jobs and seeking work cannot, therefore, be tied in directly with the "number of wage-earners unemployed" series in the Census monograph Unemployment.

As explained in the section dealing with the civilian non-institutional labour force, data are available from the 1941 Census concerning young persons 14-24 years of age who had never worked and were looking for work. Subject to the correction for females explained above ( p .10 ), these data were taken, along with the category of wage eamers not at work on the census date because of "no job", to form the estimate of those without jobs and seeking work in June 1941. It was considered unnecessary to adjust for the fact that the Census "no job" category includes only wage-eamers (paid workers) since persons assigned to other status groups (employers, own-accounts, unpaid family workers) in the labour force surveys form a negligible proportion of those classed as not at work and looking for work during the survey week.

The series of wage-earners unemployed, nublished up to June 1936 in the Census monograph Unemployment, is available to December $1940^{3}$, although there is a gap in the published record. An index for June 1st each year was constructed from these data (based on comparable figures for 1941, i. e. "no job" and "temporary lay-off" from the 1941 Census) and the adjusted census figure for persons without jobs and seeking work was projected back to 1931 on the basis of the index.

Another series of estimates of persons without jobs and seeking work from 1931 to 1940 was obtained by adjusting data from the 1931 Census relating to activity on June 1, 1931 to labour force definitions through making allowance for young persons seeking their first job as described above. The adjusted 1931 and 1941 census data were linked by averaging the results obtained by projecting the 1931 census to 1941 and vice versa, (the differences at either end being prorated over the series) on the basis of the previously mentioned index of unemployment derived from estimates in the 1931 census monograph Unemployment. Persons without jobs and

## 2. Ibid,

3. Statistics Relating to Labour Supply (Inder $\mathbb{V a r}$ Conditions-Dominion Bureau of Statistics, Ottawa, 1941. page 14 , presents monthty figures from January 1938 to December 1940. Estimates for the months July 1936 to December 1937 have not been published.
seeking work by sex were obtained by applying the percentages of male and female unplaced apolicants as registered with the Dominion Provincial Employment Service Offices at the appropriate dates ${ }^{2}$. These percentages were very similar in 1931 and 1941 to those obtained from the Census and also checked with those published for employable relief recipients in 1936 and $1937^{2}$.

From June 1943 to June 1945 the wartime controls over manpower administered through National Selective Service Civilian Regulations, were in operation ${ }^{3}$. For purposes of this project, the pertinent regulations were those which (with few exceptions) required males who did not have a job to register for employment at a local employment office within seven days, and required employers to hire only through the local employment office. A permit system was in operation and both the employer and employees were required to notify the local office immediately a hiring took place. In this way the file of unplaced applicants was kept up to date. Because of the extensive controls exercised over available manpower during this period, the series for unplaced applicants for employment as reported by National Employment Service Offices has been used as indicating the number of persons without a job and seeking work at June 1st for years 1943 to 1945. The only period for which information is available from both the Labour Force Sample Survey and the National Employment Service during the period of manpower controls, is the week ending November 17, 1945. During that week the estimate of those without jobs and seeking work, based on the labour force sample, was 167,000 while unplaced applicants registered at local employment offices totalled 169,000 on November 16th.

Since no reliable data could be found regarding those not at work and seeking work in June 1942, the estimate presented here was obtained by interpolation between the adjusted census figure for June 1941 and the total of unplaced applicants for employment as reported by National Employment Service Offices at June 1, 1943.

The sex composition of the data used for 1941 and 1943-1945 is provided in the source material. The sex composition of 1942 data was obtained by interpolation.

1. Obtained from records of the Placement Statistics Umit, Dominion Bureau of Statistics.
2. Unemployment and Relief in Canada-supplement to the Labour Gazette 1936; National Employment Commission Final Report (September 1937) published January 1938.

The Unemployment and Agriculture Assistance Act, 1940. Report of the Dominion Commissioner of Unemployment Relief for the year ending March 31, 1941.
3. In fact, the National Selective Service Civilian Regulations were introduced when the Prime Minister tabled a series of Orders-in-Council in the House of Commons on March 24, 1942 (The Labour Gazette, April 1942, p. 402) but administrative machinery had to be set up and control over registration of job seekers and hiring did not become fully effective until late in the summer. The permit system was abolished officially on December 21, 1945 (Ibid, January 1946, p. 7).

## 3. Persons With Jobs

Estimates of persons with jobs as at June 1st, in the years 1931 to 1945 were obtained by deducting those without jobs and seeking work from the total civilian labour force.

In order then to provide separate estimates for job holders in non-agricultural industry and in agriculture, for the years 1942-1945, the United States' pattern of employment in non-agricultural industry was utilized. Employment in non-agricultural industry in the United States at June 1st of each year 1941-1946, as reported in the Census Bureau's Montlly Report on the Labour Force, was expressed as percentage of the non-institutional population 14 years of age and over. Similar percentages were obtained from the adjusted 1941 Canadian Census data and from the June 1946 quarterly Labour Force Survey. The U.S. percentages were then converted to an index based on 1946 and the 1941 Canadian percentage expressed as a ratio of the 1946 Canadian percentage. The United States index adjusted and applied to the known Canadian bench marks provided Canadian aggregates of job holders in nonagricultural industry for 1942-1945. Estimates of those with jobs in agriculture were obtained by deducting the estimated number of job holders in non-agricultural industry from estimates of persons with jobs.

The estimate of persons with jobs in agriculture in 1941 was projected back to 1939 on the basis of an unpublished index of agricultural employment*. The estimate for 1939 was then linked with 1931 census data (adjusted to labour force definitions) by means of a straight-line interpolation. Estimates of those with jobs in non-agricultural industry for 1932 to 1940 were obtained by deducting the estimates of persons with jobs in agriculture from total persons with jobs.

After some experimentation it was decided to estimate the sex composition of those with jobs in agriculture and in non-agricultural industry for the period 1942-1945 on the basis of the U.S. pattern. The number of males with jobs in non-agricultural industry in the United States ${ }^{5}$ in June of each year 1941-1946 was converted to an index $1946=100$. Canadian data for June 1941 were then expressed as a percentage of 1946 and the U.S. index numbers were adjusted for the small difference encountered (2.5 points). These adjusted index numbers were taken as indicative of Canadian experience and used in conjunction with actual data for June 1941 and 1946 to provide estimates of males with jobs in non-agricultural industry for the years 1942-1945. Femal es with jobs in non-agricultural industry were taken as the residual of those with jobs.

[^2]Estimates of the number of males with jobs in agriculture at June 1st of the years 1942-1945 were obtained by deducting the total of males without jobs and seeking work and males with jobs in nonagricultural industry from males in the civilian noninstitutional labour force. Females were taken as the residual of those with jobs in agriculture.

In order to provide a rough check of this approach, Canadian data were assembled and used to prepare an independent estimate for the year 1942. The unpublished sample survey of employment in agriculture, mentioned above, provided an index for males with jobs in agriculture for the years 1941 and 1942. The adjusted Census figure for males in agriculture at June 2, 1941 was projected on the basis of these data to provide an estimate of 959,000 males with jobs in agriculture in June 1942 as compared with an estimate of 943,000 in June 1942 using the U.S. pattern for males with jobs in non-agricultural industry and computing those in agriculture as a residual.

The sex distribution for 1940 and 1939 was obtained from the sample survey of the Department of Agriculture mentioned above ${ }^{1}$ and was found to be very similar to the sex composition obtained from the 1931 Census. This relative stability in the relationship between the numbers of males and females with jobs in agriculture for 1940, 1939 and 1931 was taken as an indication that estimates for intervening years could be obtained by applying the average percentages of males and females in the years for which data were available. The sex composition of persons with jobs in non-agricultural industry was obtained by subtracting males and females in agriculture from males and females, respectively, in total persons with jobs.

## 4. Persorns with Jobs in Non-Agricultural Industry by Status

Little is known about the changing numbers of farm operators and farm labourers in Canada during the war years. It was therefore decided to provide merely a total of persons with jobs in agriculture. For those with jobs in non-agricultural industry a considerable amount of data are available, particularly with respect to paid workers. A search of available data revealed, however, that it would not be feasible to provide separate series for employers, own accounts, and unpaid family workers. Those with jobs in non-agricultural industry were therefore sub-divided into two status groups as follows: paid workers; and employers, own-accounts and unpaid family workers.

## 5. Paid Workers

According to Census terninology, a wageeamer is "a person who works for wages or salary including commission or piece-rate forms of payment". This is essentially the same as the definition of paid worker used by the Labour Force

1. See Note 4, p. 12.

Sample Survey and therefore no specific adjustment of wage-earner data was required to provide a total of paid workers. Data to project 1931 Census information on wage-earners for the ensuing years are available from two sources:
(a) The only continuous series for the period is obtained from the Monthly Survey of Employment which provides an index, on a 1926 base, calculated from reports received from establishments usually employing 15 or more persons. This series covers the leading industrial groups exclusive of agriculture.
(b) The second series, which is available annually from 1941 is obtained from the exchange of unemployment insurance books and provides data on the insured population by industry, age, sex and province. This series, coverage of which is coextensive with the application of the Unemployment Insurance Act, excluded at that time agriculture, forestry and logging outside of British Columbia, some government employment, employment in nonprofit institutions, teachers, and domestic servants in private household ${ }^{2}$. Considering the information available from these sources, it was decided to provide estimates for paid workers outside of agriculture as at June 1st of each year from (1) 1931 to 1945 by industry and (2) from 1941 to 1945 by province and sex.

Paid Wonkers by Industry: In order to provide the maximum of comparability between this series and others, thirty-one major groups of the Standard Industrial Classification were used, and the Census (June 1931 and June 1941) data were re-arranged to conform as closely as possible to this classification. The numbers of wage-earners, as reported in each of the nine main industrial divisions from the Censuses of 1931 and 1941 were adjusted to eliminate those with no jobs on the Census date, in order to provide data comparable with the June 1946 Labour Force survey.

The first step in providing estimates of total paid workers in non-agricultural industry for the years 1931 to 1945 was to obtain an adjusted index of employment for June 1st of each year and project Census data on this index. The Bureau's monthly employment index was used for all industrial divisions except Manufacturing, Construction and Service. An index for the Manufacturing division was compiled from data obtained from the annual Census of Industry and published in reports entitled The Manufacturing Industries of Canada. The Construction index from June 1934 to 1941 was compiled from material obtained from the annual Census of Construction and published in reports of that census. From June 1931 to 1933 the Bureau's monthly employment index for the construction industry (excluding railway maintenance) was used. The Service index was compiled from data on hotels.
2. For a more comprehensive list of excluded groups see Part II of the First Schedule, Unemployment Insurance Act. 1940, as amended.
restaurants and laundry and dry-cleaning plants obtained in connection with the monthly employment survey supplemented by information on employment in educational institutions obtained from the Education Statistics Division of the Bureau, data on employment in hospitals, sanatoria and other health services institutions obtained from the Institutions Section of the Bureau and employment in Federal Govemment departments from the Public Finance Division of the Bureau.

The industrial divisions were estimated separately, the sum of the estimates representing the total estimate of paid workers in each year. Projections of the divisional totals were made both for $1931=100$ and $1941=100$ and the differences between actual and estimated 1931 and 1941 figures prorated back. 'The final estimates for intervening years are the averages of the annual estimates so obtained.

Paid workers by industry divisions for 1941 were projected to June 1946 on the basis of a weighted index of employment. The existing indexes for the nine industrial divisions as obtained from the Bureau's monthly survey of employment were weighted on the basis of a system derived from the Census of 1931, the Census of 1941 and the Labour Force Sainple Survey in June 1946. The indexes in the years 1942 to 1945 were weighted as though a straight line increment or decrement were characteristic of those years. When 1941 Census data were projected to 1946 by this method, it was found that the result for June 1946 exceeded the number of paid workers indicated by the Labour Force Sample Survey by 14,000 . This difference, which is a negligible percentage of the whole, was smoothed out by distributing it on a straight-line basis back to 1942 .

For the years 1942 to 1945 data for major groups within the mining, manufacturing and transportation industry divisions were provided by means of the insured population data derived from the annual exchange of Unemployment Insurance Books. Since coverage of paid workers by unemployment insurance in these fields is virtually complete, paid workers as obtained above were distributed on the same percentage basis as they appear in these finer breakdowns in the unemployment insurance figures. The results were checked against data from the Census of Industry for the years 1942 to 1945 and were found to correspond very closely. It was, therefore, decided to base the finer breakdown of manufacturing industries for the years 1931 to 1940 on the percentage of total employment in manufacturing represented by each of these finer groupings in Census of Industry data.

## 6. Paid Workers by Province and Sex

The percentage distribution of paid workers by province according to census data on June 2nd, 1941, was compared with that provided by the insured population at April 1st, 1942 through 1945 and with Labour Force Sample Survey data in June 1946, 1947, 1948, 1949 and 1950. These percentages re-
vealed marked differences between 1941 and the years 1942-1945 inclusive; that is, between the distribution according to the Census and that derived from the insured population. However the percentages obtained from the Labour Force Sample Survey in June 1946 and later correspond very closely to the 1941 results. In this instance it cannot be assumed that data for the intervening years would reveal constant percentages of total paid workers employed in the various provinces since there were, without question, significant interprovincial movements of workers during the war years.

Differences between the unemployment insurance data on the one hand and the Census and Labour Force Sample Survey data on the other, are no doubt due to differences in coverage, and it can therefore be assumed that the unemployment insurance data do reveal the results of inter-provincial movements from year to year. Accordingly it was first assumed that the net changes in the proportions of paid workers in the various provinces between 1941 and 1945 were evenly distributed through the period. This straight-line trend was then weighted by an index, for the years 1942 to 1945 inclusive, calculated from the unemployment insurance percent distribution ( $1946=100$ ). The result was an adjusted percentage distribution of paid workers by province which applied to the total paid workers in Canada each year to obtain estimates of paid workers by province from 1941 to 1945.

The sex distribution of paid workers in each province was found in a manner very similar to that used for the provincial distribution. The percent of males in each province was calculated from the 1941 Census and from the Labour Force Sample Survey, June 1946. A straight-line trend for the intervening years was weighted on the basis of an index calculated from the unemployment insurance insured population from 1942 to 1945 in order to introduce year-by-year variations from the assumed trend. The resulting percentages were applied to the estimates for Canada in each year 1942 to 1945 in order to yield absolute numbers of males in the nine provinces. Females were found as the residual.

## 7. Employers, Own Accounts and Unpaid Family Workers in Non-Agricultural Industry

Separate data were not available for employers, own accounts, and unpaid Pamily workers in nonagricultural industry. These categories were therefore consolidated and the group estimate obtained as a residual by subtracting estimated paid workers from the estimate of persons with jobs in nonagricultural industry.

## C. Persons not in the Labour Force

Persons not in the labour force were obtained as a residual by subtracting the civilian labour force from the civilian non-institutional population. The sex break down of persons in this category was derived in the same manner.

TABLE 1. Estimates of the Civilian Labour Force and Its Main Components June 1st, 1931-1945
(Thousands of persons 17 years of abeand over)

|  | Noninstitutional population | Anmed lorces | Civilian noninstitutional population ${ }^{\text {8 }}$ | Civilian labour force |  |  |  |  |  |  | Persons not in the labour force |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Total | Persons with jobs |  |  |  |  | Persons without jobs and seeking work |  |
|  |  |  |  |  | Total | in non-agricultural industries |  |  | $\underset{\text { agriculture }}{\text { In }}$ |  |  |
|  |  |  |  |  |  | Total | Paid workers | Employers, own accounts, unpaid family workers |  |  |  |
|  | $\frac{1}{\left(2^{2}+3\right)}$ | 2 | $(4+11)$ | $\begin{gathered} 4 \\ (5+10) \end{gathered}$ | $\begin{gathered} 5 \\ (6+9) \end{gathered}$ | $\left(7^{6}+8\right)$ | 7 | 8 | 9 | 10 | 11 |
| 1931 | 7.121 | 5 | 7.116 | 4. 151 | 3,670 | 2,454 | 2,028 | 426 | 1,216 | 481 | 2,965 |
| 1932 | 7. 245 | 5 | 7.240 | 4,211 | 3,470 | 2,233 | 1,848 | 385 | 1,237 | 741 | 3,029 |
| 1933 | 7, 371 | 5 | 7.366 | 4,275 | 3,449 | 2,192 | 1.717 | 475 | 1,257 | 826 | 3,091 |
| 1934 | 7.496 | 5 | 7.491 | 4,338 | 3,707 | 2.430 | 1,931 | 499 | 1,277 | 631 | 3,153 |
| 1935 | 7,626 | 5 | 7.621 | 4,402 | 3,777 | 2,479 | 1,941 | 538 | 1,298 | 625 | 3.219 |
| 1936 | 7,754 | 6 | 7,748 | 4,466 | 3,895 | 2,576 | 1.894 | 582 | 1,319 | 571 | \$. 282 |
| 1937 | 7.876 | 6 | 7,870 | 4,526 | 4.115 | 2,776 | 2, 108 | 668 | 1,339 | 411 | 3,344 |
| 1938 | 8,004 | 7 | 7,997 | 4, 588 | 4,066 | 2,707 | 2,075 | 632 | 1,359 | 522 | -3,409 |
| 1939 | 8,131 | 9 | 8,122 | 4,649 | 4, 120 | 2.741 | 2,079 | 662 | 1, 379 | 529 | 3, 473 |
| 1940 | 8,247 | 107 | 8,140 | 4,607 | 4. 184 | 2.840 | 2.197 | 643 | 1,344 | 423 | 3, 533 |
| 1941 | 8,352 | 296 | 8,056 | 4,466 | 4. 271 | 3.047 | 2. 566 | 481 | 1. 224 | 195 | 3,590 |
| 1942 | 8.477 | 392 | 8,085 | 4,569 | 4. 434 | 3.295 | 2.801 | 494 | 1. 139 | 135 | 3,516 |
| 1943 | 8.587 | 716 | 7.871 | 4. 567 | 4.491 | 3,373 | 2,934 | 439 | 1.118 | 76 | 3, 304 |
| 1944 | 8.699 | 779 | 7.920 | 4,548 | 4,485 | 3. 349 | 2,976 | 373 | 1.136 | 63 | 3,372 |
| 1945 | 8,764 | 736 | 8.048 | 4,520 | 4.447 | 3,303 | 2,937 | 366 | 1.144 | 73 | 3. 528 |

[^3]TABLE 2. Estimates of the Civilian Labour Force and Its Main Components, by Sex, June 1st, 1931-1945
(Thousands of persons 14 years of age and over)

|  | Civilian non-institutiona population ${ }^{1}$ |  | Civilian labour force |  |  |  |  |  |  |  |  |  |  |  | Persons not in the labour fource |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Persons with jobs |  |  |  |  |  |  |  |  |  | Persons without jobs and seeking work |  |  |  |
|  |  |  | Total |  | Cotal |  | Total |  | Paid workers |  | In agriculture |  |  |  |  |  |
|  | Male | Female | Male | Female | Male | Female | Nale | Female | Male | Female | Male | Female | Male | Female | Male | Female |
|  | $\begin{gathered} 1 \\ (3+15) \end{gathered}$ | $\begin{gathered} 2 \\ (4+16) \end{gathered}$ | 3 $(5+13)$ | $\begin{gathered} 4 \\ (6+14) \end{gathered}$ | $\begin{gathered} 5 \\ (7+11) \end{gathered}$ | $\left[\begin{array}{c} 6 \\ (8+12) \end{array}\right.$ | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 1931 | 3,726 | 3, 390 | 3,357 | 794 | 2,931 | 739 | 1,944 | 610 | 1,512 | 516 | 1,087 | 129 | $\$ 26$ | 55 | 369 | 2,596 |
| 1932 | 3,787 | 3,453 | 3,401 | 810 | 2.747 | 723 | 1,647 | 586 | 1,291 | 557 | 1,100 | 137 | 654 | 87 | 386 | 2,643 |
| 1933 | 3,848 | 3,518 | 3,446 | 829 | 2,721 | 728 | 1,608 | 584 | 1,182 | 535 | 1,113 | 144 | 725 | 101 | 402 | 2,689 |
| 1934 | 3,906 | 3,585 | 3,487 | 8.51 | 2,932 | 775 | 1,806 | 624 | 1,374 | 557 | 1,126 | 151 | 555 | 76 | 419 | 2,734 |
| 1935 | 3.966 | 3,655 | 3,529 | 873 | 2,982 | 795 | 1,343 | 636 | 1,380 | 561 | 1,139 | 153 | 547 | 78 | 437 | 2.782 |
| 1936 | 4, 025 | 3,723 | 3,571. | 995 | 3,073 | 822 | 1,920 | 650 | 1,432 | 562 | 1,153 | 166 | 498 | 73 | 454 | 2,828 |
| 1937 | 4,081 | 3,789 | 3,610 | 916 | 3,254 | 861 | 2,088 | 688 | 1.532 | 577 | 1,166 | 173 | 356 | 55 | 471 | 2, 873 |
| 1938. | 4,140 | 3.857 | 3,652 | 936 | 3,209 | 857 | 2,030 | 677 | 1,500 | 575 | 1,179 | 180 | 443 | 79 | 488 | 2,921 |
| 1939 | 4. 196 | 3,926 | 3,630 | 959 | 3,247 | 873 | 2,055 | 686 | 1,504 | 575 | 1,192 | 187 | 443 | 36 | 506 | 2,967 |
| 1940 | 4,151 | 3,989 | 3,628 | 979 | 3,273 | 911 | 2,107 | 733 | 1. 595 | 602 | 1,166 | 178 | 355 | 68 | 523 | 3.010 |
| 1941 | 4,009 | 4,047 | 3,468 ${ }^{\circ}$ | 998 | 3,313 | 953 | 2, 247 | 800 | 1, 883 | 683 | 1,066 | 158 | 155 | 40 | 541 | 3,049 |
| 1942 | 3,969 | 4,116 | 3,465 | 1,104 | 3,364 | 1.070 | 2,421 | 874 | 2,090 | 711 | 943 | 196 | 101 | 34 | 504 | 3,012 |
| 1943 | 3,715 | 4, 156 | 3,183 | 1,384 | 3,136 | 1,355 | 2, 189 | 1.184 | 2,085 | 849 | 947 | 171 | 47 | 29 | 532 | 2.772 |
| 1944 | 3,711 | 4. 209 | 3,137 | 1,411 | 3,098 | 1,387 | 2,150 | 1. 199 | 2,041 | 935 | 948 | 188 | 39 | 24 | 574 | 2,798 |
| 1945 | 3,772 | 4,276 | 3,102 | 1,418 | 3,053 | 1,394 | 2,110 | 1,193 | 2,014 | 923 | 943 | 201 | 49 | 24 | 670 | 2.858 |

[^4]TABLE. 3. Estimates of Paid Workers in Non- Agricultural Industries, by Industry, June 1st, 1931-1945
(Thousands of persons 14 years of age and over)

| Industry | 1931 | 1932 | 1933 | 1934 | 1935 | 1936 | 1937 | 1938 | 1939 | 1940 | $19+1$ | 1942 | 1943 | 1944 | 1345 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total - All non-agricultural industries. | 2,028 | 1,848 | 1. 717 | 1,931 | 1,941 | 1,999 | 2,108 | 2,075 | 2,079 | 2,197 | 2,566 | 2,801 | 2,934 | 2. 976 | 2,937 |
| Forestry, fishing, hunting, trappiug | 40 | 31 | 31 | 49 | 60 | 58 | 65 | 55 | 56 | 59 | 87 | 81 | 62 | 63 | 58 |
| Mining (incl. milling) quarryiug, \& oill wells | 60 | 55 | 52 | 58 | 64 | 70 | 80 | 79 | 82 | 84 | 89 | 81 | 68 | 60 | 52 |
| Metal mining | 19 | 17 | 18 | 24 | 28 | 34 | 39 | 39 | 41 | 44 | 50 | 43 | 31 | 28 | 22 |
| Fuels | 30 | 30 | 26 | 26 | 27 | 27 | 27 | 27 | 27 | 28 | 30 | 27 | 27 | 24 | 22 |
| Other mining | 11 | x | $\times$ | * | \& | $\times$ | 14 | 13 | 14 | 12 | $\times$ | 11 | 10 | $\times$ | ヌ |
| Manufacturing | 605 | 528 | 481 | 560 | 579 | 592 | 657 | 632 | 627 | 712 | 904 | 1. 131 | 1,250 | 1. 263 | 1,196 |
| Foods \& beverages | 73 | 89 | 84 | 95 | 95 | 99 | 108 | 108 | 107 | 112 | 79 | 100 | 115 | 129 | 129 |
| Tobacco \& tobacco products | $\times$ | 11 | 10 | 10 | 10 | $\times$ | 10 | 10 | 10 | 10 | $\times$ | 12 | 11 | 12 | 13 |
| Rubber products | 13 | 11 | 10 | 12 | 11 | 12 | 13 | 13 | 13 | 13 | 16 | 16 | 12 | 22 | 24 |
| Leather products | 23 | 22 | 22 | 24 | 25 | 25 | 26 | 25 | 25 | 26 | 34 | 39 | 42 | 40 | 40 |
| Textile products (exc. clothing) | 44 | 62 | 59 | 68 | 68 | 57 | 50 | 46 | 46 | 55 | 66 | 74 | 74 | 66 | 65 |
| Clothing (textile \& fur) | 57 | 55 | 52 | 59 | 60 | 62 | 76 | 74 | 75 | 80 | 78 | 100 | 104 | 95 | 97 |
| Wood products | 58 | 48 | 41 | 51 | 54 | 58 | 67 | 63 | 63 | 73 | 82 | 79 | 70 | 71 | 72 |
| Paper products | 39 | 35 | 32 | 37 | 37 | 40 | 44 | 42 | 41 | 45 | 50 | 54 | 52 | 58 | 58 |
| Printing, publishing \& allled ind. | 36 | 35 | 32 | 35 | 35 | 35 | 36 | 37 | 36 | 35 | 36 | 29 | 34 | 39 | 40 |
| Iron and steel products | 83 | 51 | 43 | 54 | 60 | 65 | 78 | 73 | 70 | 89 | 172 | 245 | 227 | 193 | 180 |
| Transportation equipment | 85 | 36 | 33 | 38 | 43 | 43 | 51 | 48 | 47 | 66 | 142 | 182 | 238 | 265 | 226 |
| Non-ferrous metal products | 15 | 13 | 13 | 17 | 18 | 20 | 23 | 23 | 23 | 27 | 31 | 42 | 49 | 46 | 42 |
| Electrical apparatus ${ }^{3}$ supplies | 20 | 16 | 11 | 14 | 16 | 17 | 21 | 20 | 19 | 23 | 29 | 38 | 48 | 57 | 49 |
| Non-metallic mineral products | 18 | 11 | $x$ | 11 | 12 | 13 | 14 | 14 | 13 | 15 | 19 | 22 | 23 | 23 | 22 |
| Products of petroleum \& coal | $\times$ | $\times$ | $\times$ | 10 | $\times$ | $\times$ | $\chi$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | $\times$ | 10 |
| Chenical products | 15 | 17 | 15 | 18 | 19 | 20 | 22 | 22 | 21 | 26 | 38 | 67 | 114 | 107 | 97 |
| Misc. mifg. Industries | 13 | $\times$ | x | $\times$ | $\times$ | * | $\times$ | $\times$ | 10 | $\times$ | 17 | 25 | 29 | 31 | 32 |
| Construction | 154 | 118 | 81 | 165 | 125 | 132 | 139 | 134 | 127 | 126 | 170 | 144 | 149 | 110 | 113 |
| Transportation, storage, communication | 246 | 208 | 190 | 193 | 194 | 207 | 212 | 204 | 206 | 219 | 247 | 262 | 276 | 292 | 305 |
| Transportation | - | - | - | - | - | - | - | - | - | - | 212 | 224 | 238 | 244 | 258 |
| Storage | - | - | - | - | - | - | - | - | - | - | 10 | 14 | 15 | 17 | 17 |
| Communication | - | - | - | - | - | - | - | - | - | - | 25 | 24 | 23 | 31 | 30 |
| Public utility operation | 24 | 23 | 21 | 20 | 21 | 21 | 21 | 23 | 22 | 24 | 26 | 25 | 26 | 27 | 29 |
| Trade | 269 | 254 | 237 | 254 | 262 | 280 | 289 | 296 | 302 | 309 | 346 | 344 | 337 | 364 | 389 |
| Wholesale trade | 49 | 49 | 48 | 53 | 57 | 62 | 67 | 71 | 75 | 81 | 89 | 85 | 86 | 92 | 97 |
| Retall trade | 220 | 205 | 189 | 201 | 205 | 218 | 222 | 225 | 227 | 228 | 257 | 259 | 251 | 272 | 292 |
| Finance, insurance \& real estate | 83 | 83 | 83 | 83 | 82 | 82 | 82 | 82 | 82 | 82 | 80 | 89 | 92 | 97 | 102 |
| Service | 547 | 548 | 541 | 549 | 554 | 552 | 563 | 570 | 575 | 582 | 617 | 644 | 674 | 700 | 693 |

TABLE 4. Estimates of Paid Horkers in Non-Agricultural Industries, by Province and Sex,
June 1 St, $1941-1945$
(Thousands of persons 14 years of age and over)

$\times$ Indicates less than 10,000 .

## Civilian Labour Force Estimates, June 1st, 1921 to 1930

Estimates of the civilian labour force and its main components for the years 1921 to 1930 were obtained in very much the same manner as has been described for the years 1931 to 1945. In this case the censuses of 1921 and 1931 provided bench marks.

## Civilian Non-Institutional Population 14 Years of Age and Over

Estimates of the population 14 years of age and over were obtained from D.B.S. Reference Paper No. 40. This source provides estimates at June 1 st of each year for Canada and the provinces by age and sex. The 1921 Census provided a figure for the numbers in the armed forces in that year and comparable data were secured for the other years from the Department of National Defence and were subtracted from the above estimates to provide the civilian population 14 years of age and over. It was not possible to secure independent estimates of the number of Indians living on reservations or the number of persons living in institutions for the years 1921 to 1930. Their numbers were however known for 1931. The proportion of the civilian population 14 years of age and over living in institutions in 1931 was ascertained and the civilian populations of the other years reduced accordingly.

## Civilian Labour Force

Examination of the Censuses of 1931 and 1921 indioated that the proportion of the population 14 years of age and over enumerated as gainfully occupied were very much the same ( 55.7 and 54.7 per cent respectively). It was therefore assumed that the labour force participation rates in the two years would bear the same relationship to one another as did the gainfully occupied participation rates. On this basis the labour force participation rate for June 1st 1921 was estimated at 57.3 per cent (that for 1931 would be 58.3 per cent). Thus the civilian labour force for 1921 was estimated and the participating rates for intervening years were obtained by interpolation.

## Persons without Jobs and Seeking Work

No data on unemployment were collected at the time of the 1921 Census. It was necessary therefore to obtain annual estimates by projecting the estimate of persons without jobs and seeking work for 1931 back to 1921. The estimates of numbers of unemployed mentioned earlier and published in the 1931 census monograph "Unemployment" are available from June, 1921. These estimates were used as described in the body of this reference paper to construct an index on a 1931 base by which the 1931 estimate of persons without jobs and seeking work was taken back to 1921. Since the base for this projection was the 1931 estimate which had already been adjusted to labour force definitions, no such adjustment was required for the 1921 data.

About 10 per cent of gainfully occupied paid workers were in agriculture according to the 1921 Census ${ }^{1}$. Thus it was assumed that 10 per cent of the persons without jobs and seeking work had previously been employed in agriculture.

## Persons with Jobs

The estimate of the number of persons with jobs was obtained by subtracting estimates of persons without jobs and seeking work from the estimates of the civilian labour force.

## Persons with Jobs in Non-Agricultural and Agricultural Industry

Adjustments of the 1931 and 1941 Censuses to the labour force definitional system indicated that the differences in concept between gainfully occupied and labour force had a negligible effect in non-agricultural industry. Thus the number "gainfully occupied" outside of agriculture as indicated by the 1921 Census, less 90 per cent of the estimated persons without jobs and seeking work, was taken to be the number of persons with jobs in nonagriculture industry on June 1921. On this basis the estimate of persons with jobs in non-agricultural industry was given as $1,956,000$ (the 2,129,000 gainfully occupied in the 1921 Census less 173,000 without jobs and seeking work).

The estimate of persons with jobs in agriculture in 1921 was taken as the residual between total persons with jobs and those with jobs in nonagricultural industry. As a rough check for consistency between the results obtained by this approach and those secured in 1931 and 1941 by a soine what different method, comparison was made between the numbers gainfully occupied and the labour force in agriculture in the three census years. It was found that the estimate of the agricultural labour force in 1921 exceeded the gainfully occupied figure by 11.26 per cent. whereas in 1931 it exceeded the gainfully occupied by 11.00 per cent and in 1941 by 11.31 per cent. Thus a reasonable degree of consistency is found to exist.

To obtain estimates of persons with jobs in non-agricultural industry and in agriculture for the years 1922 to 1930 the proportions of the civilian labour force employed in non-agricultural industry in 1921 and 1931 were joined by interpolation and the estimates for the intervening years read off. The estimates of persons with jobs in agriculture were taken as the residual of persons with jobs in each year.

## Persons not in Labour Force

Estimates of those not in the labour force represent the balance of the civilian non-institutional population 14 years of age and over when the estimates of the civilian labour force have been deducted.

[^5]
## APPENDIX - Estimates of the Civilian Labour Force and Its Main Components, June 1st, 1921-1930

(Thousands of persons 1 years uf age and over)

|  | Non-institutional population | Armed forces | Civilian non-instit tutional population | Civilian labour force |  |  |  |  | Persons not in the labour force |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Total | Persons with jobs |  |  | Persons <br> without jobs |  |
|  |  |  |  |  | Total | In nonagricultural industries | In agriculture |  |  |
|  | $\left(2^{1}+3\right)$ | 2 | 3 $(4+9)$ | $(5+8)$ | $\begin{gathered} 5 \\ \left(g_{3}+7\right) \end{gathered}$ | 6 | 7 | 8 | 9 |
| 1921 | 5,785 | 5 | 5,780 | 3,313 | 2.121 | 1.956 | 1,165 | 192 | 2,467 |
| 1922 | 5,893 | 5 | 5,888 | 3,380 | 3.230 | 2,038 | 1, 192 | 150 | 2,508 |
| 1923 | 5,973 | 4 | 5,969 | 3,433 | 3,323 | 2,110 | 1,213 | 110 | 2,536 |
| 1924 | 6,082 | 4 | 6,078 | 3,502 | 3,344 | 2,138 | 1,206 | 158 | 2,576 |
| 1925 | 6,206 | 4 | 6,202 | 3,58Q | 3,423 | 2, 203 | 1, 220 | 157 | 2,622 |
| 1926 | 6.331 | 5 | 6,326 | 3,658 | 3,550 | 2,299 | 1,251 | 108 | 2,668 |
| 1927 | 6.491 | 5 | 6.486 | -3.757 | 3.690 | 2.406 | 1,284 | 67 | 2,729 |
| 1928 | 6.660 | 5 | 6,655 | 3,861 | 3,796 | 2,491 | 1,305 | 65 | 2,794 |
| 1929 | 6.825 | 5 | 6,820 | 3,964 | 3,848 | 2,541 | 1,307 | 116 | 2,856 |
| 1930 | 6.978 | 6 | 6,972 | 4,060 | 3,689 | $2,45 \mathrm{I}$ | 1,238 | 371 | 2,912 |

1. Not including Indians on reservations.

[^0]:    2. John D. Durand, The Labour Force in the United States 1890-1960, New York. Social Sclence Research Council, 1948, p. 104.
    3. C.T. Saunders, Man-Power Distribution 19391945: Some International Comparisons, in Transactions of the Manchester Statistical Society, 1945-1946, D. 17.
[^1]:    1. Unpublished manuscript: Differences Existing Between Census and Labour Force Survey Data as at June 1, 1946, Occupation Section, Census Division, Dominion Bureau of statistics.
[^2]:    4. Based on a 0.8 p.c. sample survey compiled in the Agricultural Economics Division, Dept. of Agriculture, Ottawa, as described in Estimates of Total Labour Force and Total Fiage Earners by Indusiry 1939-1942, Luxton, George. Research Department, Bank of Canada, 1942.
    5. As obtained from the Monthly Report on the Labour Force, U.S. Bureau of the Census.
[^3]:    1. Not including indians on reservations.
[^4]:    1. Not including indians on reservations.
[^5]:    1. This information is contained in unpublished folder CCCXIX -65 , 1921 Census.
