Census Monograph No. 7

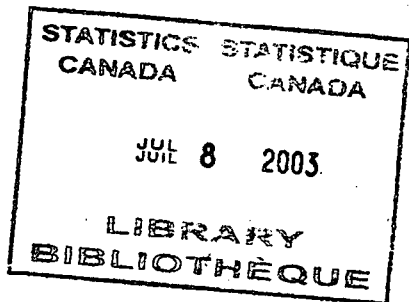# The Canadian Family

(A study based on the Census of 1931 and supplementary data)

by

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PREFACE

This monograph is a statistical survey of the Canadian family, past and present, through the medium of data available from censuses since 1666. The family attribute most capable of measurement is size, *i.e.*, the number of persons living at home at the time of the census. The *household* includes all the inmates of the home, while the *private family* includes only the immediate dependents of the head. While no marked trend in average household size is evident prior to 1871, the period since then has witnessed a steady decline in every region except rural Quebec.

The size of the private family is determined by two factors: (1) the size of the completed biological family, and (2) the proportion of the completed family at home. The latter is dependent on the ages of the heads, duration of marriage, and the age to which children remain at home. Consequently, fluctuations in average family size must not be interpreted solely on the basis of fertility. There can be little doubt, however, that the decline in the average size of the Canadian family since Confederation is due principally to declining fertility caused by concentration of population in cities, the trend towards indoor, non-manual and wage-earning occupations, and the commercialization of farming. The decline in the size of the rural family has been concomitant with the development of railway and highway transportation which has been instrumental in urbanizing the social outlook and economic life of the rural population. To some extent these are phases of increasing population density. Regional variation in average family size is closely associated with race and religion.

The monograph is divided into two parts. Part I consists of an historical survey from 1608 and an analysis of data available from the 1931 Census; Part II contains relevant tabular matter. The monograph was edited by Miss E. M. Carmichael and the graphs were drawn by Mr. J. W. Delisle.

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SUMMARY

EARLY HISTORY OF THE CANADIAN FAMILY

From 1608, date of the first successful attempt at colonization, to 1666, date of the first census, the population of Canada progressed very slowly: it numbered 28 souls in 1608, 274 in 1639, and 3,215 in 1666. Fifty years after the arrival, in 1617, of the first Canadian family, consisting of Louis Hébert, his wife and their three children, the Census of 1667 registered only 668 families. Except for the period 1665-72, when Louis XIV became interested in colonization, immigration under the French régime was practically non-existent.

Acadia, although left to itself, made good progress until 1755, when the expulsion from Nova Scotia took place. From 1755 to 1763, 14,000 persons were deported, of whom a large number perished in their incessant journeys. Not only was the mortality rate very high, but the birth rate in such circumstances was greatly reduced, with the result that in 1787 the Acadian population (in and outside Acadia) numbered only 12,000. It had reached nearly 18,000 in 1755.

The slow growth of population in New France is understandable when it is remembered how neglected the colony was by the mother country, how long and hazardous was the crossing of the immigrants, and how serious were the dangers with which they were surrounded. It took great courage under these conditions to settle in Canada and courageous indeed were the immigrants who took that course, whether their motives were flight from the wars of religion, desire to bring Christianity to the native, ambition to assure the future of their children, or taste for adventure.

Two publications, *Relations des Jésuites* and *Histoire véritable et naturelle des moeurs et productions de la Nouvelle-France*, together with two agencies, the companies and the seigneurs, played a large part in promoting the settlement of New France. The colonists who were induced to come by these means and whose settlement was facilitated can be divided into a small number of families, single men, *engagés* or soldiers, and single young women, *filles du roi* or peasant girls.

The young Canadian family, as established all along the north shore of the St. Lawrence river by 1667, was practically self-supporting: for its food it could rely on its crop, a few cattle and chickens, hunting and fishing, while home-grown hemp and flax provided the necessary material for *l'étoffe du pays*. The obstacles to expansion were many and serious—the massacres by the Iroquois, the ravages caused by epidemics, and the desertions of the *coureurs-de-bois*. These, however, could not stop progress, since their effects were opposed by the high birth rate that goes with early marriages in a young and healthy population. The life of the colonists, if it was a rugged one, was by no means dull and gloomy; celebrations were held on many occasions and Canadian social life dates back to the very first days of Canada.

SIZE OF THE CANADIAN HOUSEHOLD, 1666-1931

The period 1666-1931 is divided into two parts, with a large gap intervening, due to the fact that censuses from 1739 to 1851 do not give the number of households. In the first part, the average household size is above 6 persons from 1681 to 1730. The second part starts with 6·18 persons per average household in 1851, which increases to 6·29 in 1861 (this being the highest average ever attained for the country as a whole) but for 1871 and subsequent censuses continued, though irregular, decreases were reported. These variations are attributed to movements of population, whilst the broad regularity of the trend of the decrease is due to constant factors, such as declining birth rate, ageing of the population, greater proportion married and urbanization.

Urbanization in Eastern Canada has been rapid and continuous since 1871. Not only did urban centres grow at the expense of rural areas but the average size of the urban household experienced a smaller drop in these latest sixty years than did the average size of the rural household, which, however, remained higher than the former at each census.

Interesting comparisons may be made regarding the average size of the household, rural, urban, and general, in the Eastern Provinces for the last sixty years. Among others may be mentioned: a smaller household size in 1931 than in 1871 is recorded for each of the five provinces; the smallest drop in average household size for the entire sixty years is shown by Quebec; the lowest average household size at every census is in Ontario; etc., etc.

The average size of the rural household in the province of Quebec has been increasing since 1901. A study by counties made for the decades 1901-11 and 1911-21 shows that it was really a general increase and not one due to the influence of a limited number of counties having abnormally large households. Moreover, it shows conclusively that racial origin is an important factor in determining the average size of the household.

RECURRING LARGE AND SMALL DECREASES IN HOUSEHOLD
SIZE IN EASTERN CANADA, 1871-1931

The average size of the Canadian household from 1871 to 1931 was influenced by a number of factors. One of them, however, stands out among the others as being responsible for the alternate large and small decreases registered during the last sixty years, viz., the population movement. The points of agreement as well as of disparity in all six decades, when compared minutely, reveal that the larger decreases in the size of the household are identified with the movement from the older into the newer counties, whereas the smaller decreases are related to the movement to the West and the United States, and especially with the invasion of urban centres by immigration and the movement of native rural population.

These results are quite logical for the following reasons: (a) the movement from thickly populated to newly settled counties was, on the whole, made by members of small families who, because there was no more room for expansion in the old counties, had to look outside for their own maintenance. Now, when young Canadians went West or passed over to the United States, they decreased the size of the household in Eastern Canada, but, when they left for newly settled counties the effect was to decrease it doubly, for, besides reducing the number of large households they also increased the number of small households; (b) the citywards movement created a large increase of population in the urban centres, but did not create a corresponding increase in households, a fact which, naturally, retarded the decrease in the average size of the household. The increase in households did not keep pace with the growth of population because a large proportion of the population, foreign or native, invading the cities was made up of single young men or young women who for the most part took up rooms in private families or in boarding houses; (c) except for very special periods, Canada could absorb but a small fraction of its immigration, and in certain decades only one out of twenty or even one out of thirty-five immigrants remained in Canada. Their emigration, coupled with a movement of native rural population to new rural areas instead of to cities, would produce a large decrease in the average size of the household.

Concluding from past experience one may say that the average size of the Canadian household will, in all probability, go on decreasing, but the decrease should get smaller with each decade. Perturbing factors which have operated in the past—large immigration, mass settlement, too rapid industrialization—are not likely to repeat themselves. The rural household may even increase in size, as it did for Quebec and New Brunswick in 1931, now that the new counties have passed the initial stage of settlement. On the other hand, further decreases, although smaller ones than those registered so far, should be expected for the average size of the urban household, for modern city life undoubtedly thwarts the normal expansion of families and households.

THE TYPICAL HOUSEHOLD IN MONTREAL, TORONTO AND WINNIPEG

Since so much of this monograph is devoted to a discussion of average household size, it is necessary to determine with what accuracy the average measures that size. First, does the average indicate size in such a way that the foreigner, anxious to know something of family structure in Canada, would get a fair picture by a study of the average? Investigation is confined to the cities of Montreal, Toronto and Winnipeg, since the number of households by size has been compiled only for these three cities. In each city the most commonly occurring or modal household consists of 3 persons while the average persons per ordinary household* is 4·60 in Montreal;

*Ordinary households do not include hotels, rooming houses, institutions, camps, tents and similar extraneous types.

4·10 in Toronto and 4·37 in Winnipeg (see Statement XXVIII, Chapter IV, page 62). Due to their larger size, certain groups of households above the modal size, *viz.*, those with 5 persons in Montreal and those with 4 persons in Toronto and Winnipeg, contain the greatest number of people. Now it will be noted that these sizes are the integers nearest to the average persons per household in each city. Apparently, the average, instead of indicating the size of the modal household, indicates the size of the household containing the most people. It does, however, provide a useful measure of standard household size.

Secondly, to what population phenomena is average household size most sensitive? This is a very important point since, in the analysis of material available from past censuses and from the present census for small subdivisions of the population, it is necessary to draw conclusions concerning family size and composition from averages without the knowledge of other numerical indices. Average household size is considerably larger in Montreal than in Toronto but investigation reveals that the difference is almost entirely due to differences in the proportions of households with 6 or more persons. Since only one-fifth of the Montreal households are of such sizes, it is clear that a small group of large families has a pronounced effect in determining average persons per household. The difference between the average persons per household in Montreal and Toronto is considerably smaller than the difference in the average sizes of normal households of one family with husband and wife living together as heads, the reason being that there are more households with two or more families in Toronto. Factors other than children per family, therefore, have an important weight in determining average household size and for this reason it is not a reliable measure of fertility. This must be borne in mind when studying average household size as derived from earlier censuses where the households were of very heterogeneous types, some, for example, being penitentiaries with several hundreds of inmates.

A consideration of the size distribution of households raises the question as to how size of house varies with size of family. Since the correlations between persons per household and rooms per household are very low in each city, it is apparent that the housing question is largely a problem of distributing the available accommodation and not of providing more. Overcrowding results to a pronounced degree from large families living in small houses while the smaller families are occupying the large houses, and the building of a large number of new houses would do little to decrease overcrowding unless the new accommodation went to those most in need of it. Differences of opinion as to when a household is overcrowded most certainly arise but in studying census data an overcrowded household may be best defined as one where there are fewer rooms than persons. On the basis of this definition most of the households in Toronto consisting of 7 or more persons were overcrowded. It is most significant that approximately one-half the overcrowded households, containing two-thirds of the people living under crowded conditions, had 7 or more members (see Statement XXXIII, page 68, Chapter IV). Consequently, the provision of adequate room for large families can scarcely be accomplished by building small low-cost houses, although it is true that conditions in large households in Toronto in 1931 were aggravated by the fact that very often more than one family was living in the household and lack of privacy was very keenly felt. It might be that a considerable proportion of these households would split up if it were possible for the constituent families to obtain small cheap dwellings but it must not be assumed that they would do so. The head of a large family of children earns no more than the head of a small family and he obviously cannot afford the larger house which he needs. His position can be remedied, not by subsidizing the construction of small houses, but only by subsidizing his income in proportion to the size of his family. Then he can rent, heat and furnish the large house which he requires and which is available at present. Many parents may avoid overcrowding by limiting the size of their families. In this connection it is significant that wage-earners have smaller families than employers and "own accounts" which may be attributed to complete lack of flexibility of their incomes with size of family. Limitation in family size for many people is the only alternative to poverty and misery.

LODGERS

There were 555,606 lodgers in Canada in 1931 of whom 89·29 p.c. lodged in ordinary households and the remainder in hotels, rooming houses, institutions and camps. The high proportion of lodgers living in rural parts of Canada who lodged in households where they were the sole lodgers (61·9 p.c.) is readily explainable since, being scattered, they had to lodge apart, but it

is most significant that 38·4 p.c. of the urban lodgers lived in households where there was only one lodger (see Statement XXXV, page 70, Chapter V). Adding the percentages of urban lodgers living in one-lodger and two-lodger households it is found that 58·2 p.c. lived in households where there were not more than two lodgers. This tendency for lodgers to live in small households where they may enjoy maximum home privileges would seem to indicate that Canadians are a home-loving race, especially in view of the fact that comparison with United States figures reveals a lesser tendency there. The rooming-house population is largely composed of floating elements of foreign races, particularly the Chinese and Japanese, while the typical Canadian lodger seeks a private home.

Since so many lodgers are found in private homes, it is interesting to determine the types in which they most frequently are found. Examination reveals that tenants take in lodgers more frequently than do home-owners (see Statement XLIII, page 75, Chapter V). Since data relating to households with lodgers were very meagre it has been necessary to resort to correlation analysis. The households dealt with in the analysis are a homogeneous group, *viz.*, those of one family with tenant wage-earner married male head living with his wife and paying at least ten dollars and less than sixty dollars for monthly rent. The average number of lodgers per household has been correlated with four factors, *viz.*, rent per room, children per household, persons per room and earnings per person (see Statement XLV, page 76, Chapter V). From these· correlations the following inferences may be drawn: lodgers prefer rooms of good quality as measured by the rent paid for the houses in which they lodge; they avoid overcrowded households; they avoid children only in so far as the children monopolize the available accommodation and they are more common in families whose earnings are above average than in families with low earnings, since the former families can provide the most suitable accommodation. The keeping of lodgers, therefore, can seldom be resorted to as an amelioration for poverty.

THE HEADS OF PRIVATE FAMILIES

Since the household does not coincide with the popular concept of family, most of the tables compiled from the 1931 Census are "private family" classifications. The private family includes the head and his dependents but excludes servants and lodgers. Often a household may be subdivided into two or more families, an example being the household where a married son and his wife live with his parents. It should be remarked that, with the exception of a few compilations of the 1921 data, private family compilations are not available from previous censuses. Of all private families, 86 p.c. show husband and wife living together and these have been defined as *normal* private families. The average Canadian family head first assumes family responsibilities at the age of 26·7 years after which his family responsibilities steadily increase until he is above 45. Although the wage-earner's earnings increase concurrently, they do not keep pace with his dependents which proves an incentive for limiting the size of his family. The ages 35-54 may be termed the ages of maximum family responsibility and of maximum economic fitness. The earnings of the average wage-earner decrease after the age of 55 but his children have then become self-supporting so that it is probably the most comfortable period of his life. It is apparent that the age distribution of the heads of a group of families will have a very important bearing on the family attributes, size, composition, earnings, etc., of the group. Unfortunately there is a conspicuous lack of essential data relating to the ages of heads in the family tables of the 1931 Census. An index has been devised to measure the concentration of married males in the middle ages in different parts of Canada (see page 82, Chapter VI). In almost every region the concentration is greater than it would be for a stationary population (*i.e.*, one increasing neither by natural increase nor by immigration) but it is greatest in the cities of 30,000 and over and least in the country villages and in the rural parts of the Maritime Provinces. Consequently, the favourableness of the age distribution of the married population of Canada to a high birth rate is offset considerably by the fact that it is largely confined to regions in which economic pressure and the mode of living tend to restrict births. Concentration in the large cities results from the importation of workers at the fittest ages from the small towns and rural districts and from outside Canada. As soon as these cities cease to grow, concentration may be expected to decrease. At present, a city population is very much a working population but, unless the workers leave the city when their working days are over, this will not always be the case. In the future there will be a higher proportion of aged family heads to be supported by pensions payable from taxation borne by a smaller proportion of persons at working ages.

CONTRIBUTION OF ADULT DEPENDENTS AND GUARDIANSHIP CHILDREN TO FAMILY SIZE

Because they seek lodging in private homes with adequate accommodation, it is probable that lodgers tend to lessen the dispersion in household size by enlarging small families. Do undersized families likewise take in guardianship children and adult dependents more frequently than those of average or large size so that the dispersion in household size is again made smaller? The average number of guardianship children is largest in families with heads under 25 and over 55 years of age, i.e., when own children are least numerous (see Statement LXVI, page 93, Chapter VII). This results from the fact that many guardians are grandparents, uncles or aunts and brothers or sisters. The families of all these types of guardians, exclusive of their wards, would probably be quite small so that guardianship children probably do lessen variation in family size. Dealing with guardianship children, it is interesting that there are 4·33 living in private families to every 1 living in an institution. Since 71·06 p.c. of those living in private families are related to the head and 21·14 p.c. are adopted, it would appear that the family functions quite efficiently in the care of orphaned and neglected children.

Middle-aged heads of families most frequently support adult dependents. This is probably because they are financially most able to do so since adult dependents, as a rule, contribute no money. This is only true, however, if the family is small, since otherwise the earnings of the head will not be sufficient for the whole family and the inclusion of an extra dependent will overtax the already limited accommodation in the home. Therefore, adult dependents probably help to bring small families closer to the average size. It must be noted, however, that dependents sometimes create small extraneous families with unmarried heads.

The number of guardianship children per normal family with wage-earner head decreases with increasing earnings while the number of adult dependents increases (see Statement LXXII, page 98, Chapter VII). Poor wage-earners evidently do not hesitate to shelter orphaned children of their own kin even though it entails real hardship. The high average number of guardianship children in families with heads in the low earnings class is partly due to the fact that so many guardians are grandparents who have passed the age of maximum earning power.

Both guardianship children and adult dependents are more numerous in the Maritime Provinces than in the rest of Canada. In addition, they are not very common to the large cities so that it would seem that they are characteristic of an indigenous population.

THE CENSUS FAMILY AND THE COMPLETED FAMILY

The census measures only the number of children living at home at the time so that the average census family is much smaller than the average completed family. By asking each married woman the number of children born during her present marriage, the ages of completed families of women who have passed the child-bearing age have been determined by enumeration in censuses conducted in many countries. This question has never been inserted in the Canadian census schedules for several good reasons which will not be discussed here. It is the sizes of completed families of the active women (15-45) which are of immediate interest and these can only be predicted. The method used in this monograph has been to base an estimate on the order of births for 1931 given in the Annual Report on Vital Statistics for the year. The order of a birth gives the number of children the mother has borne. The method is reviewed in detail in Chapter VIII. The average number of children to be borne by women now 15-50 who will both live through the child-bearing period and marry before its close is estimated at 4·01. Some of these women, however, are separated from their husbands prematurely by divorce, separation, or death. Large families make a much greater contribution to the population than is generally realized. Although families of 10 or more children form only 10·5 p.c. of the total number of families they contain nearly one-third of the children. It should be remarked that stillbirths are included in estimating the size of the completed family and, although they represent a small percentage of the total births, they may increase the sizes of a considerable proportion of the large families. Our entire natural increase in population is made possible by the families of 9 or more children which constitute 13·9 p.c. of the total number of families. This is because the smaller families only make up for the ground lost by the sterile couples, those producing but 1 or 2 children, and the people who do not marry or who do not live to reproduce themselves. The

large family is apparently essential if we are to have a natural increase in population and its disappearance can result only in cessation of population growth or even retrogression.

A table was drawn up cross-classifying completed families and census families according to size (see Statement LXXXVIII, page 112, Chapter VIII). This enables one to visualize the correlation between the sizes of families at the time of the census and their completed sizes.

OCCUPATIONS AND EARNINGS OF FAMILY HEADS

Stated earnings of Canadian wage-earners for the period June 1, 1930, to June 1, 1931, totalled $2,100,552,700 of which $1,340,546,400 or 63·82 p.c. was earned by heads of families and $11,426,350 or 0·54 p.c. by wives living with their husbands. Consequently, the great bulk of wages are earned by heads of families while their wives earn only an insignificant fraction. Total earnings of female heads of families were three times the total earnings of wives living with their husbands while total earnings of children living at home were nineteen times the total earnings of wives (see Statement LXXXIX, page 113, Chapter IX). Little significance can be attached to the average earnings of heads of other than normal families since they cover very heterogeneous groups. Considering the extra services which a woman is able to provide her family it would seem that female heads looked after their dependents as well as did unmarried male heads.

The average earnings of heads of normal families was $1,211 for 1930-31. This average has a particular significance in that it gives the wages that would accrue to each head if total wages were equally distributed. Obviously they would not enable him to maintain a very high standard of living especially if his family were large, although he could avoid extreme poverty. The average gives a fair measure of typical wages. The class "$950 and less than $1,450" is the modal wage-earning class and includes 26 p.c. of all heads of normal families earning 25 p.c. of the total wages of heads of normal families. Those who advocate an equable distribution of income for all must regard this class as their ideal. Of the married heads of families, 44 p.c. earned less than $950 in 1930-31 while 29 p.c. earned $1,450 or more. However, many of those in the former group may have other sources of income, such as a free house, or they may be part-time wage-earners, such as farm labourers and fishermen, who, when not working for hire, cultivate their own small farms.

There is no marked variation in average size of family with earnings of the head since, although heads of families in the low earnings classes have slightly larger families than heads in the better earnings classes, the trend is irregular (see Statement XCIV, page 117, Chapter IX). Children under 7 years of age are most numerous in families with heads in the low earnings classes, approximately one-half of the young children of wage-earners belonging in families where the head earned less than $950. This is obviously because the heads with young children have not yet reached the peak of their earning power and would be most liable to unemployment in 1930-31, a year of extreme depression. On the other hand, children 15 years of age and over per family steadily increase with increasing earnings of heads, indicating that the heads in the earnings classes are older and also that they are able to keep their children at home. Children old enough to work who are living in poor families generally do so while those living in families with heads in the higher earnings classes do not. Evidently the latter only work when they can secure highly remunerative employment since their average earnings are much higher than the average earnings of the former. Similar observations may be made with regard to the proportions gainfully occupied and the average earnings of wives. It is quite clear that the poor families are a source of supply of cheap adolescent and female labour. Earnings of children living in families with heads in the low earnings classes were almost one-half the earnings of the heads so that they represented a large share of the family income. Evidently the family can cope with the crisis of unemployment better than the individual since the burden can be shared by the several members. It is the family with young children that would appear to suffer most when the head is unemployed. Day nurseries in the large cities are useful in that they relieve the wife of the unemployed man of her maternal duties in order that she may earn.

Occupation serves as a useful measure of social class since it is our best criterion of the individual's training, education, social background and environment. Data relating family size and composition to occupation of head are available for the normal families of wage-earners. For 135 of the occupations (all those with 1,000 or more family heads), average persons per family

has been related to five attributes of the occupation. The first is average earnings of family heads, 1930-31; the second, percentage of families living in cities of 100,000 and over, a measure of urbanization; the third, percentage of gainfully occupied of British racial origin, a measure of racial content; the fourth, average earnings of wage-earners 25-34 years of age as a percentage of average earnings of those 45-54, an index of delayed earnings; and the fifth, percentage of wage-earners 34-54 years of age, a measure of age distribution of family heads.

The standard deviation in the averages for the 135 occupations was 0·35 persons per family indicating that average family size varies considerably with occupation of head. The occupations were grouped in seven types according to nature of work, viz., A, outdoor—heavy manual; B, indoor—heavy manual; C, outdoor—light manual and supervisory; D, indoor—light manual and supervisory; E, officials, managers, salesmen; F, professional and clerical; G, personal service.

Family size is very closely associated with type of work, outdoor and manual workers having much larger families than white-collar men. This is further proof that man tends to reproduce less and less as his environment becomes more artificial. Occupation measures environment and mode of living. These differ for the white-collar man and the outdoor worker and, in addition, the outdoor occupations are largely confined to the rural districts and the indoor occupations to the large cities.

The multiple correlation between average family size and the five occupational attributes mentioned above was ·75 indicating that 56 p.c. of the variance in the averages is associated with these five factors; 25·4 p.c. is associated with urbanization; 13·9 p.c. with average earnings of heads of families; 10·2 p.c. with racial content; 5·5 p.c. with age distribution and 0·5 p.c. with delayed earnings. Urbanization is, therefore, the most important factor causing variance in family size between occupations. On the whole it would appear to be a much more important factor in determining family size than occupation itself. An analysis of the variance in the averages for children per family for forty-six occupations and five rural and urban groups in the province of Ontario reveals that mean variance between rural and urban groups is twice that between occupations. Urbanization evidently has a more important bearing on family size than social class as measured by occupation. It would appear that, for each occupation, the average sizes of city, town and rural families differ, but in each case the city family is smallest and the rural family largest. The centralization of industry in large cities and the movement out of small towns is evidently an important cause of declining family size. From a population viewpoint it is not the existence of vast industrial organizations which is to be deplored but their concentration in a few large cities. It cannot be said that people who fail to reproduce themselves are living under satisfactory conditions. The fear of unemployment, the struggle to "keep up with the Joneses," lack of fresh air and freedom of movement and insufficient housing accommodation all tend to inhibit the reproductive instincts of city dwellers.

A special tabulation has been made of the vital statistics data giving the average number of living children born to the mothers of 1931 by occupation of father. The correlation between these averages for fifty-two occupations and the averages for dependents per census family with heads in the same occupation was ·82. Considering the various reasons why the vital statistics data are not strictly comparable with the census data, it is surprising that the correlation is so high. It points to the reliability of vital statistics data as a source of information for studies of differential fertility and also indicates that the differences in census family size from occupation to occupation result largely from differential fertility.

It is for only a limited number of occupations that there are sufficient families in each province to render averages significant. In a study of the ranking, according to average family size, of forty-two of the largest and most homogeneous groups by provinces it is found that some maintain a similar ranking in each province while for others the ranking varies. Railway sectionmen and fishermen have relatively large families in every province while compositors and printers, professional engineers, salesmen, accountants and auditors and clerks have relatively small families. On the other hand, the rankings of miners, cooks and clergymen differ widely between provinces. Since the gradation in family size from province to province is similar for the majority of occupations it would appear that occupational content does little to account for dispersion in family size between provinces. For example, the small family in British Columbia cannot be accounted for on the basis of occupational content since, for thirty-four of the forty-two occupations, families are smaller in British Columbia than in any other province.

The correlations between average earnings of heads and average earnings of children living at home for the forty-two occupations are higher in the Eastern Provinces than in the West. This might be taken as evidence that Canadians are being progressively regimented into an occupational caste system as the nation becomes more developed and economic growth slows up.

From a consideration of family size for broad occupational groups, it is found that rate of increase varies widely between occupations. Family heads engaged in trade, finance and insurance, professional and personal service and clerical occupations are scarcely reproducing themselves. These groups would appear to include the best and poorest elements of the population. As the population grows they must draw on other occupations for their recruits so that there is a tendency for the increase of those elements of the population of greatest and least economic and social fitness to be cut off. Since it is the average man who is most prolific, the national stock is improving when the greater increase comes from the classes slightly above the average and deteriorating when it comes from those slightly below. In studies of differential fertility it is possible that too much attention is often directed to the extreme classes. A high rate of increase among imbeciles and idiots may create a problem in that their progeny will tax the accommodation of asylums. It does not necessarily follow that it results in racial degeneration of serious import.

THE FARM HOUSEHOLD

Agriculture is the only major industry in which the household has remained the producing unit during the past years of economic change. There has been, however, a continuous decrease in farm self-sufficiency with the result that the farm family has become dependent on outside sources for a growing proportion of its living requirements. It has, therefore, become more susceptible to the vicissitudes and uncertainties of world commerce and this has had an important effect on its size and composition. In those countries of Eastern Europe where, although life may be hard and living standards low, the farm family is self-contained, producing almost all its own needs and selling only the surplus, large families are still very popular. Children present little additional burden to the farmer and almost from infancy are valuable for the work they do. To the modern farmer, however, children are a definite liability since he must buy clothing, school books and even some food for them while they are of little assistance in the specialized production of farm products. This is particularly true of the grain farms in Western Canada.

Farm population as distinct from the rural population was counted for the first time in 1931, but the steady drop in the average size of the Canadian rural household since 1871 and other reliable indicators point to a continual decline in the size of the farm household. Changing types of farming in the East and the emphasis placed on production for sale from the very first in the West are the underlying causes of this decline. It might be added that the changes have been greatly facilitated by the development of railway and highway transportation.

The farm family is still self-sufficient in many respects, however, since milch cows, poultry and swine are found on the great majority of farms throughout Canada (see Statement CXVI, page 143, Chapter XI). It is significant that 51·8 p.c. of the Canadian farmers keeping milch cows have only from one to four in milk or in calf. On the basis of percentages of farmers keeping milch cows, sheep, swine, poultry and bees, Quebec and Prince Edward Island farms are the most self-sufficient, and British Columbia farms the least so.

Quebec presents an extremely interesting field for a study of variation in average family size between counties since in fifty-six of the sixty-six counties the population is homogeneous in race, religion and culture. In other provinces the incidence of such factors tends to obscure the importance of economic and physical factors in determining family size. In Quebec, density of population and farming practices differ from county to county, which evidently accounts for the variation in average size of farm household. Considering only the fifty-six homogeneous counties, the average varies from 7·80 persons per household in Chicoutimi to 5·14 in St-Jean. Farm households are largest in the counties north east of Quebec city and bordering the St. Lawrence River below it and smallest in those south of Montreal (see Map I, page 150, Chapter X). This shading off in average household size as one passes from district to district is closely associated with growth of rural population and population density. In those counties where the averages are large the population has been growing steadily, due to the absorption of a large natural increase, while in the counties where they are small, the natural increase has been smaller and has emigrated. Increasing density of population acts to make the average smaller since

the birth rate decreases, children tend to leave home earlier and eventually the middle-aged population is depleted, leaving a large proportion of old heads with small families.

Population depends on the number of families and their average size. It would appear that as the population in a county approaches an optimum the average size of the families becomes smaller so that population growth ceases. At the same time, the average family may be small in sparsely settled counties. For example, in Abitibi county density of population is low and the rural population is rapidly increasing but the average size of the farm household is comparatively small. The explanation, of course, is obvious; the population increase is due to colonization by outsiders with the result that most of the families are new and small, many of the heads being unmarried. Since the birth rate is very high the average size of the household will probably increase as families become completed.

. The farms in the counties with large households are more self-contained than those in counties with smaller households. Permanent and temporary hired labourers are less common on the large-family farms since the farmer can draw on his family for help in the busy seasons. Stock slaughtered on the farm are generally intended for home or local consumption while stock sold alive are for outside sale. Consequently, the ratio of total stock slaughtered to total stock sold alive provides an index for measuring the farmer's concern with production for home use as opposed to production for sale, i.e., for measuring the degree to which farms are self-contained. It is interesting that average size of farm household correlates with this index.

In Nova Scotia the average farm household is largest in Inverness, Halifax and Cape Breton counties which surround the cities of Sydney and Halifax. In all of the Eastern Provinces the average farm households are generally comparatively large in the counties in the vicinity of the large cities. Due to the ready market for produce, the farm can support more people in these counties. Obviously, increase in farm population in a district often depends on increase in urban population.

Interesting features of the rural population of Nova Scotia are the two *blocs* of Acadian French, one in Inverness county and one in Yarmouth and Digby counties. There is also an Acadian *bloc* in Gloucester, Kent, and Westmorland counties in New Brunswick. The average Acadian farm household is smaller than the French-Canadian farm household in Quebec but the difference would appear to result from economic causes. Farms occupied by Acadians in many cases are so small that large families cannot be supported.

The average farm household is smaller in Ontario than in any of the Eastern Provinces due to the religious and racial content of its population and also to the continual movement of workers to the cities resulting in a depletion of the middle-aged population. Of the farm operators in Ontario in 1931, 26 p.c. were 60 years of age or over. The average farm household is largest in Nipissing county and smallest in Kenora county, both of which are in Northern Ontario. Nipissing showed a moderate increase in rural population during the decade 1921-31 which probably resulted from absorption of the natural increase while Kenora showed a much larger percentage gain, obviously the result of immigration from outside the county. The very small average household in Kenora (3·74) reflects the presence of many small new families. It is an example of the newly settled locality where families are small since they are nearly all incomplete and there are many bachelors. The birth rate is high, however, responding to the room for population growth and the average can be expected to go from low to high during the next twenty years. Nipissing was probably at this stage in 1931. After reaching a maximum the average will decrease as the heads age and families break up.

While the birth rate is high in those counties of Ontario where average farm income is low, children stay at home longest in counties where income is high. In the latter counties the average size of the farm household is increased somewhat by the presence of farm employees.

In 1931 the farm household was larger in Manitoba than in Saskatchewan and Alberta and the difference was quite general since in six of the sixteen census divisions in Manitoba the household is larger than in any county in Alberta while in fourteen of the seventeen census divisions in Alberta it was smaller than in any census division in Manitoba. This does not result from a higher birth rate in Manitoba since the birth rate was higher in both Alberta and Saskatchewan. Manitoba was at the stage of settlement when average household size reached a maximum while Alberta and Saskatchewan had not yet arrived at this stage. The average size of the farm household in the Prairie Provinces in 1936 is available from the quinquennial census and our contention is borne out by the fact that the Manitoba average commenced to

decrease during the five-year period 1931-36 while the Saskatchewan average remained practically constant and the Alberta average increased. The drought did not have any marked effect on the averages in the census divisions most affected, indicating that the exodus was one of families rather than of individuals. It is very interesting that there is no correlation between standardized birth rate and average persons per farm household for the census divisions of Saskatchewan and Alberta. Population movements had such an important bearing on average household size as to obscure the incidence of fertility. In the census divisions where average household size was above that for the Prairie Provinces as a whole in 1931 there was usually a decrease during 1931-36 while in those where average household size was below the general average in 1931 there was usually an increase during the subsequent five-year period. Consequently, average household size appears to fluctuate about a general mean. One might expect the type of farming most typical of a census division to have a considerable bearing on the average size of its farm households since some types support larger families than others. However, this does not appear to be the case.

Two factors contribute towards the small average size of the rural household in British Columbia—only 32 p.c. of the households are on farms and the average farm household itself is much smaller than in any of the other provinces. The small farm household is typical of nine of the ten census divisions. It is smallest in the northern divisions but, since they contain only a small population, they do not have much effect on the weighted mean for the province. It is the small average size of the farm household in the vicinity of Vancouver and Victoria where one-half of the farms are found that makes the provincial average small.

REGIONAL DIFFERENCES IN FAMILY SIZE

In Chapter XI variation in the number of children per family is reviewed for thirty-five regions of Canada, viz., the rural and urban divisions of the nine provinces. The proportion of large families is highest in the rural parts which tends to considerably increase the average children per family while cities of 30,000 and over have very few large families with the result that the average is small. The distribution of families according to the number of children for the urban 1,000-30,000 group most closely resembles the distribution for all groups, although large families are not so frequent as in the total distribution. The urban-under-1,000 group is featured by a high proportion of childless families and relatively small proportions of families of medium or standard size, a result of the age distribution of the heads. These observations are made after consideration of the data for all Canada but they hold for most of the individual provinces as well. It is obvious, therefore, that the rural and urban distribution of the population has an important bearing on the size distribution and average sizes of families for the whole province.

The age distribution of heads reduces average family size in the Eastern Provinces and increases it in the Western Provinces. The effects of age distribution of heads on average family size are easily apparent but they are small.

Race and religion are also important factors determining average family size. Probably most of the variation in the averages between provinces results from differential racial and religious population content, and so important are these influences that they entirely obscure the incidence of less potent factors.

Population movements, where they have existed to any considerable extent during recent years, affect average family size. An indigenous population has larger families than a moving population. This is because the man who moves into a district to settle often lives alone and does not marry until he is in a position to do so. Since he marries late his family is small even when completed. The small average size of the British Columbia family is associated with the large proportion of the population born outside the province.

Generally, the incidence of population density on family size is obscured by the operation of the above factors. In Chapter X it was observed that population density was instrumental in causing variation in family size in fifty-six Quebec counties in all of which the population was of the same race, religion, and culture.

PART I

INTRODUCTION

Purpose of Analysis.—This monograph is devoted to a review and analysis of census statistics relating to families and households. Census monographs are designed to make readily available the most pertinent information disclosed by specialized analysis of the masses of data found in the purely tabular census volumes, and to make suggestions for the treatment of unsatisfactory conditions revealed. They also recount the progress of investigational work carried on at the Bureau of Statistics to determine the potentialities of the census for the collection of data for research in the social sciences. The earlier censuses merely compiled totals which served to indicate the growth of population and were necessary for certain administrative purposes, such as the determination of electoral districts. Of recent years such technical progress has been made in the field of census compilation that a vast amount of analytical data can be obtained at a small additional cost. It is highly important that these developments should be utilized to the fullest extent.

Thirteen monographs are being published in Volumes XII and XIII of the 1931 Census. The compilation, tabulation and interpretation of census returns is a tedious process and it is obvious that attention must be directed to studies of permanent rather than temporary interest. Most of the monographs deal with relatively specific questions, such as fertility, illiteracy and school attendance, housing and rentals, dependency, occupational structure, unemployment and the population basis of agriculture. The scope of this particular monograph, however, is very broad, for it touches on every one of the subjects mentioned above, although it is not the main purpose to correlate the findings of other monographs since this would be an extremely difficult task. The narrower the field, the easier it is to apply statistical measurements, but it would seem that the development of the humanities as exact sciences must depend on the statistician's ability to perfect a technique by which the interplay of diverse social and economic movements and their ultimate effect on human welfare can be measured. It is doubtful if much can be accomplished by planned economy before causal relationships can be definitely established on an empirical basis in economics and sociology.

Chapters I-III of the monograph trace the history of the Canadian family to its birth, study briefly the circumstances of this birth and follow its growth up to 1931. Although the material available limited the study to the size of the household, its variations and their causes, nevertheless this review through the censuses does bring out a good deal of information hitherto unknown and permits interesting comparisons between vastly different periods.

Chapters IV-XII are devoted to the interpretation of the extensive family statistics tables in Volume V of the 1931 Census. In addition to those relating to family size for minute subdivisions of the population, much data concerning other aspects of family structure was available. Particular attention, however, is paid to the incidence of various factors on family size so that the central theme of the monograph is the social and economic background of fertility. The principal causes of our declining birth rate are isolated and methods are suggested by which the decline may be retarded. *En passant*, attention is directed to many other interesting characteristics of family life in Canada. While the treatment of these is necessarily brief, it is hoped that enough has been done to cast fresh light on the repercussions of many social problems.

Definitions.—There are many interpretations of what constitutes a family. For various reasons it has been necessary to employ several definitions in this monograph and it is important that the reader should grasp the exact meaning of each. The definition of a "census family," as given in *Instructions to Commissioners and Enumerators* for the 1931 Census (see Appendix 2, page 275) connotes a group of people living in the same housekeeping unit. Such families are referred to throughout this monograph as *households*. It is to this household that the family data of past censuses apply.

There are many varieties of households which are quite different from the small family group living in the typical home. For example, a penitentiary is a household though it may contain hundreds of inmates. In previous censuses quasi-family groups, such as hotels, rooming houses, and institutions and camps, were not separated from ordinary households with the result

that it was always dangerous to attach much significance to the average size of the household in any one locality.   In Chapters I and II light is thrown upon the influence such institutions have had, from time to time, upon the changing sizes of the household.   In compiling household data for the 1931 Census, it was decided to isolate certain extraneous types in order that the remaining households might be a homogeneous group.   Data for hotels, rooming houses, institutions, camps, shanties and similar households were compiled separately and published in special tables.   Consequently, it has been possible to confine the analysis of the 1931 data to *ordinary households* as distinct from the classes mentioned above.   The advantages of this are most apparent when the number of persons per household are related to the number of rooms occupied.   Such data for hotels and institutions are not only very difficult to interpret, but, if not separated out, adversely affect the analysis.

Even the ordinary household does not coincide with the popular concept of a family.   For this reason there were two groups of family tables—those dealing with households in relation to tenure, rentals and housing accommodation and those relating to private families from a social viewpoint.   The *private family* consists of the head and his dependents but does not include lodgers and servants.   In 1931, when many family heads were unemployed, it was not unusual to find two families living together in the same household so that there was often more than one private family to the household.   *Normal private families* are those where husband and wife are living together as heads, as distinct from miscellaneous classes with single, widowed, or divorced heads.   The reader should bear in mind these distinctions between the four terms, *the household, the ordinary household, the private family,* and *the normal private family.*

Unless otherwise specified, *Canada* as used throughout the monograph is taken to exclude Yukon and the Northwest Territories, and applies to the nine provinces only.   The *urban* population is that residing in cities, towns and incorporated villages and the *rural* population is that residing outside such centres.

Scope of Analysis.—It has already been pointed out that the scope of the historical section of the monograph has been determined entirely by the extent of the available data.   The study of 1931 conditions is similarly circumscribed since the principal source of basic material is the tables in Volume V of the Census which were planned and compiled before the interpretative work was commenced.   In some cases the data prerequisite for the treatment of certain aspects of family structure cannot be obtained while in others it is possible to overcome the lack of data by the adoption of indirect methods of approach.

Chapter I gives a word picture of family life in New France prior to the English conquest. Chapter II deals with variation in the average size of the Canadian household from 1666 to 1931. Most interesting is the steady decline in the average since 1861, and factors which accentuated this decline during certain decades and minimized it during others are discussed in Chapter III. The chapter on household size in Montreal, Toronto and Winnipeg is designed to form a link with the monograph on housing and rentals and also with the historical chapters of this monograph.   It completes the discussion of the significance of averages which is essential as an introduction to a study of average family size.   The chapter on lodgers deals with an interesting section of the Canadian population.   In Chapter VI the incidence of the ages of family heads on family size is discussed.   The age-of-head factor is very important in dealing with family attributes, but unfortunately the interpretation of the family data throughout the monograph has been rendered difficult by the lack of sufficient age data.   Chapter VII deals with guardianship children and other dependents and their relationship to family size.   The census family includes only the children living at home at the time of the census.   In Chapter VIII an attempt is made to relate the size of the census family to the size of the completed family.   Chapter IX reviews the very important data on the earnings and occupations of family heads.   Chapter X is confined to a discussion of the average size of the farm household by counties and census divisions, while regional differences in family size are discussed in Chapter XI.

EARLY HISTORY OF THE CANADIAN FAMILY

To understand to-day's Canadian family—which, more than national wealth, constitution, individuals themselves, is the fundamental life cell of the country—it is necessary to know something of its birth, infancy and adolescence. In these three stages, different factors—some favourable, others prejudicial—have left their marks on the family. They cannot be ignored.

Birth of the Family in Canada.—The first attempt at colonization in Canada that resulted in a permanent settlement was the founding of Quebec in 1608; 28 settlers wintered and the Canadian people came into existence. Out of these 28 persons, only 8 were alive* in June, 1609. One of the survivors, Nicolas Marsolet, was to become the head of a family some twenty-seven years later. There was no woman in Canada before 1616†, when Marguerite Vienne arrived with her husband, Michel Colin. Both died during the year of their arrival.

In 1617, after a crossing that took thirteen weeks, Louis Hébert arrived in Quebec with his wife, Marie Rollet and their three children, Guillaume, Anne and Guillemette. This was really the first Canadian family. Hébert started to clear his land upon his arrival and to cultivate it, and, as Champlain said of him, "He was the first head of a family in Canada who made his living from the soil he cultivated."

Before Louis Hébert's time, Quebec had been but a post for the fur trade. In 1627, when he died, this courageous pioneer owned more than 10 acres of cultivated land. All this land had been dug up with a spade, for Champlain asserts that Hébert's widow used a plough on the twenty-sixth of April, 1628‡, the first time such an implement was used in Canada.

His daughter, Anne, married Etienne Jonquest in 1618. It was the first marriage to take place on Canadian soil. Anne gave birth to a child the following year; unfortunately the first Canadian mother and her child were not to survive. Hébert gave his other daughter, Guillemette, in marriage to Guillaume Couillard**. They settled on a farm which in 1629 represented 20 acres of cultivated land. They had 10 children. Guillaume, the only son of Hébert, married Hélène Desportes. They had 3 children. The line†† of the descendants of Louis Hébert was never broken, and to his title of pioneer may well be added that of patriarch.

The second Canadian-born child also died at birth, in 1621. The father of this child was Abraham Martin, who received from the Hundred Associates a piece of land which later on became the famous Plains of Abraham.

The third birth, in 1624, was that of Marguerite Martin who, at the age of 14, married Etienne Racine.

The valuable work of Cyprien Tanguay, *A travers les Registres*, based on the parochial registers‡‡, the writings of Champlain, Sagard, Leclercq and the Jesuit Relations, gives, year by year from 1608 to 1631, the arrivals, departures, marriages, births, deaths, number of persons wintering in Quebec or "at the Hurons" and the maximum population in Quebec for any of these years. From 1631 to 1800, his tables show the marriages, births and deaths. The first table, reproduced below, tells us, better than any history, the gripping story of the beginnings of the colony. These figures make us realize better than any words could how precarious was the existence of New France from her birth in 1608 to her first fall into the hands of England in 1629.

*10 had died of scurvey; 5 of dysentry.
†However, there had been women in Acadia (the term Canada, as understood at the time, did not include Acadia) before that date. Madame de Poutrincourt was in Port Royal in 1611, and Madame Hébert seems to have accompanied her husband in 1606. Father Biard in a letter, dated January 13, 1612, says: "We are 20, without counting the women." Benjamin Sulte: *Histo're de Canadiens français*, Vol. I, p. 113.
‡Benjamin Sulte: *Histoire des Canadiens français*, Vol. II. p. 18.
**Their marriage is the first entry on the registers of Notre Dame of Quebec.
††Through the women.
‡‡The first one dates from 1621.

I.—MAXIMUM POPULATION IN QUEBEC AND RELATED DATA, 1608-1631

Year	Arrivals	Departures	Marriages	Births	Deaths	Wintering in Quebec	Wintering at The Hurons	Maximum Population in Quebec
1608	31	3	-	-	3	25	-	31
1609	-	-	-	-	17	8	-	25
1610	11	1	-	-	-	17	1	19
1611	1	1	-	-	1	16	1	17
1612	-	-	-	-	-	16	-	16
1613	31	1	-	-	-	47	-	47
1614	-	-	-	-	-	47	-	47
1615	5	19	-	-	-	32	19	52
1616	33	3	-	-	2	60	-	64
1617	7	1	-	-	2	64	-	67
1618	6	3	1	-	1	66	-	70
1619	13	-	-	1	3	77	-	80
1620	6	22	-	-	1	60	-	83
1621	24	5	1	1	1	79	-	85
1622	6	19	-	-	-	50	16	85
1623	2	1	-	-	1	50	16	52
1624	6	4	-	1	1	52	10	57
1625	6	1	-	1	2	56	-	59
1626	27	2	-	1	1	71	10	84
1627	2	15	-	1	4	55	-	71
1628	-	-	-	-	-	55	21	55
1629	600[1]	Eng. 510 Fr. 50	1	1	.1	Fr. 26[2] Eng. 90	-	Fr. 76 Eng. 600
1630	-	2	-	-	14[3]	Fr. 24 Eng. 76	-	Fr. 26 Eng. 90
1631	-	-	-	1	-	Fr. 25 Eng. 76	-	Fr. 25 Eng. 76

[1] 600 men composed the crew of David Kirke's five ships.
[2] There were three single men; the rest were members of the six following families: Couillard, Martin, Pivert, Desportes, Ducharme and Hubou.
[3] 14 English.

In 1629, when Champlain surrendered to Kirk, 26 colonists decided to stay in Quebec. It was 2 less than in 1608.

Ten years later, in 1639, the population was 274, composed of 64 married men, 64 married women (3 of them born in Canada), 1 widower, 4 widows, 35 single men and 58 young boys (30 of them born in Canada), and 48 young girls (24 of them born in Canada)[*]. The accumulated vital statistics showed 23 marriages, 52 births and 90 deaths. The year 1639 witnessed 15 births and 9 deaths, but it was only in 1643 that the total number of deaths since the beginning of the colony was counterbalanced by the total number of births. From 1638 to 1800, births exceeded deaths every year, with the exception of the years 1703 and 1733 in which smallpox played havoc in New France[†].

The reason for the slow progress of the population is evident: there was practically no immigration. This reason holds good until the second half of the seventeenth century, when Louis XIV took New France away from the Company of the Hundred Associates. The king, taking colonization in his own hands, decided to send soldiers over to eliminate once and for all the danger of destruction of the colony by the Indians. He then encouraged soldiers and officers to settle in Canada and he provided wives for them by sending over young girls, who were called *les filles du roi*[‡]. The result of this policy was that more than 600 soldiers made Canada their permanent home, the majority of them getting married and taking to farming. This is eloquently illustrated by the marriage statistics of the period.[††]

Marriages from 1665 to 1673 numbered 759 (or an average of 84 per year). This is as much as the total for the nine years preceding (1656-1664—318 marriages) and the nine years following (1673-1682—449 marriages) this period. The marriage rate per 1,000 population in 1667 was 19·1, and the birth rate per 1,000 population for the same year was 58·0.[‡‡]

The systematic immigration of girls from 1665 to 1673 lessened the disproportion existing prior to that period between the number of males and females. In 1666, the number of males to every 1,000 females was 1,722. In 1681, the ratio was down to 1,249.[**]

[*]Benjamin Sulte: *Histoire des Canadiens français*, Vol. II, p. 92.
[†]Abbé Cyprien Tanguay: *A travers les Registres*, pp. 26-229.
[‡]See Chapter I, p. 36.
[††]From the number of marriages given for each year in C. Tanguay: *A travers les Registres*.
[‡‡]In 1931, the marriage rate was 6·4 and the birth rate 23·3. The high rates obtained for 1667 are easily explained by the fact that out of a population of 3,918, 1,507 or 38·5 p.c were between the ages of 21 and 40, while in 1931. this group represented only 29·5 p.c. In 1667, there were only 252 persons, or 6·4 p.c., over 51 years of age. In 1931, the percentage for that group was 15·4.
[**]In 1931, the number of males to every 1,000 females was 1,074.

The white population of Canada was*: 28 in 1608; 60 in 1616; 81 in 1626; 274 in 1639; 675 in 1650; and 2,500 in 1663.

In 1666, the first census of Canada† (the first modern census in any country) showed the population to be 3,215 and the number of families 552. That of 1667 registered 3,918 souls and 668 families.

Unfortunately the impetus that the little colony, especially its families, derived from the attention its pitiful state had attracted in France did not last very long. In 1672, Louis XIV let his attention be diverted from New France by the war with Holland, and the colonists were once more left to themselves. However, these few years of colonization, planned with a keen appreciation of the needs of the little colony, were sufficient to establish the Canadian family on solid foundations.

After 1672, there was practically no immigration and the population growth depended entirely on the natural increase. The Indians were pacified and, under the intelligent direction of Talon, the colony knew an era of agricultural, industrial and commercial development, even of prosperity. There were: 668 families in 1667; 2,797 families in 1707; 4,993 families in 1727; 6,912 families in 1737; and 10,660 families in 1765. With this last date, the infancy stage of the Canadian family was well over.

Birth of the Family in Acadia.—But Canada was only one part of New France. The family was also struggling for existence in Acadia and a struggle it was indeed.

Port Royal‡, the first settlement of Europeans on what is now Canadian soil§, had hardly been founded when it was abandoned in 1607. Poutrincourt brought some colonists in 1610, but, in 1613, Samuel Argall destroyed the little settlement and, although some of the colonists remained in different parts of Acadia, there was no real colonization before 1632. In that year Acadia, which had been taken by Sir David Kirke in 1628, was restored to France by the Treaty of St. Germain-en-Laye. A few families came over with Razilly and settled in La Hève but later on, in search of more fertile lands, they moved to Port Royal. Around 1640, there were about 40 families making their living from the soil in the valley of Port Royal. In 1650, they numbered 45 or 50.**

The first census of Acadia, taken in 1671, showed 392 persons and 72 families. All but 7 of these families were in Port Royal. Of the 72 families, 47 were the original head families.†† The others were but the doubling up of these primitive families.

The Census of 1686 indicates only 36 new names, and the last nominal census, 1714, only 77.‡‡ These 113 new names represent an immigration nearly all made up of single men, who married the daughters and granddaughters of the original families.

The Acadians, forgotten by their mother country§§ and having no relation with Canada, were left entirely to themselves. They made good progress, however, and the multiplication of families was very rapid. In 1731, the population of Acadia was fifteen times that of 1671, while at the end of the period (1666-1726), the population of Canada was only nine times that obtained at the first census.

Thus this twin sister of the Canadian family grew up rapidly till it numbered nearly 18,000 souls in that fatal year that saw about one-third of the population deported to the United States of America, France, England, Canada and the West Indies. From 1755 to 1763, 14,000 Acadians were deported. Families were dismembered and their members spent the rest of their lives looking

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*See Census of Canada, 1931, Vol. I, p. 100.

†Extract from original (Can. Arch. S.G. 1, Vol. 460-1): Robert Giffard, escuyer, 79, seigneur de Beauport; Marie Renouard, 67, sa femme; Joseph Giffard, escuyer, 21, seigneur de Fargy; Michelle-Therese Nau, 23, sa femme; Paul Hue, 25, domestique engagé; Jean Langlois, 24, menuisier; Pierre du Mesnil, 30, domestique; Jean Chainbre, 23, meunier, domestique.

‡Annapolis, N.S.

§One can hardly regard the expeditions of Roberval in 1542, of La Roche in 1598 and of Chauvin in 1600, as settlements.

**J. B. A. Ferland: *Cours d'Histoire du Canada*, p. 496.

Benjamin Sulte: *Histoire des Canadiens français*, Vol. IV, p. 142.

††Names of the 47 head families, from which spring most of the Acadians of to-day (original spelling of the census enumerator retained): Bourgeois, Gaudet, Kriessy (Kessy), de Forest, Babin, Daigre (Daigle), Hébert, Blanchard, Aucoin, Dupeux-(Dupuis), Terriau, Scavois (Savoye, Savoie), Corporon (Corperon), Martin, Pelerin, Morin, Brun, Gautrot, Trahan, Sire (Cyr), Thibeaudeau, Petit pas, Bourg, Boudrot, Guillebaut, Grange, Landry, Doucet, Girouard, Vincent, Brot, Leblanc, Poirié, Commeaux (Comeau), Pitre, Bertrand, Belliveau, Cormié, Rimbault, Dugast, Richard, Melanson, Robichaut, La noue, d'Entremont (Mieux (ou Mius) sieur d'Entremont), La Tour, de Bellisle.—Can. Arch. S. G. 1, Vol. 466-1.. Edouard Richard: *Acadia*, Vol. I, p. 32.

‡‡Can. Arch. S. G. 1, Vol. 466-1.

§§Not more than 500 persons came from France in the whole of the seventeenth century.—E. Rameau: *La Race française au Canada*, p. 52.

for each other. A large number perished from grief, want and epidemics in these incessant journeys which took them from Acadia to Virginia, from Virginia to England, from England to France, from France to Guiana, from Guiana back to France and from France to Louisiana.

According to a report written by the secretary to the Ambassador of France in London, M. de la Rochette, who had been committed to make a study of the situation, the Acadians were distributed as follows in 1762:—*

In England (Liverpool, Southampton, Penryn, Bristol)...............   866
In France (Boulogne, Saint Malo, Rochefort, etc.)...................   2,000
In New England, Maryland, Pennsylvania, Carolina, etc............. 10,000

                                                 12,866

A few hundred families remained in Acadia† to be joined later by others who, feeling like strangers everywhere they were taken, found rest only when they could come back to their native land.

In 1763, the majority of Acadians living in England were transferred to France but, from 1784 to 1787, taking advantage of generous offers of settlement, they emigrated to Louisiana. In 1787 the Acadian population was thus distributed:—‡

France..   700
United States of America.......................................   800
Maritime Provinces, Gaspé, Magdalen Islands, Newfoundland, St.
    Pierre and Miquelon....................................... 4,000
Louisiana.. 2,500
Province of Quebec... 3,500
Others..   500

                                                 12,000

Normally, the Acadians should have numbered over 25,000. · Apart from an inevitable decrease in the number of births due to the dismemberment of families and the miserable conditions of those that were kept together, the mortality caused by grief and misery was evidently very high.

The Acadians who passed into Canada founded the parishes of Saint Grégoire§, l'Acadie** and St. Jacques de l'Achigan.††

Colonization.—It seems incredible that France after taking possession of a new country did so little to populate it. The population of Canada in 1675 was 7,382; from 1608 to 1675 the natural increase was 3,555, leaving a net immigration of 3,827; 3,827 in 67 years, an average of 57 persons a year, and France was then the most populous as well as the most powerful country in Europe.‡‡

The fact that she was engrossed in constant wars in Europe is not sufficient explanation of the neglect France evinced toward her colony. The real reason is that, not grasping the significance of true colonization, she failed to realize the possibilities of Canada. Dazzled by the precious metals pouring into Spain from America, she was bitterly disappointed when Cartier reported he had not seen any sign of mines. Richelieu, Louis XIV and Colbert did much for the colonization of New France, but even they were far from realizing the importance of the colony. To Talon, asking him for more immigrants, Colbert replied that it would not do to depopulate France to populate Canada.

The wonder is that, colonization being so little understood and given so little help, there was any immigration at all. There were so many factors to discourage the potential settlers. The crossing was not a pleasant voyage by any means. It lasted as long as three or four months on overcrowded ships of 40 to 100 tons. There was always the danger of contracting some

*H. R. Casgrain: *Un pèlerina·e au pays d'Evangeline*, p. 193.
†405 families were in Acadia in 1764, according to a memorandum communicated to the Lords of Trade by Wilmot.— Edouard Richard: *Acadia*, Vol. II, p. 310.
‡Idem. Vol. II, p. 341.
§Opposite Trois-Rivières, Que.
**Near St. John, Que.
††County of Montcalm, Que.
‡‡Even if we raise the immigration to 5,000, making liberal allowances for the loss due to bush-rangers, the average would still be only 74.

epidemic disease with which the ships were generally infected, or of being wrecked as happened more than once.* . In 1659 and 1662, about one-third of the immigrants were lost during the voyage and the majority of those that reached Quebec were sick.† In 1663, about 60 of 300 emigrants from La Rochelle died during the crossing. The new life awaiting the settlers upon their arrival in New France had an element of adventure and danger which, if it cast a spell on the youth and was no doubt a factor in their coming over, on the other hand, acted as a deterrent to married men with dependents.

What then prompted the 4,000 or 5,000 colonists who made the crossing between 1608 and 1672 to choose New France as their permanent home and to run the risks that went with that choice? Some families, seeking a refuge from the wars of religion, came as to a land of liberty. A good number came to Christianize the natives, and Montreal owes its origin to this desire to spread the Gospel among the Indians. "So far as I know," wrote Chas. W. Colby, "Montreal is the only large city in the world which has arisen out of a mission colony. The design was to found on the island of Montreal, a fortified town which should be both a bulwark against the Iroquois and a centre whence the light of the Gospel might shine forth among the Indian tribes."‡ Others, hearing of the comfortable life awaiting any one willing to work, came with the desire to assure the existence and the future of their children. Land was not scarce and it was theirs for the asking. A number of young men were attracted by the adventure that a new land always offers. Others again, soldiers, officials, merchants, coming with the intention of staying only a few years, found numerous advantages in the conditions of their new life and stayed permanently.

Canada was given poor publicity in France. Voltaire was not by any means the only brilliant Frenchman who clamoured against the bad investment that was New France. General opinion was unfavourable to the young colony. Two publications, however, did much to alter this and to decide young families to come to Canada. The *Relations des Jésuites*, published every year, gave a true picture of the hardships awaiting the settlers, but also pointed out that any one willing to work could live much better here than in France. The other one was the book of the Governor of Trois-Rivières, Pierre Boucher: *Histoire véritable et naturelle des moeurs et productions de la Nouvelle France*, written in 1663 to answer questions asked him by a large number of persons when he went to France in 1661.

Two agencies that played an important role in the establishment of families in Canada were the companies and the seigneurs. Because the task of colonization was too big for individuals and because the monarchy did not care to assume it, commercial companies were founded successively which, in return for certain privileges (the most important being the fur trade monopoly), assumed the responsibility of establishing settlers in New France. Unfortunately the companies, caring only for their profits, failed to discharge their obligations. The most important company, that of the One Hundred Associates, existed from 1627 to 1663. Its charter stipulated that it was to bring over 300 colonists a year. Yet, from 1627 to 1663, the total increase in population did not even reach 2,500, of which the natural increase provided about 800.

Recourse to the Seigneurial System proved a much better plan, and the early settlement of Canada was achieved mainly through it.

The companies granted the seigneur a very large piece of land which he could keep without paying any retribution provided that he brought it under cultivation. The only way he could possibly fulfil that condition was by letting out some portion of his seigneury land to other families. These pieces of land were not to be sold by the seigneur, but rented. The rent was perpetual but very low, being only one *sou* for each acre or, in certain cases, its equivalent in produce. It was not unusual for the seigneur to grant new tenants a few years occupancy rent free. The other principal source of income of the seigneury was the share (one-twelfth of sale price) that the seigneur received at each transfer of property other than by direct descent in the family. This was called the right of *lods et ventes*. Besides the rent and the *lods et ventes* there were other feudal obligations, such as the cens,§ the *banalités*** and the *corvée*†† but they amounted to very little, when they were not totally ignored. The seigneurial system was,

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*See *Bulletin of Historical Research*, Vol. VII, p. 207.
†E. Salone: *Colonisation de la Nouvelle-France*, p. 144.
‡Chas. W. Colby: *Canadian Types of the Old Régime*, p. 106.
§*Cens*—a fixed charge of a few *sous* for each allotment.
**banalités*—very small dues paid by the *habitant* for the use of the mills or other necessities on the seigneury.
††*corvée*—a certain number of days (3 to 6) which the *habitant* was required to work for the seigneur during the year—or their equivalent, fixed at 40 *sous* a day.

indeed, very different from feudalism of Continental Europe and, between what we might call the standard of living of the French peasant and that of the Canadian *habitant*, there was a wide gulf.

The seigneurial system was introduced into New France to promote the economic development of the colony and the prerogatives of the seigneur, as has been seen, were determined with that end in mind. Not only his revenues, but even the retaining of his grant depended on the peopling of his seigneury, for all land uncleared after a certain period was to be forfeited. One of the first seigneurs and the model of them all for the number of families he transplanted from France into his seigneury, was Robert Giffard, Seigneur of Beauport.

Up to 1639, the Company of the One Hundred Associates conceded about 10 seigneuries. At the end of 1645, there were 25 seigneuries; at the end of 1664, 65. In 1707, the colony numbered 78 seigneuries, of which* 42 were in the government of Quebec, 14 in the government of Trois-Rivières, and 27 in the government of Montreal. The seigneurial régime lasted till 1854. At that time, there were 220 seigneuries possessed by 160 seigneurs.†

Colonists.—There were three categories of immigration from the mother country, *viz.*, families, single men and single women.

The number of complete families that came over is rather small, but, as they were composed of the best class of colonists, farmers, and, as they were generally large families (2 families, Legardeur and Leneuf, brought over by Giffard in 1636 comprised 45 persons‡), they formed the principal group of settlers around which the others gathered and by which they were gradually absorbed. The majority of complete families were recruited by the seigneur and transported at his cost. They came from the same rural districts and very often on landing were greeted by relatives or former neighbours. As E. Rameau said in a lecture given before the *Société d'économie nationale de Paris*, on the 26th of January, 1873§, these families "like a tree transplanted with the soil around its roots, were in the best of conditions to thrive upon a new soil."

The single men belonged mostly to two groups: the *engagés* and the soldiers. The *engagés* were single men who upon their arrival offered their services to the companies or to the colonists already established. Their employers paid them wages and they generally served for a term of three years, whence the name of "36 months" under which they were also known. They lived in the family up to the expiration of their engagement, when they became farmers on their own. The number of *engagés* was very large. Some families, as attested by the Censuses of 1666 and 1667, had as many as 6 or 8 at a time. In 1666, there were 423 *engagés*,** and the total male population 15 years old and over was only 2,022. In 1667, in Quebec alone, out of a population (male and female) of 444, there were 75 *engagés*.†† Pierre Boucher could write‡‡ in 1663: "Most of the settlers here came over as *engagés* and after having worked three years for their masters, they went on their own; after a year's work they have cleared up their lands and they harvest more than they need for themselves. When they go on their own, as a rule they have little to start on; they marry a girl who has no more than they have; however, in less than four or five years you see them well off, provided they be ever so little industrious."

The soldiers belonged to the regiment of Carignan-Salières. Twenty-four companies of this regiment of infantry, veterans of the Turkish wars, arrived in the summer of 1665 to put an end to the ravages caused by the Iroquois. They numbered around 1,200 soldiers, of whom over 800 settled in the colony when they received their discharge. The majority took lands on the seigneuries that were granted to the officers who stayed in the colony. Many villages of the province of Quebec still bear the names of these officers. Chambly was granted to Jacques de Chambly, Varennes to René Gautier, Sieur de Varennes,§§ Verchères to François Jarret de Verchères, Contrecoeur to Antoine Pecody, Sieur de Contrecoeur, Sorel to Pierre de Saurel, Saint Ours to Pierre Roch de Saint Ours, etc., etc.

From 1663 to 1673, about 1,000 young women passed from France into Canada. A number of these young women—known as *les filles du roi*—were sent by the king from the hospitals of Paris and Lyons. These hospitals were houses for the poor rather than for the sick, and young orphans, mostly daughters of officers who died poor, were brought up there at the king's expense.

*Can. Arch. S. G. 1, Vol. 461.
†G. Johnson: *First Thin-s in Canada.*
‡Mothers, sisters and brothers included.
§Can. Arch., Pamphlet No. 3869.
**Can. Arch. S.G. 1, Vol. 460-1.
††Can. Arch. S.G. 1, Vol. 460-2.
‡‡Pierre Boucher: *Histoire naturelle et véritable des mœurs et productions de la Nouvelle-France.*
§§Father of Pierre Gautier de Varennes, Sieur de La Verendrye, who discovered the Canadian North-West.

But, as *les filles du roi*, brought up to enter the service of ladies of quality, did not prove strong enough for the work that was theirs as settlers' wives, Colbert, in 1670 asked for peasant girls. He addressed to Mgr. de Harlay, Archbishop of Rouen, the following letter: "..... As in parishes around Rouen, might be found 50 or 60 healthy and strong girls who would be glad to come to Canada to be married, I beg you to employ your credit and authority with the curates of 30 or 40 of these parishes to try to find in each of them one or two girls willing to go to Canada."[*] So, in 1670, 165 girls arrived at Quebec, not from Paris but from Normandie. Whether they came from Paris or from Normandie, the girls were chosen with the greatest of care. Before they were taken on board, their parents or their friends had to give assurance that they had always been well-behaved.[†] During the crossing they were committed to the care of some trustworthy woman, usually a nun. At their arrival, they were distributed among commendable families until the time of their marriage. In a letter, dated November 10th, 1670, Talon says of the young girls arrived in the summer months: "I have distributed them among commendable families, until the soldiers who asked for their hands be ready to take house."[‡]

The early Canadian family was made of these various elements: complete families from France, union of the sons and daughters of the settlers, marriage into the settlers' families of young men who had come either as *engagés* or as soldiers and of young girls brought over for the special purpose of providing the colony with well-chosen wives, and marriage of soldiers to these young women just arrived from the mother country.

Life Along the Shores of the St. Lawrence.—Up to 1642, Canadian families were located only on the north shore of the St. Lawrence River and only in two places, Quebec and Trois-Riviéres. The first location, however, was not limited to the town of Quebec, but extended east and west to the adjacent country with two principal settlements, Beaupré and Beauport. The other group in Trois-Rivières was much smaller and was composed only of interpreters and bushrangers. The first of them to settle in Trois-Rivières was Jacques Hertel in 1633, to be followed by Jean Godefroy, Thomas Godefroy, Le Neuf du Herisson, Jean Nicolet, Sebastien Dodier, Jean Sauvaget, François Marguerie, Guillaume Isabèl, Guillaume Pepin, Bertrand Fafard, Pierre Blondel, Jean Poisson and Christophe Crevier. There were very few women in this little settlement: between 1634 and 1640 there were six married women, one widow and two little girls.[§] Trois-Rivières was the principal meeting place of Indians and traders. The Indians would come at the beginning of the summer, their canoes piled high with furs of all sorts but mostly of beaver. In return for their furs they would receive from the white traders, blankets, hats, coats, axes, arrowheads, knives, swords, guns, powder, corn, peas, raisins, tobacco, etc.[**]

By 1667, the settlements were still located on the north shore only, but there was by then an important group of families in Montreal, and all along the shore between Montreal and Beaupré modest settler houses were being built. The group of Quebec (Quebec, Beaupré, Beauport and l'Ile d'Orléans) was by far the most important of the three centres of population. It numbered 291 families thus distributed:[††] Beaupré, 108; Ile d'Orléans, 89; Quebec, 62; Beauport, 32. Montreal (and vicinity) numbered only 124 and Trois-Rivières only 37. The ranking of Quebec was due not so much to the fact that it was the oldest establishment as to its favourable location. All immigrants landed at Quebec and naturally it kept a large part of the incoming settlers. It was very seldom visited by the Iroquois, especially since the foundation of Montreal which barred their route. Quebec moreover was the political, military and ecclesiastical centre of the colony and, consequently, its population was increased with large groups of officials.

One of the chief characteristics of early settlement in Canada is that it was established along an extended line close to the shores of the St. Lawrence, but did not go at all into the interior. The reason for this is a very simple one: the settlers needed a route to take their produce to market and to bring back from Quebec and later Montreal what they could not produce themselves; and the only available route was the river.[‡‡] Instead of selling and buying things by the cart- or truck-load, the Canadian of the seventeenth century sold or bought by the boat-load. Thus, "Joseph Giffard, who had quite a business in stone and lime, promises on the 19th of October,

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[*]Francis Parkham: *The Old Régime in Canada*, p. 219. Benjamin Sulte: *Histoire des Canadiens français*, Vol. IV, p. 119.

[†]Pierre Boucher: *Histoire naturelle et véritable de mœurs et productions de la Nouvelle-France*, Chap. XIII, p. 153.

[‡]Benjamin Sulte: *Histoire des Canadiens français*, Vol. IV, p. 121.

[§]Benjamin Sulte: *Histoire des Canadiens français*, Vol. II, p. 83.

[**]*Relations des Jésuites.*—Relation of 1626, p. 5.

[††]Can. Arch., S.G. 1, Vol. 460-2.

[‡‡]The road between Quebec and Montreal was opened only in 1734.

1686, to deliver to Guillaume Jourdain and Sylvain Duplex for a building and chimney to the Sieur Pachot—5 boat-loads of freestone. On the 6th of May, 1687, he promises to deliver to L. Lavergne and A. Couteron 5 boat-loads on the beach, at Quebec."* The St. Lawrence also provided the settlers' tables with food that did not cost anything and which was always plentiful. Eels, especially, figured largely on the menu of the early Canadian family. The colonists would get them by thousands during the months of September and October and salt them for their winter use.†

So, the settler upon arriving on the land allotted to him by the seigneur would build a cabin on the beach, clear his land and start sowing. Then he would build a larger and more comfortable house. His neighbours would give him a *corvée*‡ to assist his efforts. The first and second years were hard years, but the new settler's family was assured of being helped generously by the seigneur and the neighbours. After about two years, however, the family was practically self-supporting and could live in comfort. Hunting and fishing added variety to the meals and in scant years made up for a poor crop; a few cattle and chickens were kept on the farm,§ and sugar was obtained from the maple tree. Clothing and other necessities that it could not produce, it would get at Quebec (or Montreal later on). However, since prices for anything it had to buy were double those asked in France, the family was encouraged to start the cultivation of hemp and flax and to weave and spin *l'étoffe du pays*.**

The men would spend the winter clearing a little more of their concessions, which provided them with firewood for their homes and timber for the market. When the head of the family required some help for his work in the fields he would hire one or two *engagés*. As the years rolled by, his concession would get larger and larger, but so would his family—and the time would come when he had to establish his sons. This he did by applying to the seigneur for a grant of land next to his own.

Thus, in Quebec at the very first, then at Beauport and Beaupré and later on all along the St. Lawrence between Beauport and Montreal, the family expanded on Canadian soil. This expansion, however, did not come without meeting obstacles in the way. The Iroquois who "come like foxes through the woods, attack like lions and, as they fall upon the colonists when least expected, fly away like birds"†† were a constant threat to the existence of the colony. Beaupré, Beauport, l'Ile d'Orléans, Montreal, etc., lost many of their inhabitants during incursions of these ferocious enemies. The settlers when working in the fields had to carry their guns with them and for a long time, in Montreal, they had to take refuge in the fort and when in the fields had to be protected constantly by a special guard. A decree in 1654 ordered any one going out of his house to carry a gun with lead and powder for six shots and the early censuses enumerators asked every family if it had any firearm (just as the enumerators in 1931 asked every family if it had a radio). The campaign of the Regiment of Carignan put a stop to the Iroquois hostilities and the peace that followed permitted the settlement of the shores along the Richelieu River hitherto deserted. In 1681, there were already about 300 families established all along the Richelieu. The second war with the Iroquois broke out in 1687 and, in 1689, during the night of August the 5th, an army of 1,500 demented Indians fell upon the colony. The village of Lachine‡‡ was burned down, 200 persons were killed and 120 taken prisoners. The village of La Chenaye§§ was also set on fire and 20 persons were killed.

Epidemics visited the early Canadian families many times and cost many lives. Scurvy decimated the early settlements in Acadia and in Canada. Measles in 1687 cost Canada 500 lives*** and smallpox in 1733 took about 1,800 lives.††† If one considers that the population of Canada was around 11,000 in 1687 and 36,000 in 1733, one can imagine what a setback the loss of so many lives was to the colony in the struggle for existence.

There was, however, a factor which caused more harm than Iroquois and epidemics put together: the desertion of the colony by the bushrangers, the *coureurs-de-bois*. From the very

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*Alfred Cambray: *Robert Giffard*, p. 117.
†*Relations des Jésuites.*—Relation of 1643, p. 9.
‡*Corvée* or bee—Voluntary work done by a group and without charge to help a member of the community in any enterprise that called for a number of hands at one time. This custom is still popular amongst the rural population of Canada, for instance, when quick housing of the harvest is needed.
§The Census of 1667 showed 3,192 heads of cattle.
**This practice, however, was confined to too few families until 1705, when no goods were to be had in Quebec due to the loss of the ship bringing them in.
††*Relations des Jésuites.*—Relation of 1660, p. 4.
‡‡On the Island of Montreal.
§§Lachenaie, county of L'Assomption, Que.
***E. Salone: *Colonisation de la Nouvelle-France*, p. 289.
†††J. B. A. Ferland: *Cours d'Histoire du Canada*, Vol. II, p. 446.

beginning, there were always a few men tempted not only by the great profits to be made out of the beaver trade, but also by the element of danger and adventure that went with it. Their numbers increased every year, especially after 1653 when, the war with the Iroquois preventing the Hurons and the Algonquins from coming down to the colonists, the colonists decided to go up to the Hurons and the Algonquins. The men who deserted were naturally the most active and vigorous—the very ones needed to form new families. In 1673, Louis XIV forbade any one to stay in the woods more than 24 hours without a special permission from the Governor. This edict was followed by many others, but all without avail. In 1680, Monsieur l'Intendant Duchesneau estimated the number of bushrangers at 800.* The desertion of the colony by numbers of virile and desirable members kept on to the end of the French régime.

One can better realize the harm that was done by the Iroquois incursions and the bushrangers' desertions when comparing the growth of population in Acadia and in Canada. In 1671, the population of Acadia was 392, while in Canada the Census of 1668 showed 6,582 souls. Eighty-five years later, the population of Acadia (1755) had increased forty-five times, while that of Canada had increased only ten times.

However, the numerous impediments to settlement, although they retarded the march forward of the valiant little group along the St. Lawrence, were not sufficient to bring it to a halt. The number of families showed a steady increase for each census: 538 in 1666; 668 in 1667; 1,568 in 1681; 2,797 in 1707; 3,206 in 1712; 4,224 in 1722; 6,045 in 1732 and 7,368 in 1739. The fertility of the early Canadian family was the underlying strength with which it overcame all obstacles. The colonists married early. The bride was generally much younger than the bridegroom, the reason being that women until 1670 were much less numerous than men. The girls who came from France were all young girls and they got married upon their arrival, while the young girls born in the colony were asked in marriage the moment they were of marriageable age. A great number of the latter got married at 14, 13 and 12 years of age. For the Census of 1667, out of 124 families living in Montreal and vicinity, 55 show the husband to be 10 years or more older than his wife.† Early marriages were, moreover, encouraged by a bounty of 20 *livres* offered by the king to each man who married before the age of 21 and to each girl before the age of 17.‡

Everyone helped the young married couple get a good start in life. Mgr. de Saint-Valier wrote in 1686: "One notices in the people something of the dispositions once to be admired in the first Christians; simplicity, devotion and charity are remarkable; everybody helps with pleasure those starting in life, giving or lending them something."§ In Acadia, such dispositions were even more prevailing. There, if the maid knew how to weave and the youth how to make a pair of wheels, they had all they needed to get married. The whole village, whenever a couple got married, would help to establish them. Everybody would do his share in building a house, clearing a bit of land and providing some cattle, hogs, and poultry for the newlyweds.**

Twenty-six marriages were performed from 1608 to 1640 and more than 300 between 1641 and 1660; the total from 1608 to 1760 was 25,464.

Marriage contracts of the time are very interesting documents. In 1647, Magdeleine Boucher, sister of the Governor of Trois-Rivières, brought her husband "200 francs in money, 4 sheets, 2 tablecloths, 6 napkins of linen and hemp, a mattress, a blanket, 2 dishes, 6 spoons and 6 tin plates, a pot and a kettle, a table and 2 benches, a kneading trough, a chest with lock and key, a cow and a pair of hogs."†† By another marriage contract, at about the same time, the parents of the bride, being of humble degree, bind themselves to present the bridegroom with a barrel of bacon deliverable on the arrival of the ships from France.

Marriage at an early age, coupled with the fact that the population over 50 years of age was a very small proportion in this young country, naturally resulted in a very high fertility. In 1667, children under 5 years of age represented 21·8 p.c. of the population (10·3 p.c. in 1931). Large families received financial aid from the Crown: on the 12th of April, 1670, the king in council passed a decree ordering "that in future all inhabitants of the said country of Canada who shall have 10 living children, born in lawful wedlock, not being priests, monks or nuns, shall each be paid out of the moneys sent by His Majesty to the said country, a pension of 300 *livres* a year, and those who shall have 12 children a pension of 400 *livres*."‡‡ Illegitimate children were

*Census of Canada, 1870-71, Vol. IV, p. 14.
†Can. Arch. S.G. 1, 460-2.
‡Benjamin Sulte: *Histoire des Canadiens français*, Vol. IV, p. 120.
§Benjamin Sulte: *Histoire des Canadiens français*, Vol. V, p. 123.
**Nova Scotia Historical Society, Vol. II, p. 129.
††Francis Parkman: *The Old Régime in Canada*, p. 381.
‡‡Idem, p. 227.

practically unknown in early Canada. From 1621 to 1661, 674 babies were baptized and of that number only 1 was illegitimate. In the registers of Trois-Rivières with records of 150 families from 1634 to 1665 there is not a single mention of an illegitimate child.* "Infidelity to the marriage bed was never heard of" in Acadia.†

The atmosphere of seventeenth century New France was one of very high morality and of religious fervour. In 1636, Father Paul Le Jeune wrote:‡ "Exaction, imposture, theft, abduction, murder, treachery, enmity, black malice are to be seen here only once in a year, in the papers and gazettes which are brought here from France." If any undesirable colonist had by chance found passage to Canada, he (or she) was immediately sent back when his lack of virtue was discovered. In 1621, to quote only one example, Champlain sent back to France "two families who had not cleared two square rods of land, but spent their time hunting, fishing, sleeping and drinking." §

The *Relation of 1661* informs us that in Montreal, "in every house, morning and night, everybody got together to say their prayers in common and examine their consciences, the head of the family being as a rule the one who said the prayers, the others, wife, children and servants making the responses".

To support their fervour, the colonists always had the assistance of religion and of a devoted clergy, either French or National. In 1615, 4 Recollet Fathers arrived and in 1625, 5 Jesuits. From 1615 to 1665, 94 priests** came from the old to the New France. On the 29th of September, 1665, the first Canadian to become a priest, M. Germain Morin, was ordained. Out of a total of 752 priests in the colony from 1665 to 1760, 180 were of Canadian birth. The first Canadian girl to become a nun was Françoise Giffard, daughter of Robert Giffard, who made her profession at l'Hôtel Dieu, Quebec, on the 10th of August, 1650. In 1669, out of 22 Ursuline Nuns in Quebec, there were already 9 of Canadian birth.††

The early families in Canada, as in Acadia, were closely linked together by intermarriages as well as by identity of origin, language, religion, tradition, struggles and problems. Families forming a settlement were more like members of one large family, and visitors from France, England and the United States were invariably struck with amazement at the general atmosphere of trust, help and cordial friendship which was prevailing throughout New France.

Naturally, families so closely linked together had a social life. Summer days were filled with work, but the long winter months offered much leisure time which the colonists spent visiting each other. Their chief amusements, whenever they got together, were folklore songs and dances.

Christmas and New Year's offered special occasions for rejoicing and for exchanging tokens of friendship. "Mr. Giffard sent me two capons, wrote Father Lallemant, Mr. Jean Guyon a capon and a partridge, Madame Couillard two live chickens."‡‡

In the fall, with every farm reaping corn, husking bees were numerous and much wholesome fun was witnessed.

A wedding was an occasion for gay celebration. After the church ceremony everybody—and this meant about 100 persons—would go to the house of the bride's father. After a copious banquet that lasted an hour and a half, the bride and the bridegroom would start the dance, the music being supplied by one or more fiddlers (violins were heard for the first time at the wedding of Jean Guyon, son of Jean Guyon, Sieur du Buisson, who on the 27th of November, 1645, married Elizabeth, the daughter of Guillaume Couillard). The dancing—minuets and quadrilles—intermixed with singing would be interrupted for supper, but resumed soon after. At this time, the attendance would be increased by a great number of relatives and friends who had been unable to come during the day. Very often the festivities would be resumed the following day at the house of the bridegroom's father. §§ Thus the colonists enlivened their rugged life with guileless pleasures.

So, realizing the part it had to play in America, shunning no duty, but facing and surmounting with courage and confidence every obstacle with which the road was strewn, the early Canadian family showed and prepared the way for the Canadian family of to-day.

*Benjamin Sulte: *Histoire des Canadiens français*, Vol. III, p. 74.
†From a letter of Hon. Brook Watson.—*Nova Scotia Historical Society*, Vol. II, p. 129.
‡*Relations des Jésuites.*—Relation of 1636, p. 42.
§Benjamin Sulte: *Histoire des Canadiens francais*, Vol. II, p. 12.
**'60 Jesuits, 13 Recollets and 21 secular priests.
††Benjamin Sulte: *Histoire des Canadiens français*, Vol. III, p. 67; Vol. IV, p. 101.
‡‡Alfred Cambray: *Robert Giffard*, p. 316.
§§Idem., p. 322.

CHAPTER II

SIZE OF THE CANADIAN HOUSEHOLD; 1666-1931

Average Size of the Household.—As is the case with a great many early biographies, there is a chronological gap in the life history of the Canadian household. This is a century-long gap, because, since the censuses taken from 1739 to 1851 fail to give the number of households, basic data upon which the study rests are broken and the story of the average size of the household is divided into two periods. The first period, extending from 1666 to 1739, is based on seventeen of the censuses taken at irregular intervals during the Old Régime, the second, on the nine censuses taken at ten-year intervals from 1851 to 1931:—

II.—AVERAGE NUMBER OF PERSONS PER HOUSEHOLD, CANADA, 1666-1931

Census Year	Total Population	House-holds	Persons per Household	Census Year	Total Population	House-holds	Persons per Household
1666	3,215	552	5·82	1736	39,586	6,853	5·78
1667	3,918	692	5·66	1737	40,223	6,999	5·75
1681	9,677	1,591	6·08	1739	43,362	7,468	5·81
1707	17,530	2,854	6·14				
1712	19,711	3,269	6·03	1851	2,312,919	374,491	6·18
1716	20,903	3,370	6·20	1861	3,090,561	491,687	6·29
1719	22,503	3,638	6·19	1871	3,485,761	622,719	5·60
1720	24,594	4,008	6·14	1881	4,268,364	800,410	5·33
1721	25,923	4,265	6·08	1891	4,734,272	900,080	5·26
1722	26,589	4,309	6·17	1901	5,323,967	1,058,564	5·03
1726	29,859	4,855	6·15	1911	7,191,624	1,482,980	4·85
1727	31,184	5,077	6·14	1921	8,775,319	1,897,127	4·63
1730	34,753	5,853	5·94	1931	10,362,833	2,276,595	4·55
1732	35,417	6,135	5·77				

The statistics given for the years from 1666 to 1739 in Statement II refer to New France; for 1851, 1861 and 1871, to Upper Canada, Lower Canada, New Brunswick and Nova Scotia; for 1881 and 1891, to the whole of Canada exclusive of the Northwest Territories; and for 1901 to 1931, to the whole of Canada, exclusive of Yukon and the Northwest Territories.

The years 1666, 1667 show relatively small numbers of persons per household compared with the rest of the French régime. The reason is easily deduced from the records. The numerous marriages taking place at that period account for a large number of families of two or three persons, which, considering that there were less than 700 households in 1666, 1667, could easily decrease the average population per household. In a number of cases, where the groom or the bride, or both of them, were already members of families, marriage would act as a double factor in reducing the average size of the household: by decreasing the large families and increasing the number of small families.

It is true that the birth rate was extremely high—58·0 per thousand population in 1667—but this factor, a consequence of the numerous marriages, was too recent to counteract the influence of the high marriage rate in reducing the size of the average household. This is illustrated in Statement IV, where the years 1666 and 1667 show 2·26 children under 15 years of age per household, while every other census year under the French régime shows a higher average.

It may be noticed in Statement II that the average number of persons per household in New France remains constant for a very long time: from 1681 with 6·08 to 1727 with 6·14, it never varies more than 0·17 between any two censuses. For the year 1730 the average is, for the first time since 1667, below 6 and it remains below this mark for each of the following censuses to the end of the French régime. There are three causes for the decrease:—

(1) The death toll was large in 1730, due to an epidemic of measles and whooping cough, and was extremely large in 1733, due to the terrible epidemic of smallpox which burst on the colony, claiming five out of every hundred Canadians and giving 1733 a death rate of over 55 (compared with 10·1 for 1931). The years 1730 and 1733 stand out in the following record of deaths computed by C. Tanguay*: 1728, 795; 1729, 836; 1730, 1,173; 1731, 960; 1732, 872; 1733, 2,025; 1734, 870.

(2) A great number of marriages took place in 1729, 1730 and 1731.

*A travers les Registres, pp. 128, 140.

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(3) The exodus of Canadians—members of families rather than families—to Louisiana, Illinois, Missouri, Michigan, Wisconsin, Minnesota, etc., must be considered a factor in the decrease of the average size of the household from 1730 to 1739, although such exodus had not yet reached the alarming proportions to which it was to soar a century later.

The second period starts with a very high average: 6·18 persons per household in 1851 and 6·29 in 1861, the latter being the highest average in the history of Canada. In the years immediately preceding 1861, by a combination of circumstances, several factors favourable to the expansion of the average size of the household made their appearance.

Immigration—because it is, as a rule, made up of individuals or young incomplete families—will lower the average size of the household. Immigration, as the records show, was heavy in the decade 1851-61. Yet, the Census of 1861 showed not a lower but a higher average. This apparently contradictory phenomenon is easily understood since there was very little immigration at the end of the decade (immigrant arrivals for the years 1858 to 1861, inclusive, averaging only 9,625 per year), and that by 1861 the numerous arrivals since the middle of the previous decade had had time to change from individuals into families and from incomplete into complete families.

There was little migration from the old counties into new ones or into another province, or from country to city, which would have caused a breaking up of households.

Rural areas, more favourable to large families than urban, contained 85 p.c. of the total population.

The result of such favourable factors was a period of great internal increase with the ultimate result of an average household of 6·29 persons.

For 1871, the average is down to 5·60 and it decreases with every census to reach 4·55 in 1931, 1·74 persons less per household than in 1861.

The largest single drop—0·69 persons per household—occurred between 1861 and 1871. While for the decade 1851-61 there was an increase of population of 33·6 p.c. and a corresponding increase in the number of households of 31·3, for the decade 1861-71 an increase of population is shown of only 12·8 p.c., when the households were increasing by 26·6 p.c. The rate of increase of the native population, notwithstanding considerable emigration to the United States, was nearly as large as that for the previous ten years; but the rate of increase of the total population was greatly reduced due to the fact that the immigrant population actually decreased by over 90,000 during the decade. Immigrant arrivals from 1861 to 1870, inclusive, amounted to 178,814, but foreign-born population departures to the Southern States were even more numerous. The increase in the number of households can be partly attributed to the settling of new districts in Ontario and Quebec.

Another large drop is shown in Statement II for 1881, with the average household down to 5·33 persons. The explanation is practically the same as for the previous decade, together with the fact that the provinces of Manitoba and British Columbia are included in the figures and account for a fraction of the difference; the former province showed an average of 4·65 persons per household, and the latter one of 4·73. As is generally the case for frontier countries, the population of these young provinces was built up from immigration largely composed of single persons and of small families.

The year 1891 shows the smallest decrease in the size of the household for any decade in the period from 1861 to 1931. It may be interesting at this point to compare the size of the average household in Canada with that of other countries.

Year	Country	Persons per Household
1891	Canada	5·26
1890	Ireland	5·0
1890	United States	4·9
1890	Austria	4·8
1890	England	4·7
1890	Germany	4·7
1890	Switzerland	4·6
1890	Scotland	4·6
1891	France	3·6

Reverting again to Statement II, it will be seen that the decrease is large again in Canada for 1901, 1911 and 1921, but is very small for 1931. It is interesting to note that the decrease in the size of the household has been steady since 1891 and exactly the same in the United States and in Canada, amounting to two-tenths of an individual per decade, except in 1931 for Canada.

III.—AVERAGE NUMBER OF PERSONS PER HOUSEHOLD, UNITED STATES, 1890-1930, AND CANADA, 1891-1931

United States		Canada	
Year	Persons per Household	Year	Persons per Household
1890....	4·9	1891....	5·26
1900....	4·7	1901....	5·03
1910....	4·5	1911....	4·85
1920....	4·3	1921....	4·63
1930....	4·1	1931....	4·55

Factors of Decrease in Average Size of the Household.—The variations in the size of the decrease from decade to decade can be largely attributed to a difference in intensity or in direction of the movements of population.* However, underneath this factor, irregular and violent, an element of decrease more regular, more gentle, but, at the same time, more important is concealed, *viz.*, a declining birth rate. For, if there is definite proof that the variations in the size of the decrease were caused by changes in the population movement, there is, on the other hand, no doubt that an important percentage of the decrease registered at each decade is to be attributed to a smaller birth rate.† It is true that the size of the private family and not that of the household is directly affected by the birth rate, but the basis of the household is the private family and what gives a nation a large or a small average size of household is, after all, its large or small average size of family. Other factors which have played a part in reducing the average size of the household are:—

(1) The ageing of the population, by which process the top divisions of the age distribution gained steadily. In 1931, there were 3,276,421 children under 15 years of age, an increase of 1,826,176, or 126 p.c., over 1871; in the meantime, however, the rest of the population had increased 5,050,896, or 248 p.c. The following statement illustrates very well the ageing process:—

IV.—PROPORTION PER 100 OF THE POPULATION, BY CERTAIN AGE GROUPS, CANADA, 1871-1931

Age Group	1871	1881	1891	1901	1911	1921	1931
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.
40-49	8·0	8·4	8·8	9·8	10·0	10·9	11·9
50-59	5·5	5·8	6·2	6·8	6·9	7·3	8·2
60 and over	5·5	6·3	7·0	7·6	7·1	7·5	8·4

Part of the decrease in the number of children under 15 years of age per household, as shown in Statement V, can be attributed to an increasing proportion of the population in the older age divisions. Of course, the declining birth rate played a part in this changing of proportion within each age group.

V.—NUMBER OF CHILDREN UNDER 15 YEARS OF AGE PER HOUSEHOLD, CANADA, 1666-1931

Census Year	Children under 15		Households	Census Year	Children under 15		Households
	Total	Per Household			Total	Per Household	
1666	1,247	2·26	552	1736	17,450	2·55	6,853
1667	1,563	2·26	692	1737	17,438	2·49	6,999
1681	4,637	2·91	1,591	1739	18,644	2·50	7,468
1707	8,473	2·97	2,854				
1712	9,525	2·91	3,269	1851[1]	823,882	2·77	297,270
1716	9,605	2·85	3,370	1861[2]	1,202,691	2·66	451,437
1719	9,977	2·74	3,638	1871[3]	1,450,245	2·33	622,719
1720	10,301	2·57	4,008	1881[4]	1,651,995	2·06	800,410
1721	10,217	2·40	4,265	1891[4]	1,719,600	1·91	900,080
1722	10,314	2·39	4,309	1901[5]	1,834,375	1·73	1,058,564
1726	12,474	2·57	4,855	1911[5]	2,363,638	1·59	1,482,980
1727	13,366	2·63	5,077	1921[5]	3,016,984	1·59	1,897,127
1730	14,860	2·54	5,853	1931[5]	3,276,421	1·44	2,276,595
1732	15,483	2·52	6,135				

[1] Provinces of Upper and Lower Canada.
[2] Provinces of Upper Canada, Lower Canada and Nova Scotia.
[3] Provinces of Ontario, Quebec, Nova Scotia, New Brunswick.
[4] Canada, exclusive of Northwest Territories.
[5] Canada, exclusive of Yukon and Northwest Territories.

*See Chapter III.
†See monograph on fertility.

(2) The constantly larger proportion of the population within the married state, from which followed an increase in the number of households relatively greater than the increase in population. The following statement permits a comparison between the percentage increase in the number of households and the percentage increase in population.

VI.—PERCENTAGE INCREASE PER DECADE IN POPULATION AND HOUSEHOLDS, CANADA,[1] 1861-1931

Decade	P.C. Increase in		Decade	P.C. Increase in	
	Population	Households		Population	Households
1861–71	12·8	26·6	1911–21	22·0	27·9
1871–81	22·5	28·5	1921–31	18·1	20·0
1881–91	10·9	12·5			
1891–1901	12·5	17·6	1861–1931	235·3	363·0
1901–11	35·1	40·1			

[1] Canada in this statement is given the same boundaries as in Statement II.

The increase in the proportion of the population within the married state is partly responsible for the difference between the two percentages in Statement V.

VII.—PERCENTAGE OF THE POPULATION IN THE MARRIED STATE, BY SEX, CANADA, 1871-1931

Year	Percentage Married		Year	Percentage Married	
	Males	Females		Males	Females
1871	29·86	30·63	1911	34·85	36·97
1881	31·55	32·28	1921	37·49	38·32
1891	32·36	33·37	1931	37·83	38·74
1901	33·76	34·51			

The above statement may lead one to believe that marriage as an institution was looked upon more favourably at each census. The explanation of the steady increase in percentages, however, is the ageing of the population and not greater eagerness on the part of the marriageable males and females to marry. This is clearly demonstrated in the following statement (borrowed from Volume I of the Seventh Census of Canada, 1931, Part II, Chapter IV), in which the influence of age distribution has been duly corrected.

VIII.—PERCENTAGE OF THE POPULATION IN THE MARRIED STATE, CORRECTED FOR THE INFLUENCE OF AGE, BY SEX, CANADA, 1871-1931

Year	Percentage Married		Year	Percentage Married	
	Males	Females		Males	Females
1871	29·86	30·63	1911	27·23	31·20
1881	29·82	30·42	1921	28·86	32·01
1891	28·58	29·90	1931	28·27	31·50
1901	27·16	29·72			

(3) Urbanization, more marked at every census since 1871, when 20·3 p.c. of the four provinces of Ontario, Quebec, Nova Scotia and New Brunswick lived in urban centres, to 1931 when urban centres claimed 53·7 p.c. of the population of Canada. There is no doubt that urbanization is a factor in the decrease of the average size of the household. Cities offer their inhabitants numerous advantages resulting from concentration of population, but they also develop conditions of living that are not conducive to the large family.

Such are the principal factors that have exerted an influence on the size of the household. They are not the only ones by any means. There are a good many others that undoubtedly should be taken into account, such as prosperity and depression, race and religion, social laws, culture, morality, etc.; but, while in the case of the factors reviewed above figures can be brought forward that permit a reasonable measurement of their respective influence, it is next to impossible to measure the influence of the others and to attempt it would be beyond the scope of the present study.

Average Size of Rural and Urban Household in Eastern Canada.—Great importance is generally attached to the influence of rural and urban distributions and of racial origin on the average size of the household. The statements in the following pages help to bring out the part played by these two factors in shaping up the size of the household in Eastern Canada.

IX.—PROPORTION OF THE POPULATION IN RURAL AND URBAN AREAS,[4] EASTERN CANADA,
1667-1931

Census Year	Total Population	Rural Population		Urban Population	
		No.	P.C.	No.	P.C.
1667...	3,918	2,501	63·8	1,417	36·2
1681...	9,677	6,764	69·9	2,913	30·1
1707...	17,530	13,936	79·5	3,594	20·5
1721...	25,923	18,179	70·1	7,744	29·9
1736...	39,586	30,867	78·0	8,719	22·0
1861[1]..	2,507,657	2,250,384	89·7	257,273	10·3
1871[2]..	3,485,761	2,779,612	79·7	706,149	20·3
1881[3]..	4,156,645	3,064,782	73·7	1,091,863	26·3
1891[3]..	4,483,593	3,001,094	66·9	1,482,499	33·1
1901[3]..	4,725,798	2,873,090	60·8	1,852,708	39·2
1911[3]..	5,471,023	2,889,957	52·8	2,581,066	47·2
1921[3]..	6,294,655	2,894,879	46·0	3,399,776	54·0
1931[3]..	7,315,041	3,024,464	41·3	4,290,577	58·7

[1] Upper and Lower Canada.
[2] Ontario, Quebec, Nova Scotia, New Brunswick.
[3] Ontario, Quebec, Nova Scotia, New Brunswick, Prince Edward Island.
[4] Rural and urban population in this and the following statements may, in some instances, be found slightly different from that published in Volumes I and II of the 1931 Census, due to the fact that to get at the corresponding number of households it was necessary to use figures and divisions as given in earlier censuses.

The last column of Statement IX shows the rapid and constant march forward of urbanization in Canada since 1861. At that date, urban centres of Upper and Lower Canada contained only 103 out of every 1,000 inhabitants of these two provinces. In 1931, incorporated villages, towns and cities of Quebec, Ontario, Nova Scotia, New Brunswick and Prince Edward Island contained 587 out of every 1,000 inhabitants of these provinces.*

A study of the rural and urban columns demonstrates that urban centres grew at the expense of rural areas. There is no question that the majority of immigrants went to swell the cities, nor is it a secret that farms, in alarming numbers, were deserted for the city. Moreover, when we know that between 1871 and 1931 the number of incorporated places in Eastern Canada passed from 194 to 829, it becomes very easy to understand how urban centres passed from a population of 1,091,863 in 1881, to one of 4,290,577 in 1931, an increase of 293 p.c., when, in the meantime, rural areas were losing 40,318 souls, or 1·3 p.c. of their 1881 population.

X.—AVERAGE NUMBER OF PERSONS PER HOUSEHOLD, RURAL AND URBAN, EASTERN CANADA,
1667-1931

Census Year	Population			Households			Persons per Household		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
1667....................	3,918	2,501	1,417	692	456	236	5·66	5·48	6·00
1681....................	9,677	6,764	2,913	1,591	1,142	449	6·08	5·92	6·49
1707....................	17,530	13,936	3,594	2,854	2,304	550	6·14	6·05	6·53
1721....................	25,923	18,179	7,744	4,265	2,880	1,385	6·08	6·31	5·59
1736....................	39,586	30,867	8,719	6,853	5,298	1,555	5·78	5·83	5·61
1861[1]..................	2,507,657	2,250,384	257,273	396,968	348,946	48,022	6·32	6·45	5·36
1871[2]..................	3,485,761	2,779,612	706,149	622,719	486,527	136,192	5·60	5·71	5·18
1881[3]..................	4,156,645	3,064,782	1,091,863	775,802	556,052	219,750	5·36	5·51	4·97
1891[3]..................	4,483,593	3,001,094	1,482,499	847,585	556,179	291,406	5·29	5·40	5·09
1901[3]..................	4,725,798	2,873,090	1,852,708	933,395	558,805	374,590	5·06	5·14	4·95
1911[3]..................	5,471,023	2,889,957	2,581,066	1,100,828	570,620	530,208	4·97	5·06	4·87
1921[3]..................	6,294,655	2,894,879	3,399,776	1,328,358	590,539	737,819	4·74	4·90	4·61
1931[3]..................	7,315,041	3,024,464	4,290,577	1,567,657	623,417	944,240	4·67	4·85	4·54

[1] Upper and Lower Canada.
[2] Ontario, Quebec, Nova Scotia, New Brunswick.
[3] Ontario, Quebec, Nova Scotia, New Brunswick, Prince Edward Island.

A striking fact, unusual in demography, stands out from Statement X, viz., that the average urban household is larger than the rural household for the years 1667, 1681 and 1707. The explanation is that urban centres (Quebec especially) at the beginning of the colony contained a considerable population living in quasi-family groups and these large households were sufficient, due to the small total population, to raise the average size of the urban household. Thus in 1667,

*If to the five Eastern Provinces of the statement are added Manitoba, Saskatchewan, Alberta and British Columbia, the proportion living in urban centres is somewhat lowered, as might be expected, though it is still 537 to the thousand.

out of an urban population of 1,417, 177 persons were living in seven institutions and the influence of these seven quasi-family groups was sufficient to raise the average by 0·59. Naturally, as the population of the colony increased, the influence of the quasi-family groups on the average size of household gradually diminished, and to-day the population of such groups, large as it is, is so well lost in the total population that its influence on the average size of household is practically nil.

The extraordinary increase in urban population between 1707 and 1721 is due to the inclusion of the environs of Quebec and of the seven parishes on the Island of Montreal in the urban figure for 1721. The large decrease in the average size of the urban household during that period seems to be due to a diminution of the influence of the quasi-family groups and to a resumption of immigration. In 1707, there was one person living in an institution for every twelve living outside; in 1721, the ratio was one to seventeen.* This change of ratio is responsible for a decrease of 0·25 out of a total decrease in size of household of 0·94 between 1707 and 1721. The movement of immigration, interrupted since 1680, had been resumed in 1710 and, although not considerable, was probably sufficient to account for the rest of the decrease.

In 1736, the seven parishes on the Island of Montreal, with a population of 3,124, are counted with the rural population; this explains the large increase recorded in rural 1736. The decrease in the size of the rural household is common to the three governments (as they were called) of Quebec, Trois-Rivières and Montreal, although it is only 0·2 in the government of Quebec. The decrease is to be attributed to the opening up of new parishes.

The period 1861-1931 is characterized by a smaller household, rural and urban, at every census with the single exception of the urban for 1891. Such an exceptional case as shown in 1891—the size of the urban household increasing when that of the rural is decreasing—is due to the particular character of the movement of the population in Eastern Canada during the decade 1881-91. Firstly, there was a huge immigration some of which found its way to the eastern cities. Secondly, the outward movement may be divided into two classes according to its destination. One—the larger of the two—was westward and to the United States; the other was almost entirely towards urban centres. Four cities, Montreal, Ottawa, Hamilton and Toronto, absorbed nearly three-fifths of the total increase of 326,948 in the East. In the meantime, the rural population, supplying the two movements, declined by 63,688. Apart from their direction (one might add because of it), the two outward movements differed in their composition. The single person, looking for adventure, went to the West or to the United States; the head of a family moved on to the nearest city where he knew what he could expect for his family. The first group decreased the size of the rural household, the second increased the size of the urban household.

The last three columns in Statement X reveal a highly interesting peculiarity: the alternate recurrence of large and small decreases in each column and at every decade from 1871 to 1931, as shown in Statement XI. This curious phenomenon calls for more than mere mention; it will be studied in Chapter III.

XI.—DECREASE[1] IN AVERAGE SIZE OF HOUSEHOLD, BY DECADES, RURAL AND URBAN, EASTERN CANADA, 1871-1931

Decade	Decrease in Household Size			Decade	Decrease in Household Size		
	Total	Rural	Urban		Total	Rural	Urban
1871-81...............	0·24	0·20	0·21	1911-21..............	0·23	0·16	0·26
1881-91...............	0·07	0·11	-0·12	1921-31..............	0·07	0·05	0·07
1891-1901.............	0·23	0·26	0·14				
1901-11...............	0·09	0·08	0·08	1871-1931...........	0·93	0·86	0·64

[1] Minus sign denotes increase.

It may be noticed from Statements X and XI that, during the period 1871-1931, the rural household experienced a larger drop in size than did the urban household, although its size remained larger than the urban at each census.

If Eastern Canada is compared with the whole of Canada†, it is found that the average size of the household presents in each case an identical decrease at each census except in 1911 when the decrease for Canada was double that for Eastern Canada. This difference is due to the invasion of the West by European settlers at the beginning of the century. Immigration from 1901 to 1911 exceeded 1,750,000, a figure larger than the combined immigration of the three

*These ratios are for urban population.
† See Statement II.

decades from 1871 to 1901. The majority of immigrants settled in the Prairie Provinces, which is corroborated by the difference in increase of population between Canada which grew by 1,867,000 (an increase also larger than that of the three previous decades) or 35·1 p.c. and Eastern Canada which grew by 745,000 or 15·8 p.c.

AVERAGE NUMBER OF PERSONS PER HOUSEHOLD, RURAL AND URBAN, EASTERN CANADA, 1667-1931
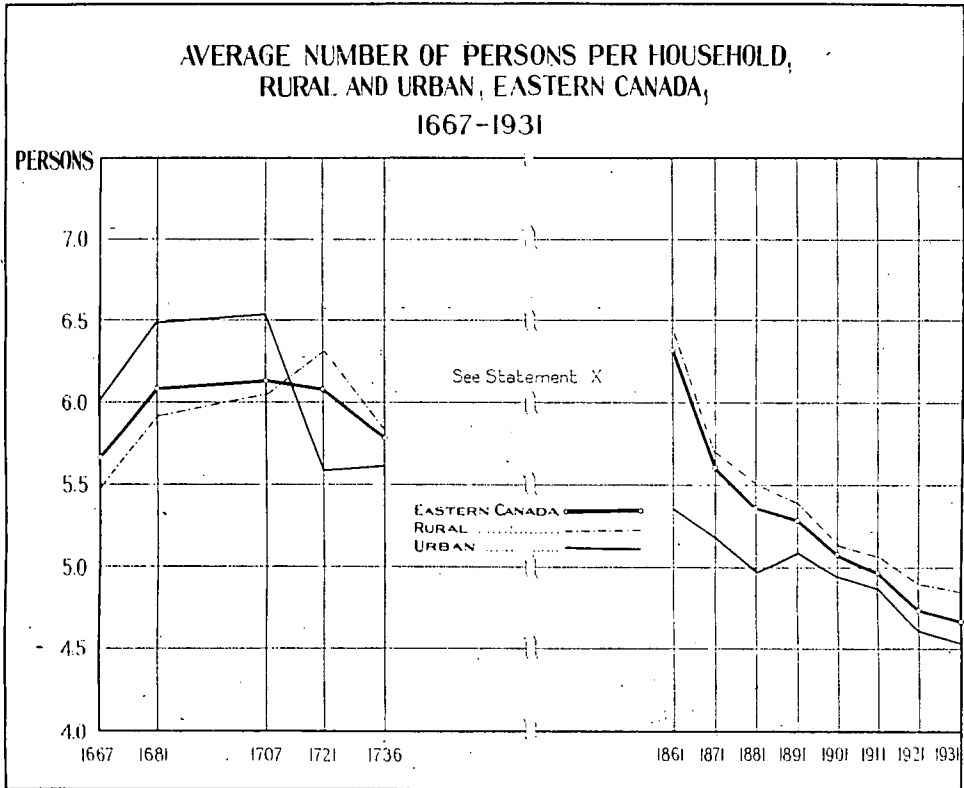
Chart 1

Average Size of Rural and Urban Household in the Provinces of Eastern Canada.— A comparison of the average size of the rural and urban households in the various provinces of Eastern Canada for census years back to 1871 is given in Statement XII.

XII.—AVERAGE NUMBER OF PERSONS PER HOUSEHOLD, EASTERN CANADA AND PROVINCES 1871-1931

Census Year	Eastern Canada	Ontario	Quebec	Nova Scotia	New Brunswick	Prince Edward Island
1871	5·60	5·55	5·59	5·72	5·78	-
1881	5·36	5·26	5·33	5·54	5·64	6·06
1891	5·29	5·10	5·47	5·38	5·50	5·86
1901	5·06	4·79	5·37	5·14	5·28	5·51
1911	4·97	4·64	5·40	5·00	5·24	5·09
1921	4·74	4·30	5·34	4·82	5·04	4·71
1931	4·67	4·20	5·32	4·67	5·00	4·68

From the statistics there given the following conclusions may be drawn:—

(1) Every province shows a smaller household in 1931 than in 1871. For three of them, Ontario, Nova Scotia and Prince Edward Island, the drop is 1 person per household.

(2) Except for Quebec, 1891 and 1911, each census records a decrease in every province.

(3) Ontario has at each census a lower average size than the average for Canada. As a matter of fact, Ontario holds for each census year the lowest average of all five provinces.

(4) The largest drop of the period occurred in Prince Edward Island which lost 1·38 persons per household from 1881 to 1931.

(5) Prince Edward Island also lost the most in any single decade with a drop of 0·42 between 1901 and 1911.

(6) Quebec shows the smallest decrease with an average household for 1931 of only 0·27 less than for 1871.

XIII.—DECREASE[1] IN AVERAGE NUMBER OF PERSONS PER HOUSEHOLD, BY DECADES, EASTERN CANADA AND PROVINCES, 1871-1931

Decade	Eastern Canada	Ontario	Quebec	Nova Scotia	New Brunswick	Prince Edward Island
1871-81..	0·24	0·29	0·26	0·18	0·14	–
1881-91..	0·07	0·16	−0·14	0·16	0·14	0·20
1891-1901......................................	0·23	0·31	0·10	0·24	0·22	0·35
1901-11..	0·09	0·15	−0·03	0·14	0·04	0·42
1911-21..	0·23	0·34	0·06	0·18	0·20	0·38
1921-31..	0·07	0·10	0·02	0·15	0·04	0·03
1871-1931......................................	0·93	1·35	0·27	1·05	0·78	1·38

[1] Minus sign denotes increase.
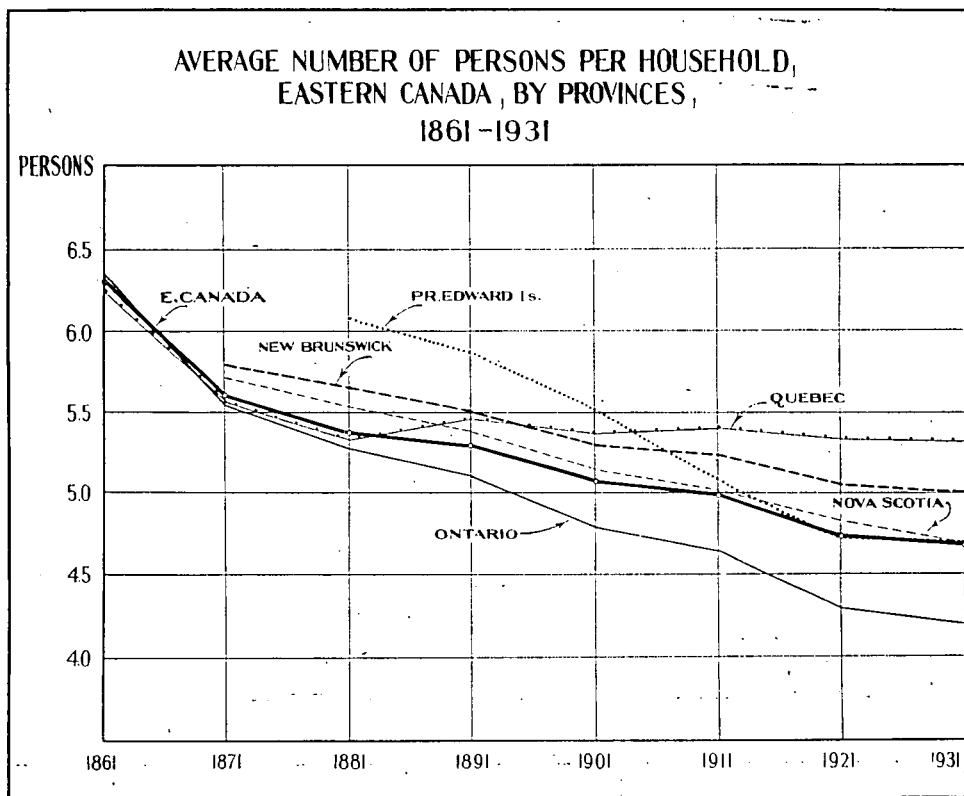
Chart 2

XIV.—AVERAGE NUMBER OF PERSONS PER RURAL HOUSEHOLD, EASTERN CANADA AND PROVINCES, 1871-1931

Census Year	Eastern Canada	Ontario	Quebec	Nova Scotia	New Brunswick	Prince Edward Island
1871..	5·71	5·63	5·75	5·79	5·94	–
1881..	5·51	5·39	5·53	5·61	5·79	6·15
1891..	5·40	5·15	5·64	5·39	5·63	5·95
1901..	5·14	4·83	5·49	5·10	5·43	5·57
1911..	5·06	4·66	5·59	4·90	5·41	5·14
1921..	4·90	4·37	5·74	4·69	5·16	4·73
1931..	4·85	4·27	5·86	4·57	5·21	4·66

XV.—DECREASE[1] IN AVERAGE NUMBER OF PERSONS PER RURAL HOUSEHOLD, BY DECADES, EASTERN CANADA AND PROVINCES, 1871-1931

Decade	Eastern Canada	Ontario	Quebec	Nova Scotia	New Brunswick	Prince Edward Island
1871-81...........................	0·20	0·24	0·22	0·18	0·15	–
1881-91...........................	0·11	0·24	−0·11	0·22	0·16	0·20
1891-1901.........................	0·26	0·32	0·15	0·29	0·20	0·38
1901-11...........................	0·08	0·17	−0·10	0·20	0·02	0·43
1911-21...........................	0·16	0·29	−0·15	0·21	0·25	0·41
1921-31...........................	0·05	0·10	−0·12	0·12	−0·05	0·07
1871-1931.........................	0·86	1·36	−0·11	1·22	0·73	1·49

[1] Minus sign denotes increase.

Statements XIV and XV illustrate the following points:—

(1) Quebec is the only province to present for 1931 an average higher than for 1871. Ontario, Nova Scotia and Prince Edward Island record a drop of 1 person.

(2) Quebec presents four censuses with increases in the average size of the rural household, and, still more important, three of these happen to be 1911, 1921 and 1931.

(3) New Brunswick is the only other province to show an increase between any two censuses, at the Census of 1931.

(4) Each census finds Ontario with the lowest average of all five provinces.

(5) The largest drop of the period goes to Prince Edward Island with a loss of 1·49 persons per household; to this province also goes the largest drop in a single decade for the three decades 1891-1901, 1901-11 and 1911-21.

XVI.—AVERAGE NUMBER OF PERSONS PER URBAN HOUSEHOLD, EASTERN CANADA AND PROVINCES, 1871-1931

Census Year	Eastern Canada	Ontario	Quebec	Nova Scotia	New Brunswick	Prince Edward Island
1871...........................	5·18	5·28	5·08	5·07	5·15	–
1881...........................	4·97	4·98	4·88	5·16	5·07	5·50
1891...........................	5·09	5·01	5·17	5·33	5·04	5·33
1901...........................	4·95	4·75	5·19	5·24	4·90	5·19
1911...........................	4·87	4·61	5·20	5·19	4·86	4·80
1921...........................	4·61	4·26	5·06	5·00	4·81	4·65
1931...........................	4·54	4·16	5·04	4·79	4·61	4·74

XVII.—AVERAGE NUMBER OF PERSONS PER HOUSEHOLD, MONTREAL, QUEBEC, TORONTO AND HAMILTON, 1871-1931

Census Year	Montreal	Quebec	Toronto	Hamilton
1871...	5·16	4·87	5·26	5·25
1881...	4·96	4·49	4·81	5·13
1891...	5·13	5·36	5·29	5·09
1901...	5·17	5·34	5·11	4·82
1911...	5·18	5·36	4·95	4·88
1921...	4·94	5·61	4·42	4·31
1931...	4·76	5·61	4·20	4·17

From Statement XVI the following information may be deduced:—

(1) The Census of 1931 records for each province a smaller urban household than in 1871. The decrease, however, is much smaller than it is for the rural household except for the province of Quebec where the urban household decreased by 0·04 while the rural household increased by 0·11.

(2) Ontario is the only province to record a drop of 1 person during the period 1871-1931.

Reviewing Statements XII, XIV and XVI, it is seen that the highest average size for the rural, urban and general household at any time is shown by Prince Edward Island with 6·15.

5·50 and 6·06 persons per respective household in 1881, and that the lowest at any time is shown by Ontario with 4·27, 4·16 and 4·20, respectively, in 1931. Quebec ranks highest in each division for 1931 with an average size of 5·86 rural, 5·04 urban and 5·32 general.

XVIII.—DECREASE[1] IN AVERAGE NUMBER OF PERSONS PER URBAN HOUSEHOLD, BY DECADES, EASTERN CANADA AND PROVINCES, 1871-1931

Decade	Eastern Canada	Ontario	Quebec	Nova Scotia	New Brunswick	Prince Edward Island
1871–81	0·21	0·30	0·20	−0·09	0·08	-
1881–91	−0·12	−0·03	−0·29	−0·17	0·03	0·17
1891–1901	0·14	0·26	−0·02	0·09	0·14	0·14
1901–11	0·08	0·14	−0·01	0·05	0·04	0·39
1911–21	0·26	0·35	0·14	0·19	0·05	0·15
1921–31	0·07	0·10	0·02	0·21	0·20	−0·09
1871–1931	0·64	1·12	0·04	0·28	0·54	0·76

[1] Minus sign denotes increase.

It is worth remarking from Statements XIII, XV and XVIII that the alternate recurrence of a small and large decrease, previously noticed for Canada and Eastern Canada, is generally present in the size variations of the rural and urban household for each one of the five eastern provinces.

XIX.—AVERAGE NUMBER OF PERSONS PER HOUSEHOLD, RURAL AND URBAN, MARITIME PROVINCES, 1871-1931

Census Year	Population			Households			Persons per Household		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
NOVA SCOTIA									
1871	387,800	353,284	34,516	67,811	61,003	6,808	5·72	5·79	5·07
1881	440,572	374,647	65,925	79,596	66,831	12,765	5·54	5·61	5·16
1891	450,396	351,176	99,220	83,733	65,104	18,629	5·38	5·39	5·33
1901	459,574	317,893	141,681	89,386	62,359	27,027	5·14	5·10	5·24
1911	492,338	318,297	174,041	98,491	64,974	33,517	5·00	4·90	5·19
1921	523,837	296,799	227,038	108,723	63,283	45,440	4·82	4·69	5·00
1931	512,846	281,192	231,654	109,857	61,505	48,352	4·67	4·57	4·79
NEW BRUNSWICK									
1871	285,594	235,381	50,213	49,384	39,639	9,745	5·78	5·94	5·15
1881	321,233	262,141	59,092	56,948	45,301	11,647	5·64	5·79	5·07
1891	321,263	255,055	66,208	58,462	45,318	13,144	5·50	5·63	5·04
1901	331,120	245,555	85,565	62,695	45,238	17,457	5·28	5·43	4·90
1911	351,889	255,991	95,898	67,093	47,352	19,741	5·24	5·41	4·86
1921	387,876	263,432	124,444	76,949	51,069	25,880	5·04	5·16	4·81
1931	408,219	279,279	128,940	81,562	53,602	27,960	5·00	5·21	4·61
PRINCE EDWARD ISLAND									
1881	108,891	94,575	14,316	17,973	15,370	2,603	6·06	6·15	5·50
1891	109,078	95,038	14,040	18,601	15,965	2,636	5·86	5·95	5·33
1901	103,259	87,403	15,856	18,746	15,691	3,055	5·51	5·57	5·19
1911	93,728	79,068	14,660	18,425	15,373	3,052	5·09	5·14	4·80
1921	88,615	69,522	19,093	18,801	14,696	4,105	4·71	4·73	4·65
1931	88,038	67,653	20,385	18,816	14,514	4,302	4·68	4·66	4·74

Nova Scotia since 1901 and Prince Edward Island in 1931 present the oddity of a larger average size for urban than for rural households.

The decrease in size is larger for the rural than for the urban household at each decade for Prince Edward Island, at each decade but the last for Nova Scotia, and at four decades out of six for New Brunswick.

Prince Edward Island has the largest average size of household, rural and general, in 1881, 1891 and 1901; New Brunswick claims it for 1871, 1911, 1921 and 1931, while Nova Scotia has the largest urban household of the three since 1901.

XX.—AVERAGE NUMBER OF PERSONS PER HOUSEHOLD, RURAL AND URBAN, ONTARIO, 1861-1931, AND QUEBEC, 1667-1931

Census Year	Population			Households			Persons per Household		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
ONTARIO									
1861..................	1,396,091	1,292,207	103,884[1]	219,511	200,867	18,644	6·36	6·43	5·57
1871..................	1,620,851	1,264,854	355,997	292,221	224,841	67,380	5·55	5·63	5·28
1881..................	1,926,922	1,352,194	574,728	366,444	251,076	115,368	5·26	5·39	4·98
1891..................	2,114,321	1,314,145	800,176	414,798	254,985	159,813	5·10	5·15	5·01
1901..................	2,182,947	1,226,228	956,719	455,264	254,010	201,254	4·79	4·83	4·75
1911..................	2,527,292	1,199,722	1,327,570	545,229	257,504	287,725	4·64	4·66	4·61
1921..................	2,933,662	1,227,030	1,706,632	681,629	280,642	400,987	4·30	4·37	4·26
1931..................	3,431,683	1,335,691	2,095,992	816,851	312,877	503,974	4·20	4·27	4·16
QUEBEC									
1667..................	3,918	2,501	1,417	692	456	236	5·66	5·48	6·00
1681..................	9,677	6,764	2,913	1,591	1,142	449	6·08	5·92	6·49
1707..................	17,530	13,936	3,594	2,854	2,304	550	6·14	6·05	6·53
1721..................	25,923	18,179	7,744	4,265	2,880	1,385	6·08	6·31	5·59
1736..................	39,586	30,867	8,719	6,853	5,298	1,555	5·78	5·83	5·61
1861..................	1,111,566	958,177	153,389[2]	177,457	148,079	29,378	6·26	6·47	5·22
1871..................	1,191,516	926,093	265,423	213,303	161,044	52,259	5·59	5·75	5·08
1881..................	1,359,027	981,225	377,802	254,841	177,474	77,367	5·33	5·53	4·88
1891..................	1,488,535	985,680	502,855	271,991	174,807	97,184	5·47	5·64	5·17
1901..................	1,648,898	996,011	652,887	307,304	181,507	125,797	5·37	5·49	5·19
1911..................	2,005,776	1,036,879	968,897	371,590	185,417	186,173	5·40	5·59	5·20
1921..................	2,360,665	1,038,096	1,322,569	442,256	180,849	261,407	5·34	5·74	5·06
1931..................	2,874,255	1,060,649	1,813,606	540,571	180,919	359,652	5·32	5·86	5·04

[1]Urban, for 1861, consists of: Hamilton, Kingston, London, Ottawa, Toronto.
[2]Urban consists (for 1861) of: Montreal, Quebec, Trois-Rivières and Sherbrooke.

In the province of Ontario the average size of the rural household is larger than that of the urban at each census since 1861, but the difference between the two is very small after 1901. Since 1861 the rural household has decreased by 2·16, the urban by 1·41 and the general household by 2·16.

In the province of Quebec the average size of the rural household is larger than that of the urban at each census after 1861. The difference between the two sizes, which was 1·25 in 1861, gradually decreased until 1901 but has been widening since, due to increases in the size of the rural occurring simultaneously with decreases in the size of the urban household. Since 1861 the rural household has decreased by 0·61, the urban by 0·18 and the general household by 0·94.

Since 1861 the average rural household in the province of Quebec has been of larger size than in the province of Ontario; the same is true of the general household since 1871 and for the urban household since 1891. In each of these three divisions, the decrease shown by the province of Ontario over the period 1861-1931 is more than 1 person greater than in Quebec.

XXI.—AMOUNT BY WHICH AVERAGE SIZE OF RURAL HOUSEHOLD EXCEEDS THAT OF URBAN, EASTERN CANADA AND PROVINCES, 1861-1931

Census Year	Eastern Canada	Ontario	Quebec	Nova Scotia	New Brunswick	Prince Edward Island
1861..	1·09	0·86	1·25	–	–	–
1871..	0·53	0·35	0·67	0·72	0·79	–
1881..	0·54	0·41	0·65	0·45	0·72	0·65
1891..	0·31	0·14	0·47	0·03	0·59	0·62
1901..	0·19	0·08	0·30	−0·14	0·53	0·38
1911..	0·19	0·05	0·39	−0·29	0·55	0·34
1921..	0·29	0·11	0·68	−0·31	0·35	0·08
1931..	0·31	0·11	0·82	−0·22	0·60	−0·08

AVERAGE NUMBER OF PERSONS PER HOUSEHOLD, RURAL AND URBAN,
FOR THE PROVINCES OF QUEBEC AND ONTARIO,
1861-1931
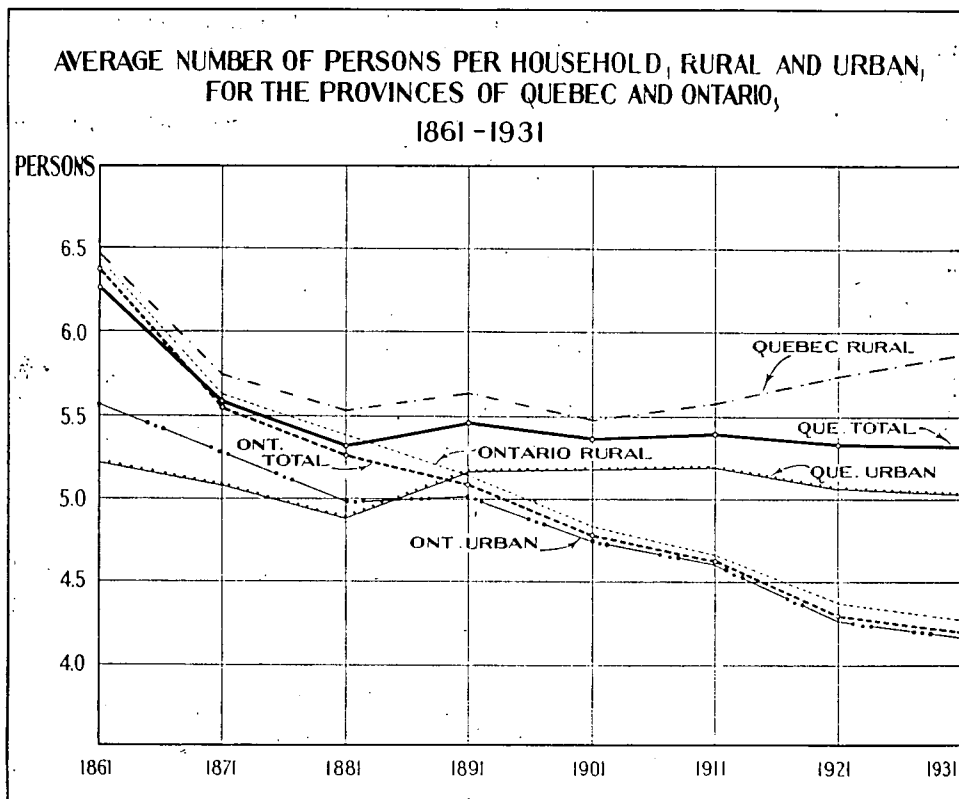
Chart 3.

Variations in Average Size of the Rural Household, by Counties, in Quebec.—It has been noted previously that the average size of the rural household in the province of Quebec has been increasing since 1901 (see Statement XX, page 51). For 1931 Quebec shared that rather unexpected experience with New Brunswick, but for 1911 and 1921 Quebec was the only one of the five eastern provinces to register an increase. Because of the amount of work involved as well as the influence of the period of depression immediately preceding 1931, it was found advisable to study only the two decades 1901-11 and 1911-21.

In order to ascertain whether or not the increase in the size of the rural household in the province of Quebec was due to the recent settlement of newly opened counties, to the influence of some counties having abnormally large households or to the joint action of both factors as was anticipated, rural Quebec was broken up into counties. The result of the investigation points definitely to the increase being general and not attributable to certain counties.

From Statement XXII it will be seen that, out of 66 counties, only 13 show a decrease (the decreases being under 0·10 for 6 of them). Of the remaining 53 counties with larger average households in 1921 than in 1901, 28 show an increase of 0·25 or more—0·25 being the average increase for the province; 13 counties have increases of 0·50 or more, with 4 of them, Abitibi, Temiskaming (grouped together), Montreal and Jesus Islands and Saguenay, showing respectively increases of 1·47, 1·11 and 1·14. In these four counties the causes for the increases are very simple and obvious. In 1901, Abitibi and Temiskaming were still unorganized districts with about one-third their population composed of Indians and half-breeds; in 1921, however, 11 persons out of 13 were of French origin. The reason for the higher average size of the rural household in Montreal and Jesus Islands lies in the fact that between 1901 and 1921 there was a large increase in the number of inmates in the institutions located in the rural parts of the two islands and that in 1921 there was a drop of one-fifth in the rural population on the islands due to incorporation. Thus the influence of the institutions on the average size of the rural household was of first importance and it explains the unusual size of 7·08 in 1921.

Again, reviewing Statement XXII, 38 counties show less than the average increase for the province, *viz.*, 0·25, and 28 counties are at or above that average. Thirteen counties show a decrease while 13 others register an increase of 0·50 or more. An increase better distributed over the 66 counties could scarcely be expected.

From these observations it is plain that the increase in the average size of the rural household during the period 1901-21, in the province of Quebec, was not a phenomenon peculiar to a limited number of counties having extra large households but was a general increase witnessed throughout the province.

XXII.—VARIATIONS IN THE SIZE OF THE RURAL HOUSEHOLD, BY COUNTIES, LISTED ACCORDING TO THE SIZE OF THEIR RURAL HOUSEHOLD IN 1901, QUEBEC, 1901-1921

County	Variations in Size of Rural Household			
	Size in 1901	Variation, 1901-1921	Increase	Decrease
Chicoutimi	6·57		0·13	-
Témiscouata	6·28	—	-	0·14
Bonaventure	6·21	—	-	0·29
Rimouski	6·10		0·38	-
Hull	6·01	—	-	0·08
Kamouraska	5·97		0·02	-
Montreal and Jesus Islands	5·97	....	1·11	-
Pontiac	5·92	—	-	0·59
Gaspé	5·90		0·12	-
Lac-St-Jean	5·89	....	0·64	-
Charlevoix	5·82	....	0·64	-
Matane	5·75	....	0·52	-
Vaudreuil	5·75		0·10	-
Beauce	5·72		0·38	-
Laprairie	5·67	—	-	0·51
Montmorency	5·64		0·22	-
Champlain	5·62	....	0·67	-
Quebec	5·62	....	0·69	-
Yamaska	5·61		0·25	-
Labelle and Papineau	5·59		0·13	-
St-Maurice	5·59		0·02	-
Saguenay	5·58	....	1·14	-
Nicolet	5·57		0·04	-
Frontenac	5·55		0·34	-
Lotbinière	5·54		0·40	-
Arthabaska	5·52		0·45	-
Lévis	5·51		0·11	-
Wolfe	5·50		0·17	-
Argenteuil	5·48	—	-	0·20
L'Islet	5·48		0·40	-
Portneuf	5·48		0·42	-
Soulanges	5·48		0·13	-
Beauharnois	5·47	—	0·29	-
Napierville	5·46	—	-	0·06
Bellechasse	5·44		0·14	-
Montmagny	5·41		0·13	-
Chambly-Verchères	5·39		0·22	-
Mégantic	5·35		0·30	-
Terrebonne	5·35		0·03	-
Berthier	5·31		0·17	-
Richelieu	5·31		0·21	-
Deux-Montagnes	5·30		0·38	-
Dorchester	5·30	....	0·61	-
Maskinongé	5·30	....	0·54	-
Drummond	5·25		0·18	-
Joliette	5·19		0·28	-
Sherbrooke	5·15	—	-	0·23
Shefford	5·14	—	-	0·09
Chateauguay	5·12	—	-	0·05
St-Jean	5·11		0·05	-
L'Assomption	5·04	—	-	0·01
Huntingdon	5·03	—	-	0·49
Iberville	5·03		0·28	-
Montcalm	5·02		0·20	-
Compton	4·98		0·29	-
Richmond	4·98		0·50	-
Rouville	4·97	....	0·19	-
Bagot	4·96	....	0·54	-
St-Hyacinthe	4·95	—	-	0·05
Missisquoi	4·72		0·15	-
Brome	4·69		0·04	-
Stanstead	4·57		0·26	-
Abitibi and Temiskaming	4·15	.....	1·47	-

.... increase of 0·50 or more.
—— decrease.

Statement XXII indicates that there is very little relation between the size of the household in 1901 and the increase or decrease between 1901 and 1921. Amongst the counties with high averages in 1901 some record an increase of 0·50, others a decrease. The same applies to the counties with low averages in 1901. However, if one takes the 33 counties with the highest average sizes in 1901 and adds up their respective increases or decreases, the total, 7·81, is slightly larger than that for the 33 other counties, being 6·47.

It is of interest to know if racial origin is a factor in the increase of the average size of the rural household in the province of Quebec between 1901 and 1921. This is brought out in Statement XXIII.

XXIII.—PROPORTION OF THE RURAL POPULATION OF FRENCH ORIGIN IN THE COUNTIES THAT (a) GAINED THE LARGEST INCREASE, (b) SUFFERED THE LARGEST DECREASE, IN THE SIZE OF THEIR RURAL HOUSEHOLD, QUEBEC, 1901-1921

County	Increase or Decrease[1] in House- hold Size	Rural Population of French Origin		
		P.C. in 1901	P.C. in 1921	Increase[1] in P.C., 1901-1921
COUNTIES HAVING LARGEST INCREASE IN SIZE OF RURAL HOUSEHOLD				
Abitibi and Temiskaming	1·47	38·1	83·9	45·8
Saguenay	1·14	79·3	67·5	−11·8
Montreal and Jesus Islands	1·11	90·4	88·3	− 2·1
Quebec	0·69	85·3	86·4	1·1
Champlain	0·67	96·4	97·1	0·7
Charlevoix	0·64	98·7	99·2	0·5
Lac-St-Jean	0·64	98·8	99·6	0·8
Dorchester	0·61	86·1	95·2	9·1
Bagot	0·54	98·9	99·1	0·2
Maskinongé	0·54	98·4	99·6	1·2
Matane	0·52	94·7	99·0	4·3
Richmond	0·50	63·8	77·5	13·7
COUNTIES HAVING LARGEST DECREASE IN SIZE OF RURAL HOUSEHOLD				
L'Assomption	−0·01	97·2	96·1	− 1·1
Chateauguay	−0·05	68·3	78·6	10·3
St-Hyacinthe	−0·05	99·7	99·9	0·2
Napierville	−0·06	94·9	97·7	2·8
Hull	−0·08	52·2	59·8	7·6
Shefford	−0·09	78·4	88·6	10·2
Témiscouata	−0·14	98·0	98·2	0·2
Argenteuil	−0·20	43·3	50·1	6·8
Sherbrooke	−0·23	51·6	62·0	10·4
Bonaventure	−0·29	69·6	73·1	3·5
Huntingdon	−0·49	37·0	45·1	8·1
Laprairie	−0·51	76·6	74·0	− 2·6
Pontiac	−0·59	30·3	35·8	5·5

[1]Minus sign denotes decrease.

Statement XXIII furnishes ample proof of the importance of racial origin in influencing the size of the rural household. In the first group where the mean proportion of the French population per county in 1901 is 85·7, there is an average increase in the size of the household of 0·76; on the other hand, in the second group where the mean proportion of the French population is only 69·8, there is an average size decrease of 0·21. Moreover, from the second half of the statement it is seen that the smaller the proportion of the French population in individual counties, the larger the decrease in the size of the household in these counties.

This study of the influence of racial origin on the size of the household can be carried further by comparison of counties with a rural population 90 p.c. or more French and those with 60 p.c. or less of French origin.

XXIV.—VARIATIONS IN THE SIZE OF THE RURAL HOUSEHOLD FOR COUNTIES WITH A FRENCH RURAL POPULATION OF (a) 90 P.C. OR MORE, (b) 60 P.C. OR LESS, IN 1901, QUEBEC, 1901-1921

County	P.C. of French Origin	Size Variation, 1901-1921	County	P.C. of French Origin	Size Variation, 1901-1921
COUNTIES HAVING RURAL POPULATION 90 P.C. OR MORE FRENCH					
L'Islet	99·8	0·40	L'Assomption	97·2	−0·01
Kamouraska	99·7	0·02	St-Maurice	97·2	0·02
St-Hyacinthe	99·7	−0·05	Arthabaska	96·6	0·45
Bellechasse	99·6	0·14	Champlain	96·4	0·67
Montmagny	99·5	0·13	Lévis	96·3	0·11
Richelieu	99·5	0·21	Rouville	96·1	0·19
Chicoutimi	99·0	0·13	Chambly-Verchères	96·0	−0·22
Bagot	98·9	0·54	Iberville	95·5	0·28
Berthier	98·8	0·17	Napierville	94·9	−0·06
Lac-St-Jean	98·8	0·64	Terrebonne	94·9	0·03
Charlevoix	98·7	0·64	Matane	94·7	0·52
Montmorency	98·5	0·22	Portneuf	94·3	0·42
Maskinongé	98·4	0·54	Soulanges	94·1	0·13
Nicolet	98·2	0·04	Lotbinière	93·3	0·40
Rimouski	98·2	0·38	Beauharnois	93·2	0·29
Beauce	98·1	0·38	Vaudreuil	92·5	0·10
Témiscouata	98·0	−0·14	Montcalm	92·5	0·20
Yamaska	97·8	0·25	Wolfe	91·5	0·17
Joliette	97·5	0·28	Montreal and Jesus Islands	90·4	1·11
COUNTIES HAVING RURAL POPULATION 60 P.C. OR LESS FRENCH					
Hull	52·2	−0·08	Abitibi and Temiskaming	38·1	1·47
Sherbrooke	51·6	−0·23	Huntingdon	37·0	−0·49
Compton	50·1	0·29	Stanstead	36·7	0·26
Missisquoi	48·4	0·15	Brome	33·9	0·04
Argenteuil	43·3	−0·20	Pontiac	30·3	−0·59

The average size increase is 0·27 per county in the first part of Statement XXIV and 0·06 in the second. It is also conclusive that the counties with a rural population of 60 p.c. or less French, which nevertheless showed an increase between 1901 and 1921 in the size of their rural households, are counties in which the proportion of the French population increased considerably during that period. This is true of every one of the 5 increasing counties mentioned in the second part of the tabulation.

However, as it was possible that geographical location might have been the real determining factor of increase or decrease in the size of the household and racial origin merely the apparent factor, it was thought advisable to postpone drawing conclusions until a study had been made of the size of the rural household according to the location of the different counties.

XXV.—VARIATIONS IN THE SIZE OF THE RURAL HOUSEHOLD ACCORDING TO LOCATION OF COUNTIES AND PROPORTION OF FRENCH POPULATION, QUEBEC, BY SPECIFIED REGIONS, 1901-1921

County	Variations in Size of Household			P.C. of French Origin	
	Size in 1901	Increase, 1901-1921	Decrease, 1901-1921	1901	1921
1—OTTAWA REGION					
Abitibi and Temiskaming	4·15	1·47	–	38·1	83·9
Pontiac	5·92	–	0·59	30·3	35·8
Hull	6·01	–	0·08	52·2	59·8
Labelle and Papineau	5·59	0·13	–	79·3	87·8
Argenteuil	5·48	–	0·20	43·3	50·1
Deux-Montagnes	5·30	0·38	–	75·2	93·0
Terrebonne	5·35	0·03	–	94·9	92·2
L'Assomption	5·04	–	0·01	97·2	96·1
2—SAINT-MAURICE REGION					
Montcalm	5·02	0·20	=	92·5	93·9
Joliette	5·19	0·28	–	97·5	97·8
Berthier	5·31	0·17	–	98·8	99·0
Maskinongé	5·30	0·54	–	98·4	99·6
St-Maurice	5·59	0·02	–	97·2	98·6
Champlain	5·62	0·67	–	96·4	97·1

XXV.—VARIATIONS IN THE SIZE OF THE RURAL HOUSEHOLD ACCORDING TO LOCATION OF
COUNTIES AND PROPORTION OF FRENCH POPULATION, QUEBEC,
BY SPECIFIED REGIONS, 1901-1921—Con.

County	Variations in Size of Household			P.C. of French Origin	
	Size in 1901	Increase, 1901-1921	Decrease, 1901-1921	1901	1921
3—SAGUENAY REGION					
Lac-Saint-Jean	5·89	0·64	–	98·8	99·6
Chicoutimi	6·57	0·13	–	99·0	98·5
Saguenay	5·58	1·14	–	79·3	67·5
4—QUEBEC REGION					
Portneuf	5·48	0·42	–	94·3	95·6
Quebec	5·62	0·69	–	85·3	86·4
Montmorency	5·64	0·22	–	98·5	98·8
Charlevoix	5·82	0·64	–	98·7	99·2
5—LOWER ST. LAWRENCE REGION					
Montmagny	5·41	0·13	–	99·5	99·3
L'Islet	5·48	0·40	–	99·8	99·0
Kamouraska	5·97	0·02	–	99·7	99·4
Témiscouata	6·28	–	0·14	98·0	98·2
Rimouski	6·10	0·38	–	98·2	99·5
Matane	5·75	0·52	–	94·7	99·0
Bonaventure	6·21	–	0·29	69·6	73·1
Gaspé	5·90	0·12	–	74·9	77·7
6—LA CHAUDIÈRE REGION					
Bellechasse	5·44	0·14	–	99·6	99·9
Dorchester	5·30	0·61	–	86·1	95·2
Beauce	5·72	0·38	–	98·1	99·0
Frontenac	5·55	0·34	–	88·6	95·6
Lotbinière	5·54	0·40	–	93·3	96·0
Lévis	5·51	0·11	–	96·3	97·5
7—EASTERN TOWNSHIPS REGION					
Mégantic	5·35	0·30	–	74·9	85·5
Wolfe	5·50	0·17	–	91·5	96·0
Compton	4·98	0·29	–	50·1	66·3
Stanstead	4·57	0·26	–	36·7	55·8
Sherbrooke	5·15	–	0·23	51·6	62·0
Richmond	4·98	0·50	–	63·8	77·5
Arthabaska	5·52	0·45	–	96·6	98·0
Nicolet	5·57	0·04	–	98·2	98·8
Drummond	5·25	0·18	–	82·7	93·3
Shefford	5·14	–	0·09	78·4	88·6
Brome	4·69	0·04	–	33·9	46·1
Missisquoi	4·72	0·15	–	48·4	66·3
Bagot	4·96	0·54	–	98·9	99·1
Yamaska	5·61	0·25	–	97·8	98·1
8—RICHELIEU REGION					
Iberville	5·03	0·28	–	95·5	97·0
Rouville	4·97	0·19	–	96·1	95·4
St-Hyacinthe	4·95	–	0·05	99·7	99·9
Richelieu	5·31	0·21	–	99·5	98·5
Chambly-Verchères	5·39	0·22	–	96·0	88·0
Laprairie	5·67	–	0·51	76·6	74·0
St-Jean	5·11	0·05	–	85·2	89·6
Napierville	5·46	–	0·06	94·9	97·7
Huntingdon	5·03	–	0·49	37·0	45·1
Chateauguay	5·12	–	0·05	68·3	78·6
Beauharnois	5·47	0·29	–	93·2	95·2
Soulanges	5·48	0·13	–	94·1	92·1
Vaudreuil	5·75	0·10	–	92·5	92·7
9—MONTREAL REGION					
Montreal and Jesus Islands	5·97	1·11	–	90·4	88·3

The 13 counties that suffered a decrease in the average size of their households between 1901 and 1921 are distributed among four of the nine regions. Of the five regions where no decrease is recorded, two have no county with a population less than 90 p.c. French, two others have none with a population less than 85 p.c. French and the fifth one has none with less than a 79 p.c. French population.

·If a particular study is made of the counties where the proportion of the French population is less than 50 p.c., the dependence of the variations in the size of the household on the proportion of the French population in 1901 or upon its increase between 1901 and 1921 is well marked.

XXVI.—AVERAGE SIZE OF THE HOUSEHOLD IN COUNTIES WITH A POPULATION LESS THAN 50 P.C. FRENCH IN 1901, QUEBEC, 1901-1921

County	Region	Variations in Size of Household			P.C. of French Origin	
		Size in 1901	Decrease, 1901-21	Increase, 1901-21	1901	1921
Pontiac	1	5·92	0·59	–	30·3	35·8
Brome	7	4·69	–	0·04	33·9	46·1
Stanstead	7	4·57	–	0·26	36·7	55·8
Huntingdon	8	5·03	0·49	–	37·0	45·1
Abitibi-Temiskaming	1	4·15	–	1·47	38·1	S3·9
Argenteuil	1	5·48	0·20	–	43·3	50·1
Missisquoi	7	4·72	–	0·15	48·4	66·3

The 4 counties which, notwithstanding their small proportion of French origin population, recorded increases in the size of their households between 1901 and 1921, are counties which each had a small household size in 1901. Naturally, a small size could be raised easily by the large gain in French population that these counties experienced during that period. It is also significant that the dimension of the increase in the average size of their households is proportional to the dimension of the increase in the proportion of French origin population, as the following figures demonstrate:—

County	Household Size Increase	French Proportion Increase
Brome	0·04	12·2
Stanstead	0·15	17·9
Abitibi-Temiskaming	0·26	19·1
Argenteuil	1·47	45·8

The case is strengthened still further by a comparison of the sizes of the household in counties with a very high percentage of French population with the sizes of the household in other counties in the same region, the size in Argenteuil, for instance, with that in Deux-Montagnes or Terrebonne, or the size in Huntingdon with that in Beauharnois.

However, the significance of other factors should not be allowed to minimize the influence of the geographical factor on the size of household, for while it has been demonstrated that the increasing size of the rural household in the province of Quebec was due to the counties with a large—or a greatly increasing—proportion of French population, there is no doubt that location plays an important part in the variation of the size of household. Thus, for instance, in the two regions, the Eastern Townships and the Richelieu, naturally the first to provide emigration across the border, the average size of household, in 1901 and in 1921, is decidedly smaller than in the rest of the province. At the same time, however, the household was larger in the counties with higher proportions of French origin than in other counties in the same regions.

RECURRING LARGE AND SMALL DECREASES IN AVERAGE SIZE OF HOUSEHOLD, EASTERN CANADA, 1871-1931

From the different statements in Chapter II the conclusion is reached that the average size of the Canadian household, from 1871 to 1931, was influenced by a number of factors. One of them, however, stands out as largely responsible for the variations in the size of the decrease from decade to decade; this all-important factor is population movement. Due to the importance as well as the complexity of the movement, this chapter is devoted to a study of the effects of such movement on the size of the household, and to how it happened to cause a recurrence of slight and large decreases in consecutive pairs of decades from 1871 to 1931.

Various Movements of Population and Their Influence on Size of Household.—The influence of the movement of population on the size of the household varies according to the origin and the destination of the movement. In Canada, there were three main currents: one ran from the old into the new counties; another, swollen from many sources, reached the West and the United States, and a third, feeding on immigration and on the exodus of native rural population, invaded urban centres.

The larger decreases in the size of the household may be identified with the first current and the smaller decreases with the others. For instance, the period 1871 to 1901, corresponding to the era of settlement in Eastern Canada, saw the size of the eastern household decrease by 0·54; but the next period, 1901-31, the era of development of the large cities and of a general movement of urban centres, whether large or small, saw it decrease by only 0·39. It is also highly significant that the size of the rural household decreased by 0·57 in the first period and by only 0·28 in the second one.

However, divisions by periods of thirty years are too wide to permit an adequate study of the trend of household size, or a true measurement of the respective importance of the principal factors which exerted an influence on that size. For a young and progressive country like Canada, where the movements of population from 1871 to 1931 were so numerous and diversified, even periods of ten years are too extended. It will be noticed from Statement XXVII that a large decrease in the household size, rural and urban, for one decade alternates with a small decrease in the next, for each one of the five eastern provinces, from 1871 to 1931.

XXVII.—DECREASE[1] PER DECADE IN AVERAGE SIZE OF HOUSEHOLD, RURAL AND URBAN, EASTERN CANADA, PROVINCES AND CITIES, 1871-1931

Province and City	1871-1881	1881-1891	1891-1901	1901-1911	1911-1921	1921-1931
EASTERN CANADA	0·24	0·07	0·23	0·09	0·23	0·07
Rural	0·20	0·11	0·26	0·08	0·16	0·04
Urban	0·21	—0·12	0·14	0·08	0·26	0·07
Ontario	0·29	0·16	0·31	0·15	0·34	0·10
Rural	0·24	0·24	0·32	0·17	0·29	0·10
Urban	0·30	—0·03	0·26	0·14	0·35	0·10
Quebec	0·26	—0·14	0·10	—0·03	0·06	0·02
Rural	0·22	—0·11	0·15	—0·10	—0·15	—0·12
Urban	0·20	—0·29	—0·02	—0·01	0·14	0·02
Nova Scotia	0·18	0·16	0·24	0·14	0·18	0·15
Rural	0·18	0·22	0·29	0·20	0·21	0·12
Urban	—0·09	—0·17	0·09	0·05	0·19	0·21
New Brunswick	0·14	0·14	0·22	0·04	0·20	0·04
Rural	0·15	0·16	0·20	0·02	0·25	—0·05
Urban	0·08	0·03	0·14	0·04	0·05	0·20
Prince Edward Island	–	0·20	0·35	0·42	0·38	0·03
Rural	–	0·20	0·38	0·43	0·41	0·07
Urban	–	0·17	0·14	0·39	0·15	—0·09
Montreal	0·20	—0·17	—0·04	—0·01	0·24	0·18
Quebec	0·38	—0·87	0·02	—0·02	—0·25	–
Toronto	0·45	—0·48	0·18	0·16	0·53	0·22
Hamilton	0·12	0·04	0·27	—0·06	0·57	0·14

[1] Minus sign denotes increase.

In order to determine the causes responsible for this peculiar behaviour, each decade was studied separately and the common points as well as the disparities of all six decades were minutely compared, with the following results:—

The size of the household underwent a large drop in the decades 1871-81, 1891-1901 and 1911-21, with respective drops of 0·24, 0·23 and 0·23. The first two decades were marked by the heavy exodus from the old and thickly settled counties to the new and thinly settled counties some of which had no recorded population until then. The decade 1911-21 witnessed the distribution and the establishment all over the country of the 887,000 immigrants that had been retained out of the 1,847,000 arrivals from 1901 to 1911; it witnessed also, for four years, a considerable exodus of young Canadians, native born and immigrants, going overseas for active service. The result—an increase in married people followed by a decrease in single people—was recorded by the 1921 Census: Canada had 27·93 p.c. more households than in 1911 for a population only 22·02 p.c. larger; Eastern Canada, 20·7 p.c. more households for a population 15·1 p.c. larger.

The decreases in the intervening decades, 1881-91, 1901-11, 1921-31, were 0·07, 0·09 and 0·07 respectively. These three decades differ from the previous ones by the citywards movement of population which characterizes them. In the decade ended in 1891, the eastern cities accounted for 83·8 p.c. of the total population growth of Canada; in that ended in 1911, they recorded only 39·0 p.c. of the total increase for Canada, but were responsible for 97·7 p.c. of the growth in Eastern Canada; in the decade ended 1931, they accounted for 56·1 p.c. of the total increase in Canada. Great care should be exercised, however, and such percentages alone should not be used in reaching conclusions. A comparison of the distribution between rural and urban of the increase in population in Eastern Canada is not sufficient. Urban centres may well be responsible for the whole increase of population in Eastern Canada, without it necessarily meaning that the population which the rural parts lost was transferred to the cities: it may have passed to the United States or to Western Canada. In the three decades in question, however, there really was in Eastern Canada a marked movement from rural parts to urban centres.*

An elaborate comparative study of the movement of population and the size of the household leads to the logical conclusion that the larger decreases in such size are to be attributed to the migration to newly-settled-counties and the smaller ones to the migration to urban centres. Is it equally logical that these movements should have produced these results? If the viewpoint is accepted that a large drop in size of household is due to an increase in the number of households proportionately much larger than the increase in population, then the thing to look for is the cause or causes that created a relatively greater number of households when the movement was to rural parts than when it was to urban centres.

Considering first the movement to the newly settled counties, it is found that this movement was, on the whole, made up of small families. Because there was no more room for expansion in the old counties, where the lands had been subdivided and re-subdivided, the young people, who so far had been living with their parents, were moved by the law of necessity to look outside for their maintenance. Their exodus, which originated in Quebec, was common to Quebec and Ontario between 1871 and 1881, and extended to the Maritime Provinces in the decade 1891-1901. It can be seen in Statement XV that the decrease in the size of the rural household followed a similar trend.

Now, when young people left their native county to go to the United States or to Western Canada, they decreased the size of the household in Eastern Canada; but, when they left to go and establish themselves in thinly settled counties of this same Eastern Canada, they decreased it doubly, for they not only reduced the number of large households but also increased the number of small households. The following example illustrates the importance of the destination of outgoing native population:—

A—There is a population of 5,000 souls in the province of Ontario contained in 1,000 households.

B—One hundred young persons, fifty boys and fifty girls, leave the province to go to the United States.

C—The same fifty boys and fifty girls, instead of going over to the United States, decide to get married inter se and to settle in a Northern Ontario county.

*See: *Analysis of the Stages in the Growth of Population in Canada*, by M. C. MacLean. Dominion Bureau of Statistics. 1935.

Under these circumstances the size of the household in the province would be the following in each case:—

	Population	Households	Persons per Household
A	5,000	1,000	5·0
B	4,900	1,000	4·9
C	5,000	1,050	4·76

We have here a simple illustration of what happens when a part of the population takes itself to new rural areas within the province: households increase at a faster rate than the population, hence the reduced size of the household.

On the other hand, the citywards movement in the intermediate decades created an increase in the population of the cities without creating the corresponding increase in households. Even at first sight this appears logical and consistent with the types of household the cities present and with the type of immigration they receive.

The large cities grew from outside sources, mainly migration from neighbouring counties and foreign immigration. The trek from rural parts to cities consists mostly of two groups: complete families and single young men or young women.

1. *Complete Families.*—A family head, having decided to leave his farm and try his luck somewhere else, will move to the nearest city where he knows what conditions to expect, rather than to the far West or to the United States. He will also prefer the large city to a small town or village, because of his hope that in the large urban centre all the members of his family will be able to find employment due to the variety of economic activities in such a centre.

2. *Single Young Men or Young Women.*—Regularly, the number of women moving from rural into urban communities is greater than the number of men doing so. There being very little female employment in rural communities, the young women come to the cities either to take up domestic service, thus increasing the size of the household they enter, or to find employment in business or in industry, in which case they also increase the size of the urban household as they generally take rooms with private families. The young men who compose the other important part of this movement from country to city, also contribute to the increase in size of the urban household by taking up rooms in private families or in boarding houses.

However, these two groups form the more or less regular movement of rural population to urban centres—and in the case of female population a rather recent movement—but, important as it is, it is not sufficient to account for the maintenance of such a high urban household size (high, when we consider all the factors that tend to bring down the size of the private family in a modern city). To the citywards one-way traffic of native population must be added the penetration of cities by immigrants. The penetration was of two sorts. First, certain cities, among the largest in Canada, acted as points of distribution of the recently arrived immigration. In periods of heavy immigration, accommodation had difficulty in keeping pace with the sudden increase in population, and, as a result, the size of the household in these cities was unduly augmented. Superficially, one might think that immigration, composed mostly of single young men or married men without their families, would have decreased the size of the household. Such was not the case, however, when it was directed towards urban centres, especially large cities. The newcomers, particularly the Central or Southern European immigrants, in the periods of heavy immigration, looked not for houses but for rooms, except in the relatively few cases where, as groups, they rented houses and stayed together to cut down expenses and to be among people speaking their native tongue.

Except for very special purposes, such as the building of railroads, the industrial development of Canada could absorb but a small fraction of the immigrants arriving in numbers out of all proportion to the native population. In certain decades only one out of twenty, or even thirty-five, immigrants remained in Canada, the others going to the United States. In these decades, emigration coupled with a lull in immigration in the two or three years preceding the census and a movement of the native rural population to new rural areas instead of to the cities would produce a large decrease in the size of the household.

Then, there was the penetration by immigrants who, having found work here and there in the rural parts, flocked back to the cities once it was finished (as in 1886 after the completion of the C.P.R.), and grouped in little colonies in certain zones, crowded in cheap houses. Zones of the kind are common to every large city and their existence is well known in Montreal, Toronto, Winnipeg and Vancouver.

Here, another factor, although it did not make for the variations in the size of the decrease, ought to be mentioned for its part in keeping up the size of the urban household; this is the large households designated as quasi-family groups. The quasi-family groups have but little effect on the average size of the household for the country as a whole, yet, due to the fact that they gather their members from miles around, they are important in counteracting the factors which work to reduce the size of the urban household.

Average Size of Household in the Future.—As shown in preceding sections, the influence of the movement of population on the average size of the household in Canada has been considerable. Is it possible now, in the light of that study, to foresee to some extent what the fluctuations in the size of the household may be in the future?

There is every reason to expect smaller fluctuations with each decade because of the disappearance or the extenuation of the chief factors responsible for variations in the past. Immigration and emigration are not likely to occur again on such a large scale; mass settlement of the West or of thinly populated counties in the East is over; industrialization—and its natural corollary, the flow to the cities of the rural population—will undoubtedly be more gradual. In short, the movements of population will be on a much reduced scale and at the same time more uniform in the future than they have been in the past.

The average size of the Canadian household will, in all probability, go on decreasing, but the decrease should get smaller with each decade. The rural household may even increase in size as it did in 1931 for Quebec and New Brunswick. The new counties have now passed the initial stage of settlement and their normal development calls for an increase in the average size of household.

On the other hand, the urban household should be expected to register further decreases, although smaller ones than those recorded so far. Urbanization will likely go on, and modern city life undoubtedly thwarts the normal expansion of families and households. Bachelor life, made easier and more tempting every day, apartments and houses built for small families, high cost of living, uncertainty of employment, etc.—in fact, nearly every characteristic of modern city life one can think of—are definitely against the large family. The reasons in favour of a large family in the cities are purely moral reasons and not economic as might be the case in rural parts. For, while children may be considered an asset to a rural family where they will increase the production at a small cost and develop the patrimony, they become more and more of a liability to an urban family. The expression of Peguy "These great adventurers of the modern world" by which he designated the fathers of families, is indeed true of the heads of large families in a modern city.

THE TYPICAL HOUSEHOLD IN MONTREAL, TORONTO AND WINNIPEG

Much use has been made by sociologists of the concept of a typical family. The needs of such a typical family, usually to consist of five persons, have been the basis of family food budgets, demands for minimum wages and even social legislation. It is, consequently, important that the best possible determination be made of the size of the typical family and that its significance be thoroughly understood. We should also know how the typical size varies with the age of the head of the family, from class to class, from race to race, and between rural and urban localities. All modern censuses and many of the earlier censuses compile the total population and the total number of families for the country as a whole and for each of the census districts. From these two figures it is possible by simple division to obtain a good, though not always an absolutely accurate, determination of the average size of the family. This average, the arithmetic mean, is very often the only figure available for determining the typical size of the family and for studying the variations in family size from decade to decade or between the different cross-sections of the population. Since the average would seldom be a digit, the size of the typical family is generally taken as the digit closest to the average, i.e., if the average size of the family is 4·7, the typical family is considered to consist of 5 persons.

Distribution of Households According to Size.—The arithmetic mean is undoubtedly the most valuable of all statistics, but the fact that there are limitations to its applicability is not always fully realized. At the 1931 Canadian Census, frequency distributions of households according to size were compiled for the cities of Montreal, Toronto and Winnipeg. An analysis of these distributions should throw considerable light on the desirability of using the arithmetic mean to determine the typical size of the household and should reveal any tendency for households to be of a typical size.

XXVIII.—NUMERICAL AND PERCENTAGE DISTRIBUTION OF HOUSEHOLDS[1], BY SIZE, GIVING NUMBER OF PERSONS AND LODGERS, MONTREAL, TORONTO AND WINNIPEG, 1931

Persons per Household	Montreal			Toronto			Winnipeg		
	House-holds	Persons	Lodgers	House-holds	Persons	Lodgers	House-holds	Persons	Lodgers
NUMERICAL DISTRIBUTION									
Total	170,811	785,874	53,870	149,538	613,377	57,726	48,294	210,980	19,807
1	6,939	6,939	–	5,713	5,713	–	1,883	1,883	–
2	28,983	57,966	3,180	28,745	57,490	3,079	8,066	16,132	772
3	31,184	93,552	7,045	32,737	98,211	7,548	9,540	28,620	1,968
4	28,694	114,776	8,179	29,606	118,424	9,500	9,381	37,524	2,631
5	23,462	117,310	7,923	21,608	108,040	9,193	7,288	36,440	2,825
6	17,298	103,788	6,781	13,558	81,348	7,758	4,904	29,424	2,641
7	12,439	87,073	5,799	7,961	55,727	6,041	2,986	20,902	2,126
8	8,431	67,448	4,708	4,359	34,872	4,391	1,766	14,128	1,811
9	5,521	49,689	3,438	2,403	21,609	3,570	1,003	9,027	1,326
10	3,551	35,510	2,579	1,296	12,960	2,357	623	6,230	1,148
11	2,019	22,209	1,561	733	8,063	1,627	365	4,015	898
12 and over	2,282	29,614	2,677	821	10,920	2,662	489	6,655	1,661
PERCENTAGE DISTRIBUTION									
Total	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00	100·00
1	4·06	0·88	–	3·82	0·93	–	3·90	0·89	–
2	16·97	7·38	5·90	19·22	9·37	5·33	16·70	7·65	3·90
3	18·25	11·90	13·08	21·89	16·01	13·08	19·76	13·56	9·94
4	16·80	14·60	15·18	19·80	19·31	16·46	19·42	17·79	13·28
5	13·74	14·93	14·71	14·44	17·61	15·93	15·09	17·27	14·26
6	10·13	13·21	12·59	9·07	13·23	13·44	10·15	13·90	13·34
7	7·28	11·09	10·76	5·32	9·09	10·46	6·18	9·91	10·73
8	4·94	8·58	8·74	2·91	5·69	7·61	3·66	6·70	9·14
9	3·23	6·32	6·38	1·61	3·52	6·18	2·08	4·28	6·69
10	2·08	4·52	4·79	0·87	2·11	4·08	1·29	2·95	5·80
11	1·18	2·83	2·90	0·49	1·32	2·82	0·76	1·90	4·53
12 and over	1·34	3·77	4·97	0·55	1·78	4·61	1·01	3·15	8·39

[1]Exclusive of hotels, institutions, rooming houses and other households (tents, camps, etc.).

From the above statement it will easily be seen that in each of the three cities the modal household, *i.e.*, the household of that size which occurs most frequently, is one consisting of 3 persons. We might then conclude that the typical family was one consisting of 3 persons. Confining attention for the moment to the Toronto percentages, it is obvious that 3-person households are not much more numerous than those containing 2 or 4 persons. Apparently the tendency is for the household to consist of from 2 to 4 rather than of 3 persons. Instead of saying, therefore, that the typical household is one of 3 persons, it is preferable to say that it consists of from 2 to 4 persons, a statement justified by the fact that 60·91 p.c. of the households, well over half, are of these sizes. Similarly, households of from 2 to 4 persons take in 55·87 p.c. of the Winnipeg and 52·03 p.c. of the Montreal households, the modal tendency being less marked in the two latter cities.

The Modal Tendency in Household Size.—Statement XXIX supports the contention that households tend to consist of 2 to 4 persons rather than 3 persons.

XXIX.—PERCENTAGE DISTRIBUTION OF HOUSEHOLDS, BY INCREASING SIZE INTERVALS ABOUT THE MODE, MONTREAL, TORONTO AND WINNIPEG, 1931

City	P.C. of All Households Consisting of Given Number of Persons									
	3	2-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	All Sizes
Montreal	18·26	52·03	69·83	79·96	87·24	92·18	95·41	97·49	98·67	100·00
Toronto	21·89	60·91	79·18	88·25	93·57	96·48	98·09	98·96	99·45	100·00
Winnipeg	19·75	55·87	74·86	85·01	91·19	94·85	96·93	98·22	98·98	100·00

The following example illustrates two types of modal tendencies. In literature dealing with housing, reference is often made to the typical house, say, of 6 rooms. It is of interest to see which cities have a typical household with respect to the number of rooms occupied.

XXX.—PERCENTAGE DISTRIBUTION OF HOUSEHOLDS ACCORDING TO NUMBER OF ROOMS OCCUPIED, MONTREAL, TORONTO AND WINNIPEG, 1931

City	P.C. of All Households Occupying Given Number of Rooms										
	Less than 3	3	4	5	6	7	8	9	10	11	12 or more
Montreal	4·50	7·52	19·59	22·95	20·17	14·32	6·55	2·10	1·02	0·31	0·97
Toronto	6·10	10·47	9·83	12·35	32·15	10·25	9·86	4·22	2·43	0·82	1·52
Winnipeg	10·69	12·71	13·83	20·30	18·43	10·81	5·91	3·22	2·13	0·80	1·18

Of all Toronto households 32·15 p.c. occupy 6 rooms. On the other hand, only 12·35 p.c. occupy 5 rooms and 10·25 p.c. occupy 7 rooms. The 6-room household is definitely the typical household in Toronto and a household occupying more rooms or fewer rooms might be considered a-typical. There is no such tendency for households to occupy 6 rooms in Montreal and Winnipeg although 62·71 p.c. of the Montreal households and 52·56 p.c. of the Winnipeg households occupy from 4 to 6 rooms.

We have observed two types of modal tendency, one for the Toronto household to occupy 6 rooms and the other for the Montreal and Winnipeg households to occupy from 4 to 6 rooms. The general modal tendency in the size of the household is of the latter variety. Thus, when we say that the typical household consists of a given number of persons, we do not mean that families of this size are to be found predominating everywhere and that a family of a different size is abnormal, but merely that it is the standard size from which variation may be measured.

Although the 3-person household is the most common in the three cities under observation, in no case does it contain the largest percentage of persons. It may be seen from Statement XXVIII that in Toronto and Winnipeg the 4-person household contains the largest percentage of the population and in Montreal the 5-person household. This fact complicates the determination of the typical size of the household since we must decide whether we are interested in the size of the households which occur most frequently or in the size of the households which contain the largest part of the population. The builder of an apartment house might be wise to construct a good many apartments which would best fit the requirements of a family of 3 persons since he would probably have more tenants with families of that size than of any other size. On the other hand, a food budget designed for a 4-person family would satisfy the needs of a larger percentage of the family population than one designed for a 3-person family.

XXXI.—SIZE OF HOUSEHOLD AS MEASURED BY DIFFERENT STATISTICS, MONTREAL, TORONTO
AND WINNIPEG, 1931

Item	Montreal	Toronto	Winnipeg
Persons per household—			
In median household	4·14	3·76	4·00
In household containing median persons	5·52	4·75	5·09
Mean of medians	4·83	4·26	4·55
Average persons per household	4·60	4·10	4·37
Average persons per *normal* household	4·84	4·15	4·40
Modal size of household	3	3	3
Size of household containing largest percentage of the population	5	4	4

The median household is of such a size that one-half the households are larger in size and one-half smaller. The household containing the median person is of such a size that one-half the population belongs to smaller households and one-half belongs to larger households. There is a marked difference between the two medians for each of the cities. Evidently the typical person will come from a family which is larger than the typical family if we consider the typical family to be the family of that size which occurs most frequently. Though the very small families are very numerous they contain only a small percentage of the population. Households of 1 and 2 persons comprise 21·03 p.c. of the Montreal households and 23·04 p.c. of the Toronto households but they contribute only 8·26 p.c. and 10·30 p.c., respectively, of the household populations. The average persons per household lies between the two medians and when used as a basis for determining the typical size of the household may be regarded as a compromise between the two points of view as to whether the modal household or the household containing the modal number of persons should be taken as the typical. It will be seen from Statement XXXI that the average of persons per household comes close in every case to the mean of the two medians.

Comparison of Average Sizes of All Households and of Normal Households.—The normal household may be said to consist of one private family with husband and wife living together as heads. In Statement XXXI the average sizes of all ordinary households are compared with the average sizes of the normal households.

In each city, the average for normal households is larger than that for all households. Evidently the households with unmarried heads, most of which will be small, tend to lower the average more than those with two or more families raise it. That the difference in the average for Montreal, 0·24, is considerably greater than the differences for Toronto and Winnipeg, 0·05 and 0·03, respectively, reflects the fact that families living together in the same household are more frequent in the latter two cities. Average household size, therefore, does not fully indicate the high birth rate in Montreal as compared with that in Toronto and Winnipeg. This illustrates the point that fertility and the number of children in families are not the only factors which determine average household size. We must bear this in mind when interpreting fluctuations in average household size from decade to decade as given by previous censuses.

Effect on Average Size of Family of the Very Large Families.—For Toronto, the average persons per household, 4·10, is not far from 4, the size of the households containing the largest percentage of the population, while the average persons per household for Montreal, 4·60, is closest to the integer 5, which is again the size of the households with the greatest share of the population. However, the average sizes of households with not more than 6 persons in Montreal and Toronto are respectively, 3·62 and 3·56 persons per household. The difference of 0·50 persons per family between the average sizes of the Montreal and Toronto households is obviously due to the presence in Montreal of a higher proportion of extremely large families, although only 20·05 p.c. of all Montreal households have more than 6 persons. Chart IV, which compares the percentage distributions of households according to size for Montreal, Toronto and Winnipeg, clearly indicates that Montreal has a higher proportion of extremely large families than the other two cities. Evidently the average size of the family will be larger for a section of the population containing a number of extremely large families than for a section practically without abnormally large families even though the great majority of the families in the two sections may have the same size distribution. For example, it will be seen in Chapter XI that the difference between the average sizes of the rural and urban Canadian families can be largely accounted for by the higher frequency in the rural districts of unusually large families. Its sensitivity to very large families detracts considerably from the reliability of the arithmetic mean as a measure of family size. The geometric mean is less sensitive to them but its calculation is extremely laborious.

PERCENTAGE OF TOTAL ORDINARY HOUSEHOLDS
WITH GIVEN
NUMBER OF PERSONS,
1931
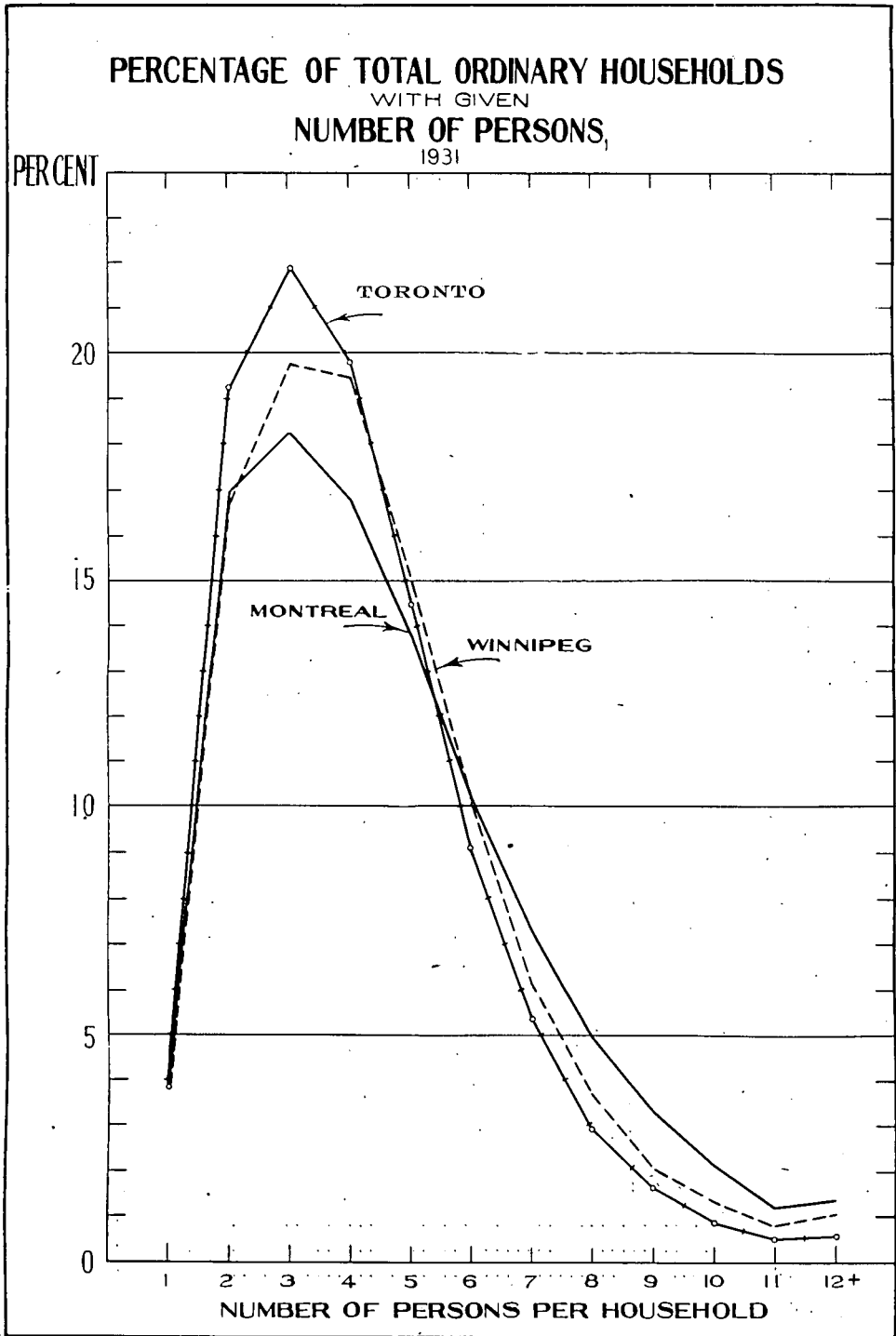
Chart 4

We must conclude that the average persons per family, despite its one serious defect, measures family size more satisfactorily than any other statistic. At the same time it must always be remembered that the family of typical size is a concept rather than an actuality. Taking the typical size of the household as the nearest digit to the average persons per household we see from Statement XXVIII, page 62, that 4-person households in Toronto include 19·80 p.c. of the households and 19·31 p.c. of the household population, 5-person households in Montreal, 13·74 p.c. of the households and 14·93 p.c. of the population and 4-person households in Winnipeg, 19·42 p.c. of the households and 17·79 p.c. of the population.

Gravitation of Households to Typical Size.—The households of the metropolitan centres, in particular, are extremely heterogeneous with respect to type of head, type of home and composition. The tendency which apparently exists for the major portion of them to be confined within a small size-interval is probably due to a combination of factors.

First, the population of Canadian cities is mostly of rural origin, having been drawn from either the long-settled farms of Eastern Canada or immigration. This population is preserving the privacy, intimacy and sociability of family life so that Canadian households are homes rather than sleeping quarters. Whether a succeeding generation, raised from infancy in an urban environment, will carry on this tradition must remain unanswered. The household tends to be of a size not too large to preclude privacy and not too small to be a social unit. Referring again to Statement XXVIII, page 62, it is interesting to note that the household containing the largest percentage of lodgers has 4 persons in Montreal, 4 persons in Toronto and 5 persons in Winnipeg. Moreover, of all lodgers living in ordinary households as distinguished from rooming houses, hotels and institutions, 55·56 p.c. in Montreal; 58·91 p.c. in Toronto, and 50·61 p.c. in Winnipeg live in households of from 3 to 6 persons. On the other hand, only 38·54 p.c. of the Montreal lodgers, 37·76 p.c. of the Toronto lodgers, and 45·28 p.c. of the Winnipeg lodgers live in households of more than 6 persons. The lodger evidently seeks out a home where he will be a member of a household of typical size and under-sized families take in a lodger to round out the size of the household.

Secondly, economic conditions may cause households to gravitate towards a constant size. For example, it is possible that 5-room and 6-room houses can be more economically rented and maintained than smaller or larger houses and households may tend to be of the size which can be best accommodated in houses of these sizes. The adjustment between persons per household and rooms per household will be studied later.

Thirdly, census families, though they do not correspond to biological families, are derived from them. Consequently, the sizes of census families will be determined partly by the sizes of the biological families and one would expect the latter to follow a skew-normal distribution. It is curious that social, economic and biological factors have complementary rather than opposite effects in determining the size distribution of households.

Family Size and Housing Accommodation.—We have already remarked that the sizes of available houses might have some weight in determining the numbers of persons to be found in the households occupying them. Do the sizes of the families in a community determine the sizes of the dwellings or do the sizes of the dwellings determine the sizes of the families? For the cities of Montreal, Toronto, and Winnipeg we have tables cross-classifying persons per household and rooms per household (see Tables 3-5, Part III, page 201). In Montreal the average number of rooms per person was 1·18, in Toronto 1·41 and in Winnipeg, 1·19.

Coefficients of correlation between persons per household and rooms per household for the three cities are given below:—

	r	r^2
Montreal	·27	·0729
Toronto	·38	·1444
Winnipeg	·48	·2304

The above correlations are amazingly low since the square of the coefficient of the correlation measures the proportion of the variance in the number of rooms per person associated with the variance in the number of persons per household. Thus only 7·3 p.c. of the variance in the number of rooms per household in Montreal is associated with the sizes of the families occupying them and the remaining 92·7 p.c. must be due to other factors. When a family is choosing

its home, it would seem that income, social status, etc., are vastly more important factors in determining its size than the number of persons in the family. Small families are occupying large houses while large families are crowded into a few rooms simply because they cannot afford sufficient room. This is no revelation but the universality with which it occurs may not be fully realized. An almost total lack of correlation between size of family and number of rooms occupied for Montreal and Toronto, and a poor correlation for Winnipeg, reveal the true cause of our housing shortage. It is not so much that there is insufficient accommodation as that the available accommodation is not distributed according to the needs of the families. This treatise deals only with the quantitative aspect of the housing problem, of course, no allowance being made for the fact that many of the rooms reported may be very small, in poor condition or lacking in what are now considered essential conveniences.

If the correlations between persons per household and rooms per household were perfect there would be no housing problem, at least in so far as space is concerned, since, even in Montreal, there would be 1·18 rooms for each person. On the other hand, to bring the rooms *per capita* for Montreal (1·18) up to that for Toronto (1·41) would necessitate the provision of approximately 180,000 additional rooms, an increase in the present total, 927,248*, of 19 p.c. And unless care were taken that the benefits of this very large addition to the housing accommodation in Montreal went to those in most need of it, there would still be at least as much overcrowding as at present exists in Toronto. The construction of new houses is clearly not the one and only solution for our housing shortage. Of course, to attain a perfect correlation between persons per household and rooms per household would be even mathematically, let alone practically, impossible but there is an amazing lack of adjustment between size of family and number of rooms occupied as measured by their correlation. This may be due to many causes and it is beyond the scope of this monograph to isolate them. The well-to-do will always have much better accommodation than the poor. The rapid and chaotic growth of our cities causes overcrowding in some parts and perhaps an oversupply of space in other parts. Nevertheless, the fact needs to be stressed that an entirely quantitative analysis indicates that the housing problem is much more a question of distribution than of underproduction.

Overcrowding in Large Households.—A more detailed study has been made of the frequency distribution cross-classifying persons per household and rooms per household for Toronto.

XXXII.—MEAN, DISPERSIONS AND SKEW FOR PERSONS PER ORDINARY HOUSEHOLD, BY NUMBER OF ROOMS OCCUPIED, TORONTO, 1931

Rooms per Household	Mean Persons per Household	Standard Deviation in Persons per Household	Coefficient of Dispersion	Skew
1	1·82	0·95	0·52	1·40
2	2·58	1·21	0·47	1·41
3	2·93	1·34	0·46	1·36
4	3·44	1·60	0·47	1·16
5	3·80	1·73	0·45	1·04
6	4·39	1·88	0·43	0·95
7	4·56	2·03	0·44	1·00
8	4·88	2·21	0·45	0·88
9	5·05	2·37	0·47	1·10
10	5·38	2·66	0·49	1·18
11	5·74	4·01	0·70	0·84
12	5·88	3·11	0·53	1·26

In the comparison of the average sizes of households occupying different numbers of rooms, the average size of the family increases, as would be expected, with the number of rooms occupied. What is significant, however, is the wide dispersion in the sizes of households occupying the same number of rooms. It is this dispersion which destroys the correlation between persons per household and rooms per household. In each case there is a large positive skew, the interpretation being that large families are occupying dwellings of every size, large and small. Many of them are confined to the space they can afford irrespective of their needs.

*Exclusive of a small number of rooms in households where the number of rooms was not stated.

XXXIII.—SUMMARY DATA FOR HOUSEHOLDS OF EACH SIZE, TORONTO, 1931

Persons per Household	P.C. of House- holds of Given Size	Rooms per Person	Families per House- hold	P.C. Over- crowded	P.C. with at Least One Room per Person	Percentage Distributions According to Size	
						Over- crowded House- holds	Families with Two Heads and Children Living at Home
Total......................	100·00	1·4	1·09	15·48	84·52	100·00	100·00
1.........................	3·82	3·8	1·00	–	–	–	–
2.........................	19·22	2·4	1·00	2·50	97·50	3·10	28·78
3.........................	21·89	1·8	1·02	6·75	93·25	9·54	26·21
4.........................	19·80	1·5	1·06	10·78	89·22	13·80	20·63
5.........................	14·45	1·3	1·12	13·69	86·31	12·78	12·00
6.........................	9·07	1·1	1·19	19·94	80·06	11·68	6·31
7.........................	5·32	1·0	1·25	54·10	45·90	18·61	3·16
8.........................	2·91	0·9	1·32	63·59	36·41	11·98	1·55
9.........................	1·61	0·8	1·37	76·68	23·32	7·96	0·76
10.........................	0·87	0·8	1·52	81·71	18·29	4·58	0·37
11.........................	0·49	0·7	1·65	87·72	12·28	2·78	0·15
12 and over...............	0·55	0·7	2·28	89·89	10·11	3·19	0·08

Pertinent information relating to living conditions in households of different sizes is summarized in Statement XXXIII. It is the extremely large households which generally suffer from lack of adequate space. In most studies of housing undertaken on this continent, overcrowded households have been defined as those with accommodation of less than 1 room per person. On the basis of this arbitrary definition 15·48 p.c. of Toronto households are overcrowded. Only 10·78 p.c. of the Toronto households of typical size, which we have already established to consist of 4 persons, are overcrowded compared with 89·89 p.c. of those with 12 or more persons. Of all overcrowded households, 13·80 p.c. consist of 4 persons and 18·61 p.c. consist of 7 persons. The typical size of the overcrowded household is 7 rather than 4. Seven-person households include 20·34 p.c. of the population with accommodation of less than 1 room per person.

Overcrowding then applies mostly to the oversized families. If these oversized families were largely private families consisting of husband and wife and their children, the situation would be less serious since small children do not require the same amount of space as adults. Moreover, there is not the same necessity for privacy between members of such a family as there is when the household consists of several adult members not of kin. From comparison of the percentage distributions according to size of all households and of private families consisting of husband and wife and their children it is obvious that large families of the latter class account for only a small fraction of the large households. The extremely large households must be made up of the immediate families of the heads, possibly guardianship children and other dependents, lodgers and lodging families. It is through economic necessity that these people, sometimes of kin, sometimes not, are driven together to seek shelter in overcrowded and poorly equipped dwellings and it is this section of the population which is inadequately housed.

In addition it is evident that the man with a large family is generally unable to afford a dwelling large enough to house it comfortably. This will encourage him to limit the size of his family and is one explanation of the low and falling birth rate in large cities. Obviously the construction of small new houses would do little to improve the situation.

Table 6, Part II, page 202, classifies households according to the number of rooms per person and gives the population of the households. Households and their populations are divided into deciles in Statement XXXIV according to the number of rooms per person.

XXXIV.—PARTITION OF HOUSEHOLDS AND HOUSEHOLD POPULATION ACCORDING TO ROOMS PER PERSON, TORONTO, 1931

Decile	Rooms per Person		Decile	Rooms per Person	
	Households	Population of Households		Households	Population of Households
1st...............................	0·75	0·70	6th.............................	1·60	1·40
2nd...............................	1·00	0·86	7th.............................	2·00	1·50
3rd...............................	1·11	1·00	8th.............................	2·01	1·90
4th...............................	1·25	1·13	9th.............................	3·00	2·33
5th...............................	1·50	1·20			

Since the fifth decile corresponds to the median it may be seen that approximately one-half the households have less than $1 \cdot 5$ rooms per person, while one-half the population lives in households with less than $1 \cdot 20$ rooms per person which is considerably below the average rooms per person, $1 \cdot 41$. It is evident in this case that too much reliance cannot be placed on the significance of the average in statistical surveys. We found the average person per household a valuable tool in determining the typical size of households but average rooms per person has little meaning when we are dealing with housing. Only $5 \cdot 98$ p.c. of the households, including $6 \cdot 57$ p.c. of the population, have $1 \cdot 3$ or more and under $1 \cdot 5$ rooms per person. Reference to Table 6 will disclose there is no central tendency in the number of rooms per person. For Toronto households, $1 \cdot 41$ rooms per person would, on the surface, indicate that Torontonians were very comfortably and efficiently housed. Unfortunately, further analysis has revealed that very few households have average accommodation, the majority having either more than they need or less than they need. Average rooms per person therefore fails to measure the adequacy of housing accommodation in a locality.

Housing accommodation is a complicated matter which must be dealt with from many angles, qualitative as well as quantitative.* We have shown that there is very little relation between size of household and size of house. Their low correlation has been attributed to the wide dispersion in the sizes of households occupying the same number of rooms. In particular, the larger households are occupying varying numbers of rooms irrespective of their needs.

*A comprehensive study of housing conditions throughout Canada appears in a 1931 Census Monograph entitled *Housing and Rentals* by H. F. Greenway.

CHAPTER V

LODGERS

Of the 10,362,833 total population for the nine provinces according to the Census of 1931, 555,606 or 5·36 p.c. were classed as lodgers. Of these, 59,513 or 10·71 p.c. lodged in hotels, rooming houses, camps and institutions and 89·29 p.c. in ordinary households. The low percentage of lodgers in the total population illustrates the preference Canadians have for family life. Evidently they are only lodgers by necessity and, in that event, they prefer lodging in ordinary households to lodging in hotels or institutions.

PART A—THE DISTRIBUTION AND COMPOSITION OF THE LODGING POPULATION

In discussing lodging population there are two groups to be considered—those who lodge and those who take in lodgers. The first section of this chapter will deal with the former group comprising 53·9 p.c. of the 1,030,591 Canadians who do not belong to private families.

XXXV.—PERCENTAGE OF POPULATION LODGERS, AND DISTRIBUTION OF LODGERS BY NUMBER PER HOUSEHOLD, RURAL AND URBAN, CANADA, 1931

Item	P.C. o Popula- tion Lodgers	P.C. of Total Lodgers in										Median Lodgers per House- hold[1]
		Ordinary Households with Given Number of Lodgers								Room- ing Houses	Hotels, Camps, Institu- tions, etc.	
		1	2	3	4	5	6	7	8			
CANADA..........	5·36	44·5	19·4	9·5	5·7	3·8	2·8	2·0	1·6	7·2	3·5	1·69
Rural..........	3·02	61·9	18·2	6·7	3·3	1·9	1·3	0·8	0·6	3·1	2·2	1·29
Urban..........	7·37	38·4	19·8	10·5	6·5	4·5	3·4	2·4	1·9	8·7	3·9	1·99

[1]For households with lodgers only.

In the above statement, lodgers are distributed according to the type of household in which they live. The distinction made in the census between ordinary households and rooming houses is a purely arbitrary one—the rooming house being a household where there were more than 8 lodgers at the time of the census. It is clear that the latter cannot be regarded as a family unit in the same sense as a household with only 1 or 2 lodgers. The degree to which the rooming house fulfils the functions of a home and the extent to which the lodger may enjoy home privileges is inversely related to the number of lodgers. Now the type of household in which the lodger chooses to stay is indicative of his tastes and background. In Canada, it would appear that the majority of lodgers prefer lodging in households where there are few lodgers, since 44·5 p.c. of all lodgers live in 1-lodger households and 63·9 p.c. in households where there are not more than 2 lodgers. This would indicate that the typical Canadian lodger has a keen instinct for home life, since, being unable to live with his family or having no family, he seeks lodging in a household where he may enjoy home privileges to the greatest possible extent. In the rural districts 61·9 p.c. of the lodgers live in households where they are the sole lodgers. This, however, merely reflects the fact that many of the rural lodgers may be found in communities where there are no other lodgers and, consequently, *must* lodge by themselves. It is more significant, therefore, that 38 p.c. of the *urban* lodgers live in 1-lodger households and 58 p.c. live in households where there are not more than 2 lodgers. The percentage of lodgers living in rooming houses, hotels, camps, institutions, etc., is quite small, even for the urban population. The last column of Statement XXXV gives the median lodgers per household with lodgers. In calculating the median it was necessary to omit hotels, camps, institutions, etc., since their distribution according to the number of lodgers is not available. The median provides an index by which the tendency for lodgers to seek accommodation in private houses can be measured.

Rural and Urban Distribution by Provinces.—From Statement XXXVI it may be observed that the percentage of lodgers in the rural population is uniformly low for all provinces except British Columbia where there is a large non-farm element. The low percentage of the population lodgers, together with the low median lodgers per family, for rural Quebec where the population is 89·1 p.c. of French racial origin, establishes the French as the most home-loving of

Canadians. Inclusion in the rural population of Eastern Canada of a large number of unincorporated villages where lodgers are numerous tends to increase the percentages of lodgers in the rural populations of the Eastern Provinces. This adds even more significance to the lowness of the Quebec figure.

XXXVI.—PERCENTAGE OF RURAL POPULATION LODGERS, AND DISTRIBUTION OF RURAL LODGERS BY NUMBER PER HOUSEHOLD, CANADA, BY PROVINCES, 1931

Province	P.C. of Rural Population Lodgers	P.C. of Total Lodgers in										Median Lodgers per Rural Household[1]
		Ordinary Rural Households with Given Number of Lodgers								Rooming Houses	Hotels, Camps, Institutions, etc.	
		1	2	3	4	5	6	7	8			
Prince Edward Island.	3·42	61·2	15·9	4·0	2·1	1·5	1·3	0·9	0·7	11·8	0·6	1·31
Nova Scotia.........	3·46	65·9	19·2	6·0	2·8	1·0	1·0	0·6	0·5	2·1	0·9	1·25
New Brunswick......	3·10	64·2	19·5	7·0	3·0	1·3	0·6	0·4	0·1	2·2	1·7	1·27
Quebec.............	2·05	67·8	17·4	5·6	2·1	1·1	0·9	0·6	0·5	1·5	2·5	1·22
Ontario.............	3·69	60·1	18·3	7·0	3·3	2·3	1·5	0·9	0·8	4·1	1·7	1·32
Manitoba...........	2·68	64·9	18·8	6·3	3·0	2·3	0·8	0·2	0·6	0·8	2·3	1·25
Saskatchewan.......	2·04	74·5	15·6	4·5	2·5	0·5	0·8	0·3	²	0·8	0·5	1·17
Alberta.............	2·98	61·2	18·9	7·4	3·6	1·7	1·8	1·0	0·7	1·9	1·8	1·30
British Columbia....	5·52	45·0	18·6	9·1	6·1	4·0	2·3	1·5	1·4	6·0	6·0	1·61

[1]For households with lodgers only.
[2]Less than one-tenth of one per cent.

Both the percentage of lodgers in the population and the median lodgers per household with lodgers are higher for the urban than the rural population of each province. Urban Quebec, despite the fact that it contains the large city of Montreal, has the lowest percentage of the population lodgers for any province, exhibiting again the French Canadian's preference for family life. The extremely high percentage lodgers for urban British Columbia is largely due to the cities of Vancouver and Victoria which will be dealt with later.

XXXVII.—PERCENTAGE OF URBAN POPULATION LODGERS, AND DISTRIBUTION OF URBAN LODGERS BY NUMBER PER HOUSEHOLD, CANADA, BY PROVINCES, 1931

Province	P.C. of Urban Population Lodgers	P.C. of Total Lodgers in										Median Lodgers per Urban Household[1]
		Ordinary Urban Households with Given Number of Lodgers								Rooming Houses	Hotels, Camps, Institutions, etc.	
		1	2	3	4	5	6	7	8			
Prince Edward Island.	8·26	37·1	19·8	11·9	7·1	4·5	3·6	2·5	1·9	3·8	7·8	1·95
Nova Scotia.........	5·94	42·9	23·1	10·4	6·3	4·0	2·6	1·9	1·4	4·1	3·3	1·74
New Brunswick......	6·78	42·3	20·9	9·7	5·4	3·9	3·3	1·8	1·1	6·8	4·8	1·75
Quebec.............	5·78	39·8	20·2	10·7	6·7	4·5	3·4	2·4	1·8	7·8	2·7	1·94
Ontario.............	7·86	41·5	21·9	11·1	6·5	4·3	3·3	2·3	1·7	5·0	2·4	1·83
Manitoba...........	9·01	32·2	18·1	11·3	7·7	6·1	4·6	3·5	2·9	10·0	3·6	2·38
Saskatchewan.......	7·53	38·5	20·7	11·5	6·8	4·7	3·2	2·2	1·2	3·8	7·4	1·88
Alberta.............	8·00	36·5	17·3	10·2	6·3	4·1	3·5	2·7	2·6	11·7	5·1	2·13
British Columbia.....	11·25	25·8	12·1	7·2	5·3	4·3	2·9	2·7	2·6	26·0	11·1	3·41

[1]For households with lodgers only.

The percentage of lodgers in households where there is only one lodger is considerably lower for the urban than for the rural population of each province. The extremely high percentage for the rural population was, therefore, due partly to the fact that lodgers were few and far between and necessarily lodged separately. The percentage of lodgers in rooming houses is higher for the urban population than for the rural population in every province except Prince Edward Island reflecting the impracticability of rooming houses in rural districts.

Lodgers in Cities of 30,000 and over.—Statement XXXIX describes the lodging population in cities of population 30,000 and over which have been ranked according to the lowness of the median lodgers per household with lodgers. It has already been pointed out that the median lodgers per household provides an index for measuring the tendency for lodgers to seek home life. It may be said that the lodging population in cities where the median is small has a keener family instinct than in cities where the median is large. In this respect, as shown in Statement XLI, the cities of Eastern Canada all rank above those of Western Canada while, when eastern and western cities are taken separately, the small cities rank above the large cities. An exception is the city of Victoria with a population of 39,082 which ranks second to the last. A very high percentage of lodgers in rooming houses, hotels, camps, institutions, etc., will be noted in Vancouver and Victoria. This results from the custom of large numbers of single males of Asiatic origin to live under the same roof.

XXXVIII.—MEDIAN LODGERS PER HOUSEHOLD WITH LODGERS, AND PERCENTAGE DISTRIBU-
TION OF LODGERS BY NUMBER PER HOUSEHOLD, CITIES OF 30,000 AND OVER, 1931

City	Median Lodgers per House-hold[1]	P.C. of Total Lodgers in									
		Ordinary Households with Given Number of Lodgers								Room-ing Houses	Hotels, Camps, Institu-tions, etc.
		1	2	3	4	5	6	7	8		
Verdun	1·27	64·8	22·8	6·4	2·6	1·7	1·0	–	–	0·4	0·3
Brantford	1·48	50·5	23·5	12·8	5·0	1·3	2·5	1·5	0·4	1·4	1·1
Trois-Rivières	1·51	47·4	23·7	8·1	4·2	4·1	1·4	1·1	2·4	3·1	4·2
Windsor	1·75	43·4	24·5	13·5	5·8	3·8	3·1	0·8	1·4	2·8	0·9
London	1·75	44·4	22·0	10·6	6·9	4·8	4·4	1·4	1·0	4·1	0·4
Ottawa	1·77	43·0	22·1	11·7	6·5	5·0	3·1	2·5	1·3	2·9	1·9
Kitchener	1·77	42·3	25·3	13·5	5·1	1·7	3·1	1·5	1·7	4·1	1·7
Saint John	1·80	42·0	19·9	7·9	5·6	4·5	3·6	2·9	1·7	7·7	4·2
Hamilton	1·83	42·1	23·2	11·4	7·6	4·8	2·9	2·6	2·4	2·7	0·3
Halifax	1·95	37·2	23·2	9·9	7·1	4·9	2·8	2·0	1·2	7·2	4·5
Quebec	1·97	38·0	20·6	10·5	6·3	4·4	3·7	2·4	1·8	7·7	4·6
Toronto	2·14	35·6	21·5	11·8	7·5	5·6	4·5	3·2	2·4	6·5	1·4
Montreal	2·23	35·1	19·9	11·7	7·8	5·2	4·2	3·3	2·1	9·7	0·8
Regina	2·36	30·8	20·7	13·0	8·7	7·4	4·1	3·5	1·9	7·3	2·6
Saskatoon	2·39	31·1	19·1	11·8	7·9	5·5	4·5	3·8	2·2	10·4	3·7
Calgary	2·45	32·7	16·6	10·1	7·1	5·0	4·5	3·8	3·4	13·9	2·9
Edmonton	2·46	33·0	15·4	8·8	5·1	3·7	3·5	2·5	3·3	20·2	4·5
Winnipeg	2·65	29·3	17·5	11·5	8·4	6·6	5·3	3·9	3·3	11·3	2·9
Victoria	2·98	30·0	14·1	6·9	6·4	6·7	3·3	3·0	3·8	20·6	5·2
Vancouver	4·12	23·9	11·1	6·6	4·7	3·9	2·9	2·8	2·3	30·8	11·0

[1]For households with lodgers only.

XXXIX.— MEDIAN LODGERS PER HOUSEHOLD, AND RELEVANT POPULATION ATTRIBUTES,
CITIES OF 30,000 AND OVER, 1931

City	(1) Median Lodgers per House-hold	(2) P.C. of Popu-lation Lodgers	(3) P.C. of Popu-tion Born outside Province	(4) P.C. of Males of Foreign[1] Origin	(5) P.C. Increase in Popu-lation, 1921-31[2]
Verdun	1·27	4·0	36·78	2·87	58·84
Brantford	1·48	6·3	31·53	12·35	2·22
Trois-Rivières	1·51	3·7	5·95	0·94	36·91
Windsor	1·75	7·9	39·66	18·68	38·85
London	1·75	7·5	28·36	5·67	14·32
Ottawa	1·77	7·4	32·07	6·69	15·00
Kitchener	1·77	7·6	23·35	13·68	29·32
Saint John	1·80	7·1	17·56	4·64	0·73
Hamilton	1·83	7·9	41·65	16·18	26·61
Halifax	1·95	7·8	19·06	4·43	1·53
Quebec	1·97	5·4	3·85	1·26	27·11
Toronto	2·14	9·9	41·02	16·18	17·32
Montreal	2·23	7·4	22·38	14·74	24·44
Regina	2·36	9·7	59·72	15·25	35·29
Saskatoon	2·39	10·2	63·62	13·86	40·54
Calgary	2·45	9·6	68·21	11·72	24·42
Edmonton	2·46	8·3	64·43	15·11	25·73
Winnipeg	2·65	10·5	57·71	27·34	18·14
Victoria	2·98	9·6	65·91	19·09	0·91
Vancouver	4·12	12·3	71·33	18·55	33·81

[1]"Foreign" here includes only those of other than British, French, Scandinavian, Dutch, Finnish and German racial origin.
[2]Based on 1931 population.

Statement XXXIX gives data for each city concerning attributes of the population which are instrumental in determining the extent and distribution of its lodging population. The percentage born outside the province provides a measure of the floating population of a city. The correlation of ·58 between the median lodgers per household and the percentage of the total population lodgers indicates that the more lodgers there are in a city the more likely they are to be found together. Since detailed information on the lodging population is available for only the cities of 30,000 and over listed above, one is limited to twenty items in working out correlations and their probable error is considerable. Nevertheless the following simple correlations obtained from the data of Statement XXXIX may be considered significant.

r_{12} = ·58—the correlation between median lodgers per household and the percentage of lodgers in the population.

r_{13} = ·70—the correlation between median lodgers per household and the percentage of the population born outside the province.

r_{14} = ·58—the correlation between median lodgers per household and the percentage of the male population of foreign racial origin.*

r_{23} = ·69—the correlation between percentage of the population lodgers and the percentage of the population born outside the province.

r_{24} = ·68—the correlation between the percentage of the population lodgers and the percentage of the male population of foreign racial origin.*

Both the percentage of lodgers in the population and the extent to which they crowd together in rooming houses is due largely to the presence of floating and foreign elements. The latter, then, are the most likely lodgers and show the least tendency to seek lodging houses where they will enjoy the maximum benefits of family life. That the correlation between median lodgers per household and the percentage of the population lodgers is largely attributable to this fact is indicated by the much lower partial correlation $r_{12\cdot 45}$ = ·11 when the floating and foreign elements are held constant. That in communities where there are many lodgers it is more difficult for the individual lodger to find accommodation in a private household, and rooming houses are more likely to be available also contribute to the correlation. In summary, the typical Canadian is seldom a lodger and when he is one, he seeks accommodation in a private household where he may be one of the family.

Verdun's ranking as Canada's premier city of families is surprising when one considers that the relative growth of its population for the period 1921-31 exceeded that for any other Canadian city and that a large proportion of the influx came from outside the province. Since Brantford and Windsor, which have also grown rapidly, follow closely after Verdun, it is evident that a rapidly increasing population may still be a population of families if it is settling permanently. Verdun and Trois-Rivières have each a very small population of foreign* racial origin.

Comparison of the Canadian and United States Lodging Populations.—Do Canadian lodgers, by their tendency to lodge in households where there are only 1 or 2 lodgers, exhibit a keener appreciation of the private home than do those in the United States? The data included in Statement XL have been obtained from the Fifteenth Census of the United States, taken in 1930. Since the number of lodgers living in rooming houses, hotels and institutions is not available, our comparison must be confined to the lodgers in households with from 1 to 8 lodgers.

XL.—NUMBER OF LODGERS LIVING IN ORDINARY HOUSEHOLDS HAVING 1-8 LODGERS. UNITED STATES, 1930

Lodgers per Household	Total Number of Lodgers		Lodgers per Household	Total Number of Lodgers	
	All Heads	Heads, Native White of Native Parentage		All Heads	Heads, Native White of Native Parentage
All families.....................	4,800,292	2,185,257	Rural—Con.		
1.............................	1,930,080	932,542	5.............................	47,820	24,930
2.............................	1,125,032	501,922	6.............................	32,016	16,278
3.............................	637,605	275,232	7.............................	22,036	11,081
4.............................	405,036	172,896	8.............................	15,584	7,936
5.............................	264,295	113,950			
6.............................	189,480	81,216	Farm............................	665,169	374,906
7.............................	139,804	60,851	1.............................	435,620	253,997
8.............................	108,960	46,648	2.............................	123,818	68,142
			3.............................	47,913	25,236
Urban.........................	3,449,777	1,428,987	4.............................	24,564	11,932
1.............................	1,199,320	508,913	5.............................	14,285	7,145
2.............................	838,064	343,448	6.............................	8,970	4,050
3.............................	501,246	202,374	7.............................	6,055	2,716
4.............................	326,064	131,812	8.............................	3,944	1,688
5.............................	216,475	89,020			
6.............................	157,464	64,938	Non-farm......................	685,346	381,364
7.............................	117,765	49,770	1.............................	295,140	169,632
8.............................	93,376	38,712	2.............................	163,150	90,332
			3.............................	88,446	47,622
Rural.........................	1,350,515	756,270	4.............................	54,408	29,152
1.............................	730,760	423,629	5.............................	33,535	17,785
2.............................	286,968	158,474	6.............................	23,046	12,228
3.............................	136,359	72,858	7.............................	15,981	8,365
4.............................	78,972	41,084	8.............................	11,640	6,248

*See footnote 1 to Statement XXXIX.

XLI.—PERCENTAGE DISTRIBUTION OF LODGERS LIVING IN ORDINARY HOUSEHOLDS HAVING
1-8 LODGERS, CANADA, 1931, AND UNITED STATES, 1930

Lodgers per Household	P.C. of All Lodgers Living in Ordinary Households with Given Number of Lodgers		Lodgers per Household	P.C. of All Lodgers Living in Ordinary Households with Given Number of Lodgers	
	Canada, 1931	United States, 1930		Canada, 1931	United States, 1930
All families	100·0	100·0	Rural—Con.		
1	49·9	40·2	5	2·0	3·5
2	21·7	23·4	6	1·4	2·4
3	10·6	13·3	7	0·8	1·6
4	6·4	8·4	8	0·6	1·2
5	4·3	5·5			
6	3·1	4·0	Farm	1	100·0
7	2·2	2·9	1	–	65·4
8	1·8	2·3	2	–	18·6
			3	–	7·2
Urban	100·0	100·0	4	–	3·7
1	44·0	34·7	5	–	2·2
2	22·7	24·3	6	–	1·4
3	12·0	14·5	7	–	0·9
4	7·4	9·5	8	–	0·6
5	5·1	6·3			
6	3·9	4·6	Non-farm	1	100·0
7	2·7	3·4	1	–	43·1
8	2·2	2·7	2	–	23·8
			3	–	12·9
Rural	100·0	100·0	4	–	7·9
1	65·4	54·0	5	–	4·9
2	19·2	21·3	6	–	3·4
3	7·1	10·1	7	–	2·3
4	3·5	5·9	8	–	1·7

[1]Figures not available.

XLII.—MEDIAN LODGERS PER HOUSEHOLD HAVING 1-8 LODGERS, CANADA, 1931, AND UNITED
STATES, 1930

Item	Median Lodgers per Household with 1-8 Lodgers				
	All Families	Urban	Rural		
			Farm	Non-Farm	Total
Canada, 1931	1·55	1·76	1	1	1·26
United States, 1930	1·92	2·13	1·26	1·79	1·42
United States, families with heads, native White and of native parentage	1·82	2·10	1·24	1·73	1·39

[1]Figures not available.

The statistics given in Statements XL and XLI for Canadian and United States lodgers are not strictly comparable since, in the United States reports, farm labourers living with the farm family, foster children or wards, and guests of the family with no usual abode were classed as lodgers in addition to those directly returned as lodgers or boarders. In the family compilation of the Canadian Census, farm labourers were included with the domestics, foster children and permanent guests with the dependents. This would tend to increase the number of lodgers in the United States but comparison is not with the number of lodgers but with the distribution of lodgers. If the United States system of classification were followed, the number of families with 1 lodger and, consequently, the number of lodgers in families with 1 lodger would be greatly augmented by the inclusion of families sheltering a dependent relative or having a single farm hand living with them. At the same time, some of the families which would be 1-lodger families according to the Canadian classification would become 2-lodgers families due to a dependent or farm hand being counted as an additional lodger. Consequently, differences due to method of classification would be partially compensating but it seems most likely that the United States method increases the proportion of lodgers in families with 1 or 2 lodgers and decreases the proportion in families with 6, 7 or 8 lodgers. This has a considerable bearing on the significance of differences in the percentage distributions of lodgers in Canada and in the United States. Despite the classification system, the percentage of lodgers living in 1-lodger households is considerably higher in Canada than in the United States. That the difference is not due to the Negro population of the United States, for example, is evident from a comparison of the medians for lodgers per household given in Statement XLII. Even lodgers living in the homes of the native

White section of the United States population show a greater boarding-house tendency than do all Canadian lodgers which is very significant in view of the fact that the latter contain a transient foreign element. This is true of both the rural and urban sections of the populations of the two countries. It must be mentioned by way of qualification that the rural and urban break-ups of the Canadian and United States populations are not made on the same basis since, in Canada, all incorporated villages are classed as urban and, in United States, only places with population in excess of 2,500.

The evidence is strong that the typical Canadian lodger is more desirous of belonging to a "family circle" than his United States neighbour. Since this tendency is true for the urban population as well as the rural it cannot be attributed wholly to the scattering of the population. The behaviour of Canada's lodging population would seem to indicate that the Canadian family is a closely knit unit.

PART B—CHARACTERISTICS OF THE ORDINARY HOUSEHOLD WITH LODGERS

Statistics relating to the households in which lodgers live will now be reviewed.

XLIII.—PERCENTAGES OF HOUSEHOLDS TAKING IN LODGERS AND PERCENTAGES OF THOSE TAKING IN LODGERS WITH MORE THAN ONE, BY TENURE, RURAL AND URBAN, CANADA, 1931

Item	Percentage of Households with Lodgers			
	Living in Home		Having More than One Living in Home	
	Owned	Rented	Owned	Rented
CANADA..	13·30	17·40	21·65	32·04
Rural..	10·36	12·03	14·88	24·94
Urban..	17·46	19·11	27·33	33·46

Both rural and urban tenants take in lodgers more frequently than do home owners. The following correlation analysis determines the conditions under which lodgers are most likely to be found in normal households of tenants. Data relating to number of lodgers, monthly rent, number of children, housing accommodation and family earnings were available for urban households of one family with married male wage-earner heads living in rented homes. These families are relatively homogeneous for the following reasons: (1) they are all urban; (2) the wage-earning class excludes the very poor and the very rich; (3) only normal families with husband and wife living together as heads are included; (4) there is a tendency for families with heads at extreme ages to be excluded.

Table 7, Part II, page 203, gives averages compiled from data available for these families. Rent per room was obtained by taking the mid-points of each rental class as the average rent for the class. The end groups including families who paid less than $10 and more than $60 per month for rent were eliminated to overcome the difficulty of obtaining a mid-point which would involve laborious graduation, and to eliminate heterogeneous families which might be expected in the very low and very high rental groups. The column for persons per room excludes lodgers since it was considered desirable to determine the accommodation as it would exist without the lodger in accounting for its effect on his presence. In addition, the number of lodgers in the family and their earnings were excluded in obtaining average earnings per person.

It is obvious that wage-earners with given earnings may be very well off in a small town where the cost of living is low while an equal income would be insufficient to maintain their families on an equivalent scale in a large city. Similarly, a rent which is fairly high for one locality may be low for another locality. Consideration was given to the desirability of estimating an index for each locality which would eliminate effects due to differential costs of living. It might be well to point out that cost of living is referred to, not as a budget required to maintain a family according to a fixed standard, but rather as a measure of how far the dollar will go in each locality. Several indices were considered but it was impossible to obtain a satisfactory index for all the urban divisions included in the table. Moreover, standardizing would remove factors which might have an important influence on the composition of the family and these would be lost to the study. However, in interpreting correlations derived from the data of this table one must remember that the significance of rents per room and earnings per person is affected by the fact that they may not always have identical meanings for the different localities.

XLIV.—COMPARISON OF HOUSEHOLDS STUDIED WITH ALL ORDINARY HOUSEHOLDS, URBAN CANADA, 1931

Item	All Ordinary Households	Group Studied
Average size of family	4·5	4·51
Average number of lodgers	0·22	0·22
Average number of children	2·2	2·2
Persons per room, exclusive of lodgers	0·75	0·82

There were 379,780 households, 16·9 p.c. of all ordinary households, comprising 1,715,599 persons, or 17·1 p.c. of all persons in ordinary households included in the study. These households contained 85,221 lodgers, 17·2 p.c. of all those in ordinary households. They are by no means a sample but a select group chosen for their relative homogeneity, the fact that they are a typical group and the data which is available for them. Statement XLVI compares certain averages for the group studied with the averages for all ordinary households in urban Canada. It is obvious that the averages for the group studied depart little from those obtained for all ordinary households. The higher average for persons per room, exclusive of lodgers reflects the fact that the group studied contains no 1-person households and that it is a purely urban group.

Correlations.—All correlations were obtained without weighting but the groups were of relatively uniform size since the very small groups of less than ten persons and the small end groups whose importance might be over-emphasized in an unweighted correlation were omitted. Linear regression was assumed in calculating all coefficients of correlation and tests using the correlation ratio established the error resulting as small. In each case 142 sets of averages were correlated. A summary of all correlations used in the study is given below and the importance of each significant correlation will now be analysed in detail.

XLV.—SUMMARY OF CORRELATIONS BETWEEN HOUSEHOLD ATTRIBUTES

Variables	X_1 Lodgers per Household	X_2 Rent per Room	X_3 Children per Household	X_4 Persons per Room[1]
(a) SIMPLE CORRELATIONS				
X_2 Rent per room	$r_{12} =$ ·58			
X_3 Children per household	$r_{13} =$ − ·27	$r_{23} =$ − ·48		
X_4 Persons per household[1]	$r_{14} =$ − ·37	$r_{24} =$ − ·28	$r_{31} =$ ·31	
X_5 Earnings per person[2]	$r_{15} =$ ·45	$r_{25} =$ ·72	$r_{35} =$ − ·46	$r_{45} =$ − ·73

(b) PARTIAL CORRELATIONS OF THE THIRD ORDER

Variables	Constants	Coefficient of Correlation
Lodgers and rent per room	Children, persons per room and earnings	$r_{12.345} =$ ·52
Lodgers and children	Rent per room, persons per room and earnings	$r_{13.245} =$ ·05
Lodgers and persons per room	Rent per room, children and earnings	$r_{14.235} =$ − ·44
Lodgers and earnings	Rent per room, children and persons per room	$r_{15.234} =$ − ·36

(c) MULTIPLE CORRELATION

Dependent Variable	Independent Variable	Coefficient of Correlation
X_1 Lodgers per household	X_2 Rent per room X_3 Children per household X_4 Persons per household[1] X_5 Earnings per person[2]	$R_{1.2345} =$ − ·68

[1]Lodgers not included in calculating average persons per room.
[2]Does not include lodgers or their earnings.

The high correlation between lodgers per household and rent per room ($r_{12} = \cdot 58$) indicates that lodgers are most likely to be found where the rent per room is high. That the frequency of lodgers increases with the rent may also be seen from the following figures giving the average number of lodgers for households grouped according to the rental class in which they belong.

Rental Group	Lodgers per Household
Under $10	0·13
$10– 14	0·17
15– 24	0·16
25– 39	0·29
40– 59	0·32
60 and over	0·31

There is a very slight falling off for the households in the "$60 and over" class since these comprise homes rented by the most prosperous wage-earners. Moreover, the lodgers present are probably confined to households where the keeping of lodgers is a business, rather than spread over the group. In calculation of the correlation coefficients, the two end-groups have been excluded.

The following explanations may be given for the positive correlation: (1) If rent per room is considered as indicative of the quality of the room, lodgers choose the rooms where the rent is higher because they are interested primarily in comfort and convenience. (2) In the larger cities and particularly in the western cities where rent is high, lodgers are numerous, producing a spurious correlation. (3) In districts where rent per room is high it is probable that a room will rent well and there is stronger motivation for renting it. That factors (2) and (3) are important is evident from the high partial correlation $r_{12\cdot 345} = \cdot 52$ when children, accommodation and family earnings are held constant. (4) Families forced into the lower rental groups by poverty will not have the accommodation necessary for taking in lodgers.

The correlation is changed very little when the other attributes of the families measured, *viz.*, number of children, accommodation and family earnings, are held constant, since the partial coefficient ($r_{12\cdot 345}$) is ·52.

The inverse correlation $r_{13} = - \cdot 27$ between lodgers per household and children per household does not result from lodgers avoiding children since the partial correlation $r_{13\cdot 245} = \cdot 05$ is positive even if very low. Though the families with a large number of children may lack the accommodation and conveniences attractive to lodgers, the children are not, in themselves, an obstacle to taking in lodgers.

There is a significant inverse correlation $r_{14} = - \cdot 37$ between lodgers per household and persons per room indicating that lodgers avoid overcrowding and lodge where there is sufficient accommodation. Since the partial correlation $r_{14\cdot 235} = - \cdot 44$, when rent per room, average number of children and earnings are held constant, is higher, it would seem that ample accommodation is prerequisite to the taking in of lodgers. The following are the unweighted means of the averages for lodgers per household for groups of households with given average persons per room.

For Groups of Households with Given Persons per Room	Means of Averages for Lodgers per Household
More than 1	0·18
0·85–0·99	0·20
0·70–0·84	0·25
0·60–0·69	0·26
Under 0·60	0·27

Contrary to what might be expected there is a positive correlation $r_{15} = \cdot 45$ between lodgers per household and earnings per person. When the groups of households in Table 7 are classified according to average earnings per person it is seen that the average of lodgers per household steadily increases with family earnings.

Earnings per Person $	Mean of Averages for Lodgers per Household
12–18	0·17
19–24	0·20
25–33	0·23
34–46	0·28
47–66	0·29

Lodgers are attracted to families in the higher earnings groups because these families have more room which is evident from the high negative correlation $r_{45} = - \cdot73$ between persons per room and earnings per person; also, because they have better rooms since there is a high positive correlation, $r_{25} = \cdot72$ between earnings and rent per room, a good indication of quality. When accommodation, number of children and quality are held constant there is a negative correlation $r_{15 \cdot 234} = - \cdot36$ between average number of lodgers and average earnings per person, from which it may be concluded that families in the lower earnings groups attempt to take in lodgers to supplement their income but that they are handicapped by lack of conveniences and accommodation—an illustration of the truth of the saying that poverty begets poverty.

The correlation $r_{34} = \cdot31$ between children per household and persons per room is not high considering that children do not require as much space as adults and it may be deduced that families provide fair accommodation for their children. It is, however, evident from the inverse correlation $r_{23} = - \cdot48$ that families with children are forced into the lower rental classes. It must always be remembered that the very lowest rental classes are excluded; consequently, that extreme conditions, as distinguished from typical conditions, are not covered by this discussion.

Examination of the high multiple correlation $R_{1 \cdot 2345} = \cdot68$ and the four partial correlations* $r_{12 \cdot 345} = \cdot52, r_{13 \cdot 245} = \cdot05, r_{14 \cdot 235} = - \cdot44$ and $r_{15 \cdot 234} = - \cdot36$ reveals that the first of the partial correlations contributes largely to the amount of multiple correlation. Since the correlation between lodgers and rent per room is partly spurious, as has been mentioned before, too much weight cannot be attached to the actual value of the multiple, but, in any event, it may be concluded from its height that the most important factors relating to keeping lodgers have been segregated.

Summary.—In summary it is evident that the families who take in lodgers are not those who live in uncomfortable homes and have restricted accommodation. Although children generally require all the available accommodation in the home they are not in themselves an obstacle to keeping lodgers. Undoubtedly, many wage-earning families take in a lodger because they have a spare room, which is most attractive to lodgers when it possesses modern comforts and conveniences. The low-wage groups are handicapped when they wish to take in lodgers to supplement their earnings because they do not have the accommodation and their rooms are unlikely to be attractive to lodgers. Keeping lodgers is thus more likely to be a source of income to the better class of wage-earners than to the poorer classes and cannot be resorted to as an amelioration for poverty.

*The correlations may be identified by reference to Statement XLV.

CHAPTER VI

THE HEADS OF PRIVATE FAMILIES

Ages of Family Heads.—Before discussing family attributes as they vary with the age of the head, it might be well to indicate the various types of families with which we are dealing. The census family or household does not coincide with the popular concept of family since it may include servants and lodgers and even several groups of persons belonging to sociologically separate families. Consequently, most of the family tables compiled from the 1931 Census are "private family" classifications in which servants and lodgers have been excluded and heterogeneous households, such as hotels and large rooming houses, have been broken up into private units. Of the private families, 86 p.c. include husband and wife living together, generally with children and other dependents. These are the normal private families. In addition, there are the families where husband and wife have been separated by death, by divorce, or because the husband's occupation forced him to make his permanent residence away, from home, and the remaining head maintains the household. Every one classed as head of a household has also been classed as head of a private family with the result that, among heads of private families, are included persons who are householders but do not necessarily have family responsibilities. This accounts for the presence of "1-person families." The 1-person family may consist of a person living in a home by himself, a person surrounded by servants but without dependents, a lodging-house keeper with only servants and lodgers in the house, or the head of a partnership family as typified by two or more persons clubbing together to rent an apartment. In the last case one member of the group is listed as head of the household and the others as lodgers.

Median and Sextile Ages of the Heads of the Various Classes of Private Families.—Statement XLVI gives the median ages of the heads of private families. It is interesting to note from the first line that heads of normal families are considerably younger than the heads of all private families and much younger than the heads of 1-person families. One-half the heads of 1-person families are over 51·65 years of age and, bearing in mind the types of 1-person families enumerated in the previous paragraph, it is easily seen that the predominating type of head is the elderly person whose mate has died and whose children have left home. Family heads are youngest in the cities of 30,000 and oldest in the country villages.

XLVI.—MEDIAN AGES OF HEADS OF PRIVATE FAMILIES, RURAL AND URBAN BY SIZE GROUPS, CANADA, 1931.

Locality	Median Age		
	All Private Families	Normal Families	One-Person Families
Total..	45·75	43·92	51·65
Urban over 30,000..	44·59	42·95	49·67
Urban 1,000-30,000..	45·90	43·70	1
Rural...	46·35	44·61	50·10
Urban under 1,000..	48·07	45·69	1

¹Over 55; age grouping in census does not permit calculation.

Since the median age is simply the middle point of the array, *i.e.*, one-half the heads are younger and the other half older, it is a very simple and satisfactory form of average, of use in comparing the ages of one group with another. But it is very important to know how the ages are distributed about the median, whether they are concentrated around it so that it is a very typical age or spread out evenly over a wide interval. That is, a measure of dispersion about the median is required.

XLVII.—SEXTILE AGES OF HEADS OF PRIVATE FAMILIES, CANADA, 1931

Class of Head	First Sextile	Second Sextile	Median	Fourth Sextile	Dispersion about the Median
	years	years	years	years	years
All heads..	31·77	39·10	45·75	52·94	6·92
Male heads living with their wives....................	31·13	37·94	43·92	50·77	6·42
Heads of one-person families.........................	32·19	42·62	51·65	1	–

¹Over 55; age grouping in census does not permit calculation.

Statement XLVII gives the ages of heads of private families by sextiles. The sextiles may be defined in this way: one-sixth of the heads are younger than the first sextile, two-s xths younger than the second, one-half younger than the third which is, of course, the same thing as the median, etc. Unfortunately the census compiles all families with heads over 55 in one group so that one can tell nothing of the age distribution of the heads above this age. The fifth sextile almost invariably comes above 55 as does, in some cases, the fourth, median, and even the second. To avoid this difficulty a study will be made of the age distribution of married males which is similar to that for heads of normal families since the vast majority of married males are living with their wives.

Concentration of Ages about the Median.—Where the fourth sextile is below 55 a fairly good measure of the dispersion about the median age may be obtained by dividing the interval between the second and fourth sextiles by 2. The result is more significant when it is regarded as an inverse measurement of the concentration about the median, a small dispersion being interpreted as indicating a high degree of concentration. Referring again to Statement XLVII, it is obvious that the ages of heads of normal families are concentrated more closely about the median than are those of heads of all classes of families, a fact to be anticipated since all private families include many elderly widowed heads.

XLVIII.—SEXTILE AGES OF HEADS OF NORMAL FAMILIES, RURAL AND URBAN, CANADA, 1931

Locality	Median	First Sextile	Second Sextile	Fourth Sextile	Dispersion (s)	Skewness¹
	years	years	years	years	years	years
Total..	43·92	31·13	37·94	50·77	6·42	0·136
Rural..	44·61	31·39	38·39	51·72	6·67	0·136
Urban over 30,000...........................	42·95	30·78	37·32	49·31	6·00	0·122
Urban 1,000-30,000..........................	43·70	30·91	37·72	50·59	6·44	0·142
Urban under 1,000..........................	45·69	32·42	39·37	52·95	6·79	0·138

¹Skewness is obtained from the formula $\dfrac{(S_4 - S_3) - (S_3 - S_2)}{s}$ where S_2, S_3, S_4 represent the second, third and fourth sextiles.

Statement XLVIII deals only with heads of normal families. The youngest heads are those living in the large cities and their ages are most concentrated about the median. This concentration might be attributed merely to the fact that the median is closer to the lower age limit for family responsibilities but this explanation would be inadequate since the positive skewness, which measures the extent to which the ages above the median are spread out as compared with those below, is less than for any of the other groups. It is apparent that a higher proportion of the heads of private families are middle-aged in the cities with population over 30,000 than in the smaller places and rural districts.

Life History of the Average Family Head.—According to Statement XLIX only a small percentage of Canadian males between the ages of 20 and 25 are married. This, however, does not imply that few marry before reaching the end of the age interval and graduation of the vital statistics relating to marriages for the three-year period 1930-32 has revealed that 35·1 p.c. of Canadian males are married at the exact age of 25.*, The median age of grooms, which should not be influenced to any appreciable extent by second marriages, was 26·7 years in 1931 and

*See *Memorandum re the Earning Power of Canadian Male and Female Workers, by Ages.* Dominion Bureau of Statistics, 1934.

XLIX.—PERCENTAGE DISTRIBUTION OF MALES 20 YEARS OF AGE AND OVER, BY CONJUGAL CONDITION AND AGE GROUP, CANADA, 1931

Age Group	Percentage of Males 20 Years and over					
	All Classes	Single	Married		Widowed	Divorced
			Living with Wife	Wife Absent		
Total......................................	100·00	31·32	58·24	5·63	4·68	0·13
20–24.....................................	100·00	85·66	12·68	1·55	0·10	0·01
25–34.....................................	100·00	41·28	52·34	5·61	0·68	0·09
35–44.....................................	100·00	17·60	73·50	6·68	2·06	0·16
45–54.....................................	100·00	13·66	74·90	6·81	4·44	0·19
55 and over..............................	100·00	11·48	66·77	5·80	15·79	0·16

this would seem to be the age at which the average Canadian married man first assumes family responsibilities. Those who do so before marriage comprise a small group since, of the 84,016 heads of private families under 25 years of age, 60,390 or 71·9 p.c. were married and living with their wives. Of the remaining 23,626, 16,127 were 1-person families so that they were without dependents. It is interesting that 5,383 of these lived in the rural parts of the Prairie Provinces.

There is a considerable percentage of single males for each age group while widowed males are common only to the group 55 and over. Divorced males form a small proportion at all ages possibly because divorcés re-marry. It is surprising, however, to note the percentages of males who are married but not living with their wives. The number of these in 1931 may be estimated quite accurately at 176,671, i.e., they formed a population in excess of the combined populations of the cities of Ottawa and Hull. Some will be legally separated from their wives or living apart due to incompatibility, but it is evident from Statement L that they are in the minority.

L.—MARRIED MALES SHOWING PERCENTAGE DISTRIBUTION OF THOSE NOT LIVING WITH THEIR WIVES, BY BROAD BIRTHPLACE GROUPS, CANADA, 1931

Birthplace Group	Married Males				
	Total	Living with Wife	Not Living with Wife		P.C. of Those not Living with Wife
			No.	P.C.	
Total...	2,033,776	1,857,105	176,671	8·69	100·00
Canada...	1,240,108	1,176,374	63,734	5·14	36·07
British Isles and Possessions...........................	398,088	372,668	25,420	6·39	14·39
United States..	93,161	86,821	6,340	6·81	3·59
Europe...	266,795	213,302	53,493	20·05	30·28
Other countries..	35,624	7,940	27,684	77·71	15·67

Of the married males not living with their wives, 30·28 p.c. were born in Europe and 15·67 p.c. were born in "other countries." The latter were largely Chinese and Japanese and the immigration restrictions against the entry of oriental women account for their leaving their wives at home.

LI.—PERSONS AND CHILDREN PER FAMILY OF TWO OR MORE PERSONS, BY AGE OF HEAD, COMPARED WITH AVERAGE EARNINGS AND WEEKS EMPLOYED PER MALE WAGE-EARNER, BY AGE GROUP, CANADA, 1931

Age Group	Average per Family with Head in Age Group		Average Earnings		Average Number of Weeks Employed per Male Wage-Earner
	Persons	Children	Per Male Wage-Earner	Per Person in Family	
			$	.$	
Under 25...	2·76	0·80	613	222	40·31
25–34..	3·74	1·74	900	241	41·19
35–44..	4·90	2·91	1,170	239	42·28
45–54..	4·92	2·97	1,202	244	41·53
55 and over..	3·48	1·59	1,013	291	38·36

It was remarked in Chapter III that the census data relating family attributes to age of head are very inadequate. Earnings of heads of families by age groups are not available and in the above statement average earnings and average number of weeks employed apply to all male wage-earners. The averages given are, consequently, very crude and it is impossible to attach much significance to them. It appears that the family head bears his maximum responsibility for dependents around the age of 45 and also that he reaches his maximum earnings then and is least liable to unemployment. Variance in average number of weeks employed with age may indicate reluctance on the part of employers to lay off married men with families. Now the average earnings per person seems to remain fairly constant with age of head indicating that earnings keep pace with family responsibilities but this holds only on the assumption that average earnings for heads of families in each age group approximate average earnings for all men. This assumption cannot be made since it is probable that young heads of families have much better average earnings than all males at the same ages while average earnings for middle-aged heads of families scarcely exceed those for all middle-aged males. It is probable, therefore, that earnings per person are lowest when the family is largest, i.e., earnings do not keep pace with dependents. Lack of flexibility in income with increasing family responsibilities among the wage-earning class is undoubtedly one of the major causes of our declining birth rate. In this connection it is significant that wage-earners have smaller average families than employers and "own accounts."

In summary, the hypothetical average family head marries at about the age of 27. After marriage his family responsibilities and earnings increase steadily but his earnings fail to keep pace with the number of his dependents. The age of maximum family responsibility which roughly coincides with the age of maximum earning power is somewhat above 45. After this age family responsibility declines more quickly than earnings so that it is generally the most comfortable period.

An Age Index for Married Males.—It is evident that averages for various family attributes for different groups of families will be influenced considerably by the age distribution of the family heads. For instance, where the percentage of heads between the ages of 35 and 54 is high, we would expect the average family earnings to be high since a relatively large proportion of the family heads are at the climax of their economic efficiency. Age indices were calculated for married males rather than for family heads since the census compilations provide a finer division of ages for the former. An investigation revealed that the age distribution of all married males differs very little from that for married male heads of families. On the assumption that the age distribution for all Canadian married males fitted a skew-normal curve the following averages were obtained:—

	Years
Average age of married males	45·29
Median age of married males	44·17
Modal age of married males	41·93

These averages are undoubtedly very close to those for married male heads of families.

To derive an index descriptive of the age distribution of the married males, the ratio $\dfrac{m_3}{m_1 + m_5}$ was used, where m_3 = number of married males 35–54; m_1 = number of married males under 25; m_5 = number of married males over 65.

To obtain the ratio in an index form it was referred to the similar ratio derived from the probable age distribution of married males which would result from the mortality and marriage rates of 1931. The latter corresponds to the ratio for a stationary population. This index measures the percentage of family heads between the ages of 35 and 54 as opposed to the percentage who are comparatively young and comparatively old, or the percentage of heads of the fittest ages as opposed to the percentage of the least fit. The 25–34 and 55–64 age groups have been purposely omitted since they may be regarded as intermediate ages. Statement LII gives the indices so worked for provinces, rural and urban.

Common experience would lead one to expect the index to be highest for the urban-over-30,000 group and lowest for the urban-under-1,000 group since small villages usually contain a large number of families comprised of elderly persons. That the rural index is small when com-

LII.—AGE INDEX FOR MARRIED MALES, CANADA AND PROVINCES, 1931

Province	Urban over 30,000	Urban 1,000-30,000	Urban under 1,000	Rural
CANADA.	237	173	137	155
Prince Edward Island	–	101	118	90
Nova Scotia	1	152	105	92
New Brunswick	1	149	142	116
Quebec	1	180	102	134
Ontario	1	156	82	137
Manitoba	1	211	89	190
Saskatchewan	1	289	238	237
Alberta	1	267	272	240
British Columbia	1	253	203	210

All-Canada index 178.
[1]Given by individual cities, see Statement LIII.

pared with that for the towns and cities illustrates the tendency for men to leave the country and find work in the cities at the ages when they are best fitted for employment. Accordingly, although the age distribution of Canadian married males is such that it is extremely favourable to high fertility and a large number of children per family, the advantage is partially offset by the concentration of those at the most favourable ages in the large cities where their reproductive powers seem to decrease.

Population Growth and the Age Distribution of Married Males.—Statement LIII gives the age index for the cities over 30,000. It is apparent that the city's rate of growth has a bearing on the age index. The coefficient of correlation between age index and population increase is 0·64. The actual size of the city seems to have little to do with the index except

LIII.—AGE INDEX, 1931, AND POPULATION INCREASE[1], 1921-1931, CITIES OF 30,000 AND OVER

City	Age Index	Population Increase	Rank in Age Index	Rank in Population Increase
CITIES WITH INDEX GREATER THAN CANADA				
Saskatoon	331	40·54	1	2
Regina	329	35·29	2	5
Calgary	312	24·42	3	12
Edmonton	293	25·73	4	10
Vancouver	289	33·81	5	7
Winnipeg	281	18·14	6	12
Windsor	259	38·85	7	3
Verdun	259	58·84	8	1
Montreal	253	24·44	9	11
Toronto	224	17·32	10	14
Trois-Rivières	216	36·91	11	4
Hamilton	215	26·61	12	9
Quebec	193	27·11	13	8
Ottawa	186	15·06	14	15
CITIES WITH INDEX LESS THAN CANADA				
Kitchener	173	29·32	15	6
Halifax	167	1·53	16	18
Victoria	166	0·91	17	19
Brantford	165	2·22	18	17
London	160	14·32	19	16
Saint John	156	0·73	20	20

[1]Increase 1921-31 expressed as percentage of 1931 population.

in so far as the very large cities have all been increasing in population. Fourteen of the cities, includi* all the cities with populations over 100,000 and, therefore, the great bulk of the urban-over-3ʋ, .00 population, have indices greater than that for Canada. These cities augmented their populations considerably during the ten-year period 1921-31, each having an increase of over 15 p.c., while only one of the six cities with age index less than that for all Canada had a percentage increase of over 15. It is evident that the age distribution of the married males in the cities of over 30,000 population is concomitant to their growth and that any smaller city, town or village growing at the same rate might have a similar distribution. This fact was borne out in Statement LII where it was seen that the age index for the married males for the rural parts of the provinces of Saskatchewan, Alberta and British Columbia was well over 200, comparable with that for the large industrial centres of the East and much higher than the index for the cities with a relatively stationary population. The families of the large Canadian cities are,

therefore, unusual in the respect that an abnormally high proportion have middle-aged heads and a very low proportion have elderly heads.

The implications involved in this observation are: first, the ages of the family heads in the cities of 30,000 and over are concentrated in the ages of maximum economic efficiency due to the fact that these cities have been augmenting their population by importing workers at the fittest ages. As the populations of the cities become constant, the age distribution of the married males will approach that for the small villages and rural districts in 1931. There will, consequently, be a higher proportion of family heads over 65 in the big cities who must be supported by old age pensions, etc., from taxes payable by a smaller proportion of family heads under 65. On the other hand, there will be a smaller percentage of family heads at the ages when their demands for employment are keenest. Secondly, it is evident that, if the cities are to deplete the small towns and rural districts of their middle-aged populations, the latter may not feel called upon to bear the entire burden of supporting the retired people who remain. From this angle the argument that old age pensions are a charge to be borne by the provinces or the Dominion and not by the municipalities is strengthened. Thirdly, the average earnings for city families must undoubtedly be given a considerable upward bias due to the fact that the age distribution of the heads is favourable to high earnings. Fourthly, since a high proportion of the heads of families for the cities of 30,000 and over are at the age when they assume maximum family responsibilities, one might expect the average size of the urban-over-30,000 family to be large. This, of course, is not the case. The difference in the average size of the rural and urban families thus becomes more significant when it is remembered that the age distribution of the heads is more favourable to a high average size in the large cities than in the small towns and rural districts. Using data for forty-seven localities, viz., the twenty individual cities of 30,000 and over and the three remaining rural and urban divisions of the nine provinces, a correlation ($r = \cdot 77$) was found between our age index and floating population as measured by the percentage of the population born outside the province. Furthermore, there is a negative correlation ($r = - \cdot 63$) between average size of families* with heads 35–54 and floating population so that, although a large floating population provides a locality with a high proportion of married males at the ages when their families are largest, it actually reduces the average size of the family because its families are characteristically small. The following test has been carried out to ensure that the last-mentioned correlation is not due merely to a simultaneous correlation between size of family and size of city since large cities have large floating populations.

The Influence of Floating Population on Family Size.—Statement LIV compares average size of families with heads 35–54 (excluding 1-person families) with floating population for cities of similar size.

*For all private families except 1-person families.

LIV.—AVERAGE SIZE OF FAMILIES[1] WITH HEADS 35-54 YEARS OF AGE AND FLOATING POPULA-
TION, CITIES OF 30,000 AND OVER, 1931

City	(1) Average Size of Family	(2) Rank	(3) P.C. of Population Born outside Province	(4) Rank (inverted)	(5) Difference in Rank
(A) Cities over 100,000—					
Quebec	5·75	1	3·85	1	–
Montreal	4·82	2	22·38	2	–
Ottawa	4·48	3	32·07	3	–
Winnipeg	4·21	4	57·71	6	2
Hamilton	4·12	5	41·65	4	1
Toronto	3·96	6	41·02	5	1
Vancouver	3·84	7	71·33	7	–
(B) Cities 50,000-100,000—					
Verdun	4·59	1	36·78	3	2
Halifax	4·56	2	19·06	1	1
Regina	4·29	3	59·72	5	2
Edmonton	4·24	4	64·43	6	2
Windsor	4·16	5	39·66	4	1
Calgary	4·02	6	68·21	7	1
London	4·01	7	28·36	2	5
(C) Cities 30,000-50,000—					
Trois-Rivières	5·93	1	5·95	1	–
Saint John	4·48	2	17·56	2	–
Kitchener	4·41	3	23·35	3	–
Saskatoon	4·31	4	63·62	5	1
Brantford	4·19	5	31·53	4	1
Victoria	3·86	6	65·91	6	–

Rank correlations—Group A, ·89; Group B, ·29; Group C, ·94.
[1]Of two or more persons.

Since the cities in each of the groups (A), (B) and (C) do not vary greatly in size as between themselves, the influence of such size on the average size of their families may be disregarded when the groups are studied separately. Comparison of columns 2 and 4 shows that the larger the percentage of the population born outside the province in which the city is situated the smaller the average size of the family. London, Ont., is the only city which is notably an exception to the rule. It appears safe to conclude that the negative correlation between average size of family and floating population is not merely due to a simultaneous correlation between average size of family and size of city.

LV.—AVERAGE SIZE OF FAMILIES[1] WITH HEADS 35-54 YEARS OF AGE AND FLOATING POPULA-
TION, RURAL AND URBAN, CANADA, BY PROVINCES, 1931

Province	Persons per Family	Rank	P.C. of Population Born outside Province	Rank (inverted)	Difference in Rank
RURAL					
Prince Edward Island	5·32	5	4·59	2	3
Nova Scotia	5·28	6	6·18	3	3
New Brunswick	5·87	2	9·37	4	2
Quebec	6·90	1	3·28	1	-
Ontario	4·71	8	20·11	5	3
Manitoba	5·35	4	39·76	6	2
Saskatchewan	5·57	3	48·96	7	4
Alberta	5·17	7	56·15	8	1
British Columbia	4·22	9	62·95	9	-
Rank correlation	-	-	-	-	·57
URBAN 1,000-30,000					
Prince Edward Island	4·88	4	10·25	1	3
Nova Scotia	5·15	2	17·15	4	2
New Brunswick	4·98	3	16·74	3	-
Quebec	5·70	1	12·00	2	1
Ontario	4·38	8	27·13	5	3
Manitoba	4·73	5	49·60	6	1
Saskatchewan	4·56	6	59·05	7	1
Alberta	4·51	7	60·07	8	1
British Columbia	4·18	9	64·95	9	-
Rank correlation	-	-	-	-	·78
URBAN UNDER 1,000					
Prince Edward Island	4·79	4	10·87	3	1
Nova Scotia	4·84	3	6·87	2	1
New Brunswick	4·88	2	13·85	4	2
Quebec	5·78	1	6·38	1	-
Ontario	4·38	8	14·68	5	3
Manitoba	4·76	5	45·36	6	1
Saskatchewan	4·76	6	55·74	7	1
Alberta	4·53	7	58·90	8	1
British Columbia	4·19	9	65·38	9	-
Rank correlation	-	-	-	-	·85

[1]Of two or more persons.

Statement LV continues the comparison of average size of family with floating population. Rural Manitoba and Saskatchewan with large floating populations when compared with Ontario have also considerably larger average families. The small average size of the Ontario rural family and the large size of the Saskatchewan rural family are striking departures from the rule that family size varies inversely as the floating population and must be characteristic of other features of their populations, probably racial content and the presence or absence of very large families.

The Multiple Correlation of Family Size with Floating Population and Age Index of Married Males.—Two of the factors which determine the average size of the private family in a given locality have been isolated, viz., age distribution of married males and percentage of population born outside the province. The first may be taken as an approximation to the age distribution of the married male heads of families and the second as the measurement of the floating population. The simple correlation of average size of normal private families is — ·32 with age index of married males, and — ·57 with floating population. The multiple regression

equation relating these three factors is $Z = 4 \cdot 064 + 0 \cdot 0021 X - 0 \cdot 0169Y$, where Z represents the average size of the normal family, X the age index of married males, and Y the floating population.

The square of the multiple correlation between family size and the two factors is $R^2 = \cdot 37$, indicating that they account for 37 p.c. of the variance in average family size. The correlations given in this section may all be considered significant since they were worked for forty-seven localities, *viz.*, the twenty individual cities of 30,000 and over and the remaining three rural and urban divisions of the nine provinces.

Summary of correlations:—

Age index and population increase 1921-31 for 20 cities $= \cdot 64$.

Age index and floating population* $= \cdot 77$.

Average size of normal families and age index* $= \cdot 32$.

Average size of normal families and floating population* $= - \cdot 57$.

Average size of families with heads 35-54 and floating population* $= - \cdot 63$.

Multiple correlation of average size of normal families with age index and floating population* $= \cdot 61$.

Children per Family by Age of Head.—We have been devoting our attention to the age distribution of heads of families in various regions and its bearing on the average size of family. The changes in the composition of the average family as its head grows older will now be considered.

LVI.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF 175 RURAL-URBAN GROUPS ACCORDING TO INTERVALS OF AVERAGE FAMILY SIZE (FAMILIES OF TWO OR MORE PERSONS) IN RELATION TO AGE OF FAMILY HEAD, CANADA, 1931

Average Family Size Group	Age Group					
	Under 25	25-34	35-44	45-54	55 and over	Total
2·3-2·4	1					1
2·5-2·6	9					9
2·7-2·8	21				1	22
2·9-3·0	4				3	7
3·1-3·2		5			11	16
3·3-3·4		1			9	10
3·5-3·6		14			4	18
3·7-3·8		7	1	1	4	13
3·9-4·0		4	2	2	2	10
4·1-4·2		2	3	4	1	10
4·3-4·4		1	3	5		9
4·5-4·6		1	7	5		13
4·7-4·8			4	6		10
4·9-5·0			4	2		6
5·1-5·2			5	3		8
5·3-5·4			2	2		4
5·5-5·6			1	2		3
5·7-5·8			2	2		4
5·9-6·0						
6·1-6·2						
6·3-6·4						
6·5-6·6						
6·7-6·8			1			1
6·9-7·0				1		1
Total	35	35	35	35	35	175
Mean size for columns	2·76	3·74	4·90	4·92	3·48	

The average sizes of families with heads in five age groups for the rural and urban parts of the nine provinces are given in Table 8, Part II, page 206. The above scatter diagram has been constructed from these averages. Differences in the average number of children account for the wide dispersion in the average sizes of families with middle-aged heads. Since the number

*For 47 cases.

of children is necessarily limited in families with heads under 25 or over 55, the dispersion in the averages for these groups is very small. The diagram shows in a striking manner the large average size of the family of the rural Quebecer, 6·82 for families with heads 35-44 years of age and 6·98 for families with heads 45-54.

LVII.—PERSONS PER PRIVATE FAMILY OF TWO OR MORE PERSONS, BY AGE OF HEAD, RURAL AND URBAN, CANADA, 1931

Age of Head	Average Size of Family			
	Rural	Urban over 30,000	Urban 1,000-30,000	Urban under 1,000
Under 25	2·81	2·67	2·80	2·77
25-34	3·97	3·41	3·75	3·84
35-44	5·37	4·32	4·83	4·99
45-54	5·41	4·37	4·80	4·83
55 and over	3·66	3·34	3·32	3·12

The rural family is largest for every age group and the urban-over-30,000 family is smallest except for heads 55 and over, when it is larger than for the other urban groups. This is probably because more children were staying at home in the large cities than in the smaller cities and towns. The influence on the size of the family of children leaving home may be observed more readily from an examination of Statement LVIII.

LVIII.—AVERAGE NUMBER OF CHILDREN PER FAMILY OF TWO OR MORE PERSONS, BY AGE OF HEAD, RURAL AND URBAN, CANADA, 1931

Age of Head	Children per Family			
	Rural	Urban over 30,000	Urban 1,000-30,000	Urban under 1,000
Under 25	0·84	0·71	0·84	0·83
25-34	1·96	1·42	1·76	1·85
35-44	3·36	2·36	2·85	3·02
45-54	3·42	2·46	2·86	2·88
55 and over	1·74	1·53	1·44	1·21

The fact that *middle-aged* parents living in small cities and towns have more children living at home than those in the cities over 30,000 while the reverse is true of the older parents provides conclusive evidence that children are staying at home longer in the large places than in the small. To compare the rural families with the urban is more difficult. The number of children at home in families with heads over 55 is larger than for any of the urban groups but the original family is much larger to begin with. It is interesting to express the average number of children for families with heads over 55 as a percentage of the average for families with heads 35-44. · It would appear from Statement LIX that children stay at home longest in the cities over 30,000, to about the same extent in the rural and the urban-1,000-30,000 districts, and leave home earliest in the small villages. Since these percentages provide the best means available for comparing, from group to group, the extent to which children stay at home they are given by provinces.

LIX.—AVERAGE NUMBER OF CHILDREN IN FAMILIES WITH HEADS 55 YEARS OF AGE AND OVER AS PERCENTAGE OF AVERAGE FOR FAMILIES WITH HEADS 35-44 YEARS OF AGE, CANADA AND PROVINCES, 1931

Province	Rural	Urban over 30,000	Urban 1,000-30,000	Urban under 1,000
CANADA	52	65	51	40
Prince Edward Island	50	–	52	45
Nova Scotia	48	61	52	45
New Brunswick	47	57	52	43
Quebec	46	68	52	36
Ontario	51	62	47	36
Manitoba	61	74	54	46
Saskatchewan	61	66	54	43
Alberta	61	65	54	50
British Columbia	54	64	59	48

There is probably a high correlation between the percentages given in the above statement and the opportunities for employment, higher education, etc., which the localities afford young people. It would be difficult to express the latter quantitatively or even to rank the localities according to their opportunities. It is obvious, however, that the percentages are high through-out Canada in the cities of over 30,000, while they are consistently low in the small villages, particularly those in Quebec and Ontario where there would be little employment for young persons. ` The glamour of the large city, particularly attractive to those just past childhood, undoubtedly lures many young people away from their village homes. The rural families seem to keep a fairly large proportion of their children at home, probably because of the employment available on the home farm.

It must, of course, be borne in mind that these observations were made under 1931 conditions when the economic depression, then at its height, would certainly disturb the normal manner in which children were leaving home either to seek employment elsewhere or to set up a home of their own. It is quite possible that, had 1931 been a good year, the observations would have been considerably altered. For example, there might be fewer children staying on the farm and a large number of children in the larger cities, though not leaving the city, might be marrying and establishing separate homes. The family data available from the Census of 1921 are insufficient to afford comparison, and in any case 1921 was also a depression year.

One-Person Families.—It was noted at the beginning of the chapter that considerable light was cast by their age distribution on the identity of persons comprising 1-person families. Statement XLVI shows that their median age is much older for both rural and urban parts than that for heads of families of all types.

LX.—COMPARISON OF SEXTILE AGES FOR HEADS OF ONE-PERSON PRIVATE FAMILIES WITH SEXTILE AGES OF HEADS OF ALL TYPES OF PRIVATE FAMILIES, RURAL AND URBAN BY SIZE GROUPS, CANADA, 1931

Sextile	Rural		Urban over 30,000		Urban 1,000-30,000		Urban under 1,000	
	One-Person Families	All Families	One-Person Families	All Families	One-Person Families	All Families	One-Person Families	All Families
1st......................	30·84	31·78	32·34	31·53	37·63	31·87	33·65	33·14
2nd......................	40·91	39·36	41·44	38·49	49·37	39·21	46·14	40·77
Median...................	50·10	46·35	49·67	44·59	1	45·90	1	48·07
4th......................	1	53·72	1	51·36	1	53·20	1	1

¹ Over 55; age grouping in census does not permit calculation.

Statement LX brings out the interesting observation that the differences between the first sextiles are small, although the median ages of persons who are heads of 1-person families are consistently much older than that for heads of all families. In fact, the first sextile for rural heads of 1-person families is under that for rural heads of all private families, reflecting a con-siderable number of young bachelor farmers, particularly in the Prairie Provinces. It has already been inferred that older persons, left alone by the death of their mate and by their children leaving home, are the predominating type among the 1-person families. To these might be added the young bachelor farmers preparing a home for a prospective family. The majority of 1-person families as they are compiled by the census are, consequently, not the antithesis of the normal family but generally represent first or last stages in its cycle of evolution and disinte-gration.

LXI.—PERCENTAGE DISTRIBUTION OF PRIVATE FAMILIES OF ONE PERSON, RURAL AND URBAN BY SIZE GROUPS, CANADA, 1931

With Heads of Given Ages	Canada	Rural	Urban		
			Over 30,000	1,000-30,000	Under 1,000
All ages...	100·0	52·8	24·3	16·7	6·2
Under 25...	6·0	3·7	1·3	0·6	0·4
25–34..	14·9	8·7	3·8	1·6	0·8
35–44..	16·4	8·8	4·7	2·1	0·8
45–54..	19·2	10·2	5·1	2·9	1·0
Over 55..	43·6	21·4	9·5	9·5	3·2

This inference is further substantiated by an examination of Statement LXI. Over one-half the 1-person families are found in the rural districts and only 24·3 p.c. in the urban-over-30,000 group, a small proportion considering the population. That a large proportion of the 1-person families are found in the rural districts is partly a result of unfavourable conditions for marriage there. It appears that the Canadian who avoids family responsibilities does so by necessity rather than by choice.

Bachelor Families.—To-day the question arises of whether an increasing tendency to avoid marriage and the ensuing responsibilities is noticeable among young persons in the metropolitan centres. It is said that many young women prefer living by themselves or with one or two others in flats and apartments where they may enjoy most of the comforts of home without any responsibilities. What statistics are provided by the census with regard to this interesting movement? As has already been stated, partnership families are classed as 1-person families, one partner being considered as a head and the others as lodgers. Consequently, 1-person families should include most of the "bachelor girls" though they also include many other heterogeneous types of families. Assuming that 75 p.c. of the 1-person families with heads 25-54 years of age are of the above type, we find there were 27,620 in 1931. If these were, on the average, comprised of 2 persons, they would represent a population of 55,240, or 4·24 p.c. of the total urban-over-30,000 population between the ages of 25 and 54, 1,303,965. The conjugal condition of urban-over-30,000 population, 25-54* years of age in 1931 was: married, 950,650; single, widowed or divorced, 349,534.

Of 349,534 unmarried persons between the ages of 25 and 54, it is estimated that only 15·8 p.c. live in bachelor apartments. Of the remainder some, though unmarried, are members of or support private families, some are inmates of institutions, some are lodgers, etc. It has already been found that the vast majority of Canadian lodgers prefer to lodge in the type of household where they may enjoy home privileges to the fullest extent.

One-Person Households.—Of 1-person families, 59·2 p.c. consist of persons living by themselves; the heads of the remaining 40·8 p.c. live with servants and lodgers. The percentage living by themselves is very high in the urban-under-1,000 group and since, according to Statement LXI, 3·2 out of 6 of the heads of village 1-person families are over 55, the high percentage is easily accounted for; there must be a large number of elderly persons living by themselves in small villages.

LXII.—PERCENTAGES OF ONE-PERSON FAMILIES COMPRISED OF PERSONS LIVING ALONE, RURAL AND URBAN BY SIZE GROUPS, CANADA AND PROVINCES, 1931

Locality	Canada[1]	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
All classes....................	59·2	59·6	56·6	53·9	51·8	54·3	58·2	68·2	69·6	64·5
Rural......................	65·7	63·4	61·5	58·1	62·0	61·6	63·2	69·7	72·4	68·4
Urban—										
Over 30,000..............	46·9	–	38·4	45·5	44·4	41·9	45·3	53·9	60·1	57·1
1,000-30,000.............	54·0	43·5	50·7	45·8	46·7	53·3	56·6	67·5	61·6	62·3
Under 1,000.............	66·2	50·0	55·8	56·6	59·2	67·3	69·4	67·9	67·8	71·9

[1]Exclusive of Yukon and Northwest Territories.

In summary, there are 270,312 Canadian heads of 1-person families. Of these, 161,850 or 3·19 p.c. of the population over 29 years of age live alone. It has been found that these are, for the most part, persons over 55 whose families have disintegrated and persons living in rural districts where conditions are unfavourable to marriage and the maintenance of a family is difficult. These people are not avoiding family responsibilities by choice but through necessity.

*Excluding those whose conjugal condition was not stated.

Illiteracy.—In the census monograph entitled *Illiteracy and School Attendance*, by Mr. M. C. MacLean, the illiteracy of family heads is dealt with very thoroughly. Some of the most important conclusions so far as they affect the family are repeated here.

(1) The ages of their children would indicate that illiteracy is most common amongst older heads.

(2) Illiterates as a class show more children per family.

(3) There are smaller proportions of illiterates undertaking responsibilities for adult dependents.

(4) There are more evidences of illegitimacy amongst illiterates.

(5) Not only are the children of illiterate parents more illiterate than those of literate parents but the illiteracy of the children seems to be proportionate to the degree of illiteracy of the parents. Thus when both parents are illiterate the illiteracy of the children is more than twice as great as when only one parent is illiterate.

The proportion of normal families with at least one head illiterate has been declining. It was 6·5 p.c. in 1931. Obviously, the average size of the families of illiterates has had a small and steadily decreasing weight in determining the average size of all families. It follows that the decrease in illiteracy amongst family heads must be considered a factor of minor importance in explaining the decline in the average size of Canadian families.

GUARDIANSHIP CHILDREN AND ADULT DEPENDENTS

Composition of Average Family.—The average size of the Canadian private family consisting of 2 or more persons, 4·22 persons, may be subdivided as follows:—

```
Total....................................................    4·22
    Heads................................................    1·00
    Wives living with husbands...........................    0·86
    Own children.........................................    2·27
    Guardianship children................................    0·04
    Other dependents.....................................    0·05
```

Own children account for more than one-half the average size of the family and are largely responsible for any dispersion in the average sizes of different groups of families. This was strikingly illustrated by the scatter diagram of Chapter VI, Statement LVI, page 86, where a small dispersion was observed from group to group in the average sizes of families whose heads were under 25 or over 55 years of age, periods at which the numbers of their children were necessarily limited, and a large dispersion was observed in the sizes of families with heads between 35 and 54 years, periods at which they have the largest number of children living at home. On the other hand, dispersion in the average sizes of the families for different groups due to variations in the average number of wives living with their husbands is practically negligible since it may be seen in Statement LXIII that it varies very little.

LXIII.—AVERAGE NUMBER OF WIVES LIVING WITH THEIR HUSBANDS PER PRIVATE FAMILY OF TWO OR MORE PERSONS, RURAL AND URBAN BY SIZE GROUPS, CANADA, 1931

Age of Head	Total	Rural	Urban		
			Over 30,000	1,000-30,000	Under 1,000
All ages..	0·86	0·87	0·85	0·86	0·86
Under 25...	0·89	0·87	0·91	0·91	0·85
25-34..	0·94	0·94	0·94	0·94	0·93
35-44..	0·91	0·93	0·90	0·91	0·90
45-54..	0·86	0·88	0·84	0·86	0·86
55 and over..	0·76	0·78	0·72	0·75	0·78

The constancy in the proportion of private families of two or more persons with husband and wife living together as between rural and urban parts is very marked in each age group. It would seem that every type of community has virtually the same proportion of its families with husband and wife living together. Inversely, there can be no tendency for the families with unmarried heads to be confined largely to the large cities, small towns or rural districts, *i.e.*, they are equally numerous in country and city.

That a similar constancy in the proportion with husband and wife living together exists between families with native-born and foreign-born heads is evident from Statement LXIV.

LXIV.—AVERAGE NUMBER OF WIVES LIVING WITH THEIR HUSBANDS PER PRIVATE FAMILY OF TWO OR MORE PERSONS, BY AGE AND NATIVITY OF HEAD, CANADA, 1931

Age of Head	Nativity of Head					
	Total	Canadian-Born	British-Born	United States-Born	European-Born	Elsewhere-Born
All ages.....................................	0·86	0·85	0·87	0·88	0·90	0·88
Under 25....................................	0·89	0·89	0·91	0·87	0·89	0·75
25-34.......................................	0·94	0·94	0·94	0·93	0·96	0·94
35-44.......................................	0·91	0·91	0·92	0·91	0·94	0·91
45-54.......................................	0·86	0·85	0·88	0·87	0·88	0·86
55 and over.................................	0·76	0·74	0·77	0·79	0·81	0·80

The average is lowest for families with Canadian-born heads and highest for families with European-born heads. The averages would have been considerably changed, of course, if the 1-person families had not been omitted in their calculation.

Variation in Averages for Own Children, Guardianship Children and Adult Dependents.—The averages are so small in every case that they have little effect on the average size of the family but their variation with the size of the family may be significant. Do family heads without children of their own adopt children or shelter dependent relatives motivated by an instinctive desire to have about them a family of a certain typical size? The hypothesis that they do might be tested by compiling a table such as the following:—

Households with Given Number of Children	Number of Guardianship Children per Household	Number Other Dependents per Household	Number of Lodgers per Household
1 2 etc.			

The above table would tell us whether "persons other than own children" were found most frequently in families with a low quota of children and least frequently in families with a high quota. Unfortunately, it would obscure the influence of the ages of the heads of the families, always an important factor in any study of family attributes. As a result, we should have to limit the families to those in a fixed age interval and then we should know nothing of the families with heads outside the interval. With these difficulties in mind, it was decided that it would be best to limit the study to an analysis of the census compilations which were already available although not designed for the purposes of this investigation.

LXV.—DISPERSION IN AVERAGES PER FAMILY OF TWO OR MORE PERSONS FOR OWN CHILDREN, GUARDIANSHIP CHILDREN AND ADULT DEPENDENTS, BETWEEN AGE GROUPS OF HEADS AND BETWEEN PROVINCES, CANADA, 1931

Item	Dispersion					
	Own Children		Guardianship Children		Adult Dependents	
	(a) Age Groups	(b) Provinces	(a) Age Groups	(b) Provinces	(a) Age Groups	(b) Provinces
$\bar{x}$—unweighted mean of averages...........	1·97	2·19	0·041	0·045	0·042	0·051
σ—standard deviation of averages.........	0·86	0·38	0·022	0·019	0·016	0·026
$\sigma/\bar{x}$—coefficient of dispersion of the averages.	0·44	0·18	0·54	0·42	0·38	0·50

In Table 8, Part II, page 206, the averages per family of two or more persons for own children, guardianship children and adult dependents are given for five age groups of heads by the rural and urban parts of the nine provinces. In Statement LXV the dispersions in the averages (a) from age group to age group and (b) from province to province are given for the three classes of members of private families. In calculating both the age dispersions and the provincial dispersions, rural and urban-size-group averages were taken separately so that there were twenty age groups and thirty-five provincial groups.

Obviously, relative variability in the averages for the three classes of members of families is best measured by the coefficient of dispersion of the averages. As would be expected, the variation in the averages for own children per family is greater between age groups of heads than between provinces. This is also true of the variation in the averages per family for guardianship children although the difference in the coefficients is not so marked. In the case of adult dependents the provincial dispersion exceeds the age dispersion so that age of head does not appear to have so much to do with the presence in the family of adult dependents as with the presence of children. The age dispersions for the averages per family for own children, guardianship children and adult dependents differ very little but the provincial dispersion in the averages for own children is much less than that in the averages for guardianship children and adult dependents.

It appears that the averages for the last two classes vary considerably from province to province. Reference to Table 8, Part II, page 206, will reveal that guardianship children and adult dependents are much more numerous in families in the Maritime Provinces than in the other provinces.

Lodgers, Guardianship Children and Adult Dependents as Substitutes for Own Children.—It was seen in Chapter VI that the average family with middle-aged heads was larger than the average family with young heads and old heads due to the large number of children living at home. Now if there is a tendency for Canadian households to be of a typical size, say, from 3 to 5 persons, one would expect that the lack of own children in the families whose heads were under 25 or over 55 years of age should be partially compensated for by the keeping of lodgers, the presence of adult dependents and the adoption of guardianship children.

It is unfortunate that, since lodgers do not appear in the private-family tables of the 1931 Census, but only in the household tables, data with regard to them are very limited. In Chapter V the inadequacy of data was met by an intensive correlation analysis which indicates that lodgers were most generally found in households where accommodation is not limited, possibly because the family was small. Moreover, a simple negative correlation, $r = -\cdot27$, was found to exist between lodgers per household and children per household. There is, therefore, considerable statistical evidence that the smaller families most frequently take in lodgers.

LXVI.—NUMBER PER FAMILY OF TWO OR MORE PERSONS, OF PERSONS, OWN CHILDREN, GUARDIANSHIP CHILDREN AND ADULT DEPENDENTS, BY AGE OF HEAD, CANADA, 1931

Age of Head	Number per Family			
	Persons	Own Children	Guardian-ship Children	Adult Dependents
All ages	4·22	2·27	0·039	0·049
Under 25	2·76	0·80	0·048	0·026
25–34	3·74	1·74	0·023	0·034
35–44	4·90	2·91	0·023	0·050
45–54	4·92	2·97	0·034	0·054
55 and over	3·48	1·59	0·071	0·056

That the average number of guardianship children per family is largest for families with heads at the ages when the average number of children is smallest may be observed from Statement LXVI. It is significant that the family heads under 25 years of age support more guardianship children, on the average, than heads in any other age group except those over 55 who may adopt children, not because their family is small, though it will be small, but out of a sense of responsibility for orphaned grandchildren.

LXVII.—GUARDIANSHIP CHILDREN, BY TYPE OF GUARDIAN, CANADA, 1931

Relationship of Guardian	No. of Private Families with Guardian-ship Children	P.C. of Guardians of Given Type	No. of Guardian-ship Children	P.C. of Children with Guardian of Given Type	No. of Guardian-ship Children per Family with Guardian-ship Children
All types	67,952	100·00	84,108	100·00	1·24
Grandfather	16,552	24·36	21,356	25·39	1·29
Grandmother	5,782	8·51	7,551	8·98	1·31
Uncle	17,027	25·06	20,342	24·19	1·19
Aunt	2,906	4·28	3,660	4·35	1·26
Brother	4,045	5·95	5,540	6·59	1·37
Sister	889	1·31	1,321	1·57	1·49
Adopted	15,148	22·29	17,780	21·14	1·17
Other person	5,603	8·25	6,558	7·80	1·17

Examining Statement LXVII, we learn that 34·37 p.c. of the guardianship children living in private families are under the guardianship of grandparents whom it is safe to assume are practically all heads of private families and over 55 years of age. Consequently, of the 40,424 guardianship

children in private families with heads over 55 years of age, slightly less than 28,907 or 71·51 p.c. are under the supervision of their grandparents and of the 0·071 guardianship children per family with head 55 years of age and over nearly 0·050 are living with their grandparents. Thus there are little more than 0·021 guardianship children, other than the grandchildren of the head, per family with head over 55. It would, thus, be incorrect to take the data of Statement LXVI as proof that the heads of families in the oldest age group adopt children solely to make up for the deficiency in the number of own children. They do so largely out of a sense of responsibility for the care of orphaned grandchildren; nevertheless, the latter do help to fill the vacancies in the family caused by the head's own children leaving home. It is interesting to note from Statement LXVII that the number of guardianship children per family with guardianship children is highest when the guardians are brothers or sisters of the children, indicating that many of the guardians of this type assume the responsibilities of caring for an entire family. This may account for the large number of guardianship children per family with head under 25 years of age. However, only 8·16 p.c. of all guardianship children have brothers or sisters as guardians. On the other hand, of the guardians who adopt children, "other" types of guardians, have the lowest average number of guardianship children per guardian showing that they most usually shelter a single ward. In summary, guardianship children frequently fill the place of own children in families with heads under 25 or over 55 years of age, although the tendency for older heads to shelter guardianship children would appear to be due to a sense of responsibility for the welfare of their grandchildren rather than a desire to have a family about them.

What becomes of orphaned children and those whose parents are mentally or physically unable to support them and direct their development? Does the family then fail as a social organization and is its place more efficiently filled by the institution? The Census of Institutions lists for June 1, 1931, 338 institutions having under their care or supervision 41,782 dependent and neglected children. These institutions, however, are complementary rather than supplementary to the family in the provision of homes for such children.

Only 21,117 of the children mentioned above actually live in institutions and these include 1,687 in institutions for the blind and for the deaf and dumb. Since the latter comprise a special group, there are only 19,430 normal children permanently sheltered in institutions as compared with 84,108 guardianship children in private families. There are, consequently, 4·33 guardianship children living in private homes to every one in an institution. In addition, 59,770 or 71·06 p.c. of the guardianship children in private families are with relatives and 17,780 or 21·14 p.c. are adopted children. Only 6,558 or 7·80 p.c. have no ties with the family either by kinship or adoption. Although the institution is essential for the supervision and distribution of the care of homeless children, it does not generally provide a home for them. In fact, it would appear that, generally, orphaned children are cared for by grandparents, aunts, uncles, brothers and sisters without the intervention of the institutions.

The scatter diagram shown below describes the behaviour of the number of guardianship children per family with the age of the head for 35 divisions of the population of Canada, viz., the rural and three urban sections of the population of each of the nine provinces. The averages are generally higher and are more widely dispersed for families with heads in the two end age groups. The unweighted means of the averages for all 35 sections show the same trend with the age of the head as did the weighted averages appearing in Statement LXVI which establishes the trend as typical of all parts of Canada. That the averages act in the same way for families with both Canadian- and foreign-born heads is evident from Statement LXIX. Canadian-born heads of families have the largest average number of guardianship children dependent upon them, probably because they are supporting a greater number who are of their own kin.

LXVIII.—SCATTER DIAGRAM SHOWING VARIATION IN AVERAGE NUMBER OF GUARDIANSHIP CHILDREN PER PRIVATE FAMILY OF TWO OR MORE PERSONS WITH AGE OF HEAD, BETWEEN THE RURAL AND URBAN-BY-SIZE-GROUP PARTS OF THE PROVINCES, CANADA, 1931

Average Number of Guardianship Children per Family	Age of Head					
	Under 25	25-34	35-44	45-54	55 and over	Total
0·000-0·004	1					1
0·005-0·009						
0·010-0·014		1	3			4
0·015-0·019		9	8	3		20
0·020-0·024	1	7	10	4		22
0·025-0·029	5	7	3	5		20
0·030-0·034	4	4	1	8	1	18
0·035-0·039	2	2	3	1	1	9
0·040-0·044	6	2	5	2	1	16
0·045-0·049	1	2	2	4	3	12
0·050-0·054	3				3	6
0·055-0·059	2			3	1	6
0·060-0·064				1	2	3
0·065-0·069	1			1	3	5
0·070-0·074	2				5	7
0·075-0·079		1		2	2	5
0·080-0·084	2				2	4
0·085-0·089					3	3
0·090-0·094	1				1	2
0·095-0·099					1	1
0·100-0·104	2				1	3
0·105-0·109					1	1
0·110-0·114				1		1
0·115-0·119	1				1	2
0·120-0·124						
0·125-0·129					1	1
0·130-0·134					1	1
0·135-0·139						
0·140-0·144					1	1
0·145 and over	1					1
Total	35	35	35	35	35	175
Unweighted mean of averages	0·054	0·028	0·027	0·041	0·076	

LXIX.—GUARDIANSHIP CHILDREN PER FAMILY OF TWO OR MORE PERSONS, BY AGE AND NATIVITY OF HEAD, CANADA, 1931

Age Group of Head	Nativity of Head				
	Canadian-Born	British-Born	United States-Born	European-Born	Elsewhere-Born
All ages	0·046	0·025	0·037	0·025	0·026
Under 25	0·053	0·020	0·047	0·038	0·046
25-34	0·027	0·013	0·028	0·015	0·023
35-44	0·028	0·042	0·026	0·015	0·016
45-54	0·042	0·042	0·032	0·020	0·023
55 and over	0·078	0·050	0·072	0·054	0·055

Going back to Statement LXVI, other dependents are most numerous in families with middle-aged and older heads. There is very little variation in the average number of other dependents in families with heads in the three age groups over 35. Accordingly the relationship

LXX.—SCATTER DIAGRAM SHOWING VARIATION IN AVERAGE NUMBER OF ADULT DEPENDENTS PER PRIVATE FAMILY OF TWO OR MORE PERSONS WITH AGE OF HEAD, BETWEEN THE RURAL AND URBAN-BY-SIZE-GROUP PARTS OF THE PROVINCES, CANADA, 1931

Average Number of Adult Dependents per Family	Age of Head					
	Under 25	25–34	35–44	45–54	55 and over	Total
0·000–0·004	3					3
0·005–0·009	1					1
0·010–0·014	4					4
0·015–0·019	10	3				13
0·020–0·024	3	6	1	1	5	16
0·025–0·029	4	5	5	3	5	22
0·030–0·034	4	5	3	7	3	22
0·035–0·039	2	5	4	1	3	15
0·040–0·044	2	5	2	3		12
0·045–0·049	1		4	2	1	8
0·050–0·054			2	2	3	7
0·055–0·059		1	4	2	1	8
0·060–0·064			2	1	1	4
0·065–0·069		2	2	4	1	9
0·070–0·074				1	4	5
0·075–0·079			2	2	4	8
0·080–0·084						
0·085–0·089		1				1
0·090–0·094				2	1	3
0·095–0·099			1		1	2
0·100–0·104		1	1			2
0·105–0·109				1		1
0·110–0·114	1		1		1	3
0·115–0·119		1		1	1	3
0·120–0·124				1		1
0·125–0·129						
0·130–0·134						
0·135–0·139						
0·140–0·144						
0·145–0·149						
0·150–0·154						
0·155–0·159						
0·160–0·164						
0·165–0·169						
0·170–0·174						
0·175–0·180						
0·180–0·184			1	1		2
Total	35	35	35	35	35	175
Unweighted mean of averages	0·025	0·040	0·057	0·060	0·054	

existing between number of dependents in the family and age of head differs greatly from that existing between number of guardianship children and age of head. It is the family heads at the extreme ages who support guardianship children but it is the middle-aged and older heads who assume the burden of supporting adult dependents. In any event, as we have already deduced from Statement LXV, the age of the head is not the prime factor in determining the number of adult dependents in the family as it is in the case of children. This is further substantiated by an examination of the above scatter diagram similar to that constructed for guardianship children. The unweighted mean of the averages for the various groups of families with heads in each age group is largest for the families with heads between 45 and 54 years of age but, again, the differences in the means for the three older age groups are very small. There is no definite connection, between the number of adult dependents per family and the age of the head, except that the averages are generally slightly lower for families with heads 25-34 than for those with heads over 35 and considerably lower for families with heads under 25.

Bearing of Industrial Status of Family Head on Presence of Dependents.—The reluctance of the very young heads of families to undertake the support of adult dependents, despite the fact that their families are small, doubtless is the result of their financial status. That the family heads who most usually have adult dependents are those in the better occupational classes, in the economic sense, is evident from Statement LXXI.

LXXI.—AVERAGE NUMBERS OF GUARDIANSHIP CHILDREN AND ADULT DEPENDENTS IN NORMAL PRIVATE FAMILIES CLASSIFIED ACCORDING TO INDUSTRIAL STATUS OF HEAD, RURAL AND URBAN, CANADA, 1931

Industrial Status of Head	Guardianship Children per Family			Adult Dependents per Family		
	Total	Rural	Urban	Total	Rural	Urban
All classes	0·03	0·04	0·03	0·04	0·04	0·03
Employer	0·05	0·05	0·03	0·04	0·04	0·04
Own account	0·04	0·04	0·03	0·04	0·05	0·04
Wage-earner	0·03	0·03	0·02	0·03	0·03	0·03
No pay	0·01	0·01	–	0·01	0·01	–
Income	0·05	0·05	0·05	0·02	0·02	0·02
No occupation	0·05	0·06	0·04	0·02	0·02	0·02

Heads of families classed as employers and own-account workers have the largest average number of adult dependents, followed by wage-earning heads. The same order is observed in both the rural and urban families when they are separated. On the other hand, it is interesting to observe that heads of families living on income or with no occupation have a large average number of guardianship children living with them. It may be, however, that many of the guardianship children living in private families where the head has no occupation are there through the efforts of child-placing institutions and the money paid for their care provides a source of income for the family. In addition, many of the grandfathers whose grandchildren account for 25·39 p.c. of all guardianship children would probably live on income or have no occupation. The interesting thing is that, no matter in what way we subdivide the data, the families who are most likely to shelter adult dependents are quite different from those most likely to harbour guardianship children.

Dependents per Family and Earnings of Head.—This is further illustrated by the averages appearing in Statement LXXIII. The average number of guardianship children per family is largest for the families with married wage-earner heads whose annual earnings were from $50 to $449 and decreases almost steadily as we ascend the earnings scale. The high averages for the two upper earnings classes are not particularly significant since they include only a relatively small number of families. Despite their restricted income, the very poor families with heads earning less than $450 a year appear to most frequently take in orphaned and homeless

children.   Of the 26,039 guardianship children living in normal families with wage-earner heads, 5,973 or 22·94 p.c. are found in families whose heads earned less than $450 during the preceding year.   These families formed only 18·2 p.c. of the total number of families with heads stating earnings.

LXXII.—NUMBER OF PERSONS, OWN CHILDREN, GUARDIANSHIP CHILDREN AND ADULT DEPEN-
DENTS PER NORMAL FAMILY WITH WAGE-EARNER HEAD, BY EARNINGS
CLASS OF HEAD, CANADA, 1931

Earnings Class of Head	Average Number per Family			
	Persons	Own Children	Guardian-ship Children	Adult De-pendents
All classes	4·23	2·17	0·025	0·031
No earnings	4·00	1·95	0·024	0·021
$ 1-$ 49	4·03	1·97	0·033	0·023
50- 449	4·31	2·25	0·032	0·023
450- 949	4·38	2·32	0·027	0·026
950- 1,449	4·26	2·20	0·024	0·030
1,450- 1,949	4·13	2·07	0·022	0·036
1,950- 2,949	4·01	1·95	0·020	0·042
2,950- 3,949	3·93	1·87	0·018	0·049
3,950- 4,949	3·90	1·83	0·016	0·057
4,950- 5,949	3·95	1·87	0·016	0·063
5,950 and over	3·98	1·91	0·019	0·054

Are we to conclude that the poor are most charitable to the poor?   This might appear to be the obvious inference to be drawn from the given data but it cannot be made without qualifications.   For example, many of the guardians are grandfathers, uncles or older brothers and these are generally above or below middle age.   Consequently, they are not at the fittest ages in the economic sense and would be more liable to unemployment in a year of severe depression, such as 1930-31, than the average family head.   There would, therefore, be a tendency for guardians to be thrown into the low-earnings classes.   In addition, it will be seen that guardian-ship children are most numerous in localities where the earnings scale is low, i.e., outside the large cities.

LXXIII.—GUARDIANSHIP CHILDREN PER NORMAL FAMILY WITH WAGE-EARNER HEAD, BY
EARNINGS CLASS OF HEAD, CANADA, BY PROVINCES[5], 1931

Earnings Class of Head	Un-weighted Mean of Averages	Average Number Guardianship Children per Family in							
		Nova Scotia	New Bruns-wick	Quebec[1]	Ontario[2]	Mani-toba[3]	Saskat-chewan	Alberta	British Colum-bia[4]
All classes	0·030	0·047	0·041	0·035	0·023	0·027	0·023	0·021	0·020
No earnings	0·036	0·064	0·037	0·036	0·024	0·042	0·030	0·024	0·028
$ 1-$ 49	0·034	0·067	0·013	0·055	0·026	0·033	0·027	0·034	0·014
50- 449	0·035	0·060	0·052	0·042	0·030	0·030	0·022	0·020	0·026
450- 949	0·030	0·048	0·042	0·036	0·024	0·029	0·022	0·019	0·023
950- 1,449	0·029	0·044	0·036	0·032	0·023	0·030	0·025	0·023	0·017
1,450- 1,949	0·025	0·032	0·029	0·031	0·021	0·022	0·022	0·021	0·018
1,950- 2,949	0·024	0·032	0·027	0·030	0·019	0·018	0·024	0·020	0·018
2,950- 3,949	0·018	0·029	0·017	0·020	0·019	0·017	0·017	0·013	0·013
3,950- 4,949	0·012	0·005	0·007	0·018	0·016	0·017	0·008	0·014	0·008
4,950- 5,949	0·019	0·030	–	0·024	0·015	–	0·014	0·024	0·044
5,950 and over	0·019	0·008	0·009	0·020	0·014	0·024	0·030	0·022	0·023

[1]Exclusive of Montreal.
[2]Exclusive of Toronto.
[3]Exclusive of Winnipeg.
[4]Exclusive of Vancouver.
[5]Prince Edward Island omitted because the numbers in some of the earnings classes are too small for an average to have any significance.

LXXIV.—SCATTER DIAGRAM SHOWING VARIATION IN AVERAGE NUMBER OF GUARDIANSHIP CHILDREN PER NORMAL FAMILY WITH WAGE-EARNER HEAD WITH EARNINGS OF HEAD, CANADA, BY PROVINCES,[1] 1931

Guardianship Children per Family	Earnings Class											Total
	$0	$1-49	$50-449	$450-949	$950-1,449	$1,450-1,949	$1,950-2,949	$2,950-3,949	$3,950-4,949	$4,950-5,949	$5,950 and over	
0·000-0·001										2		2
0·002-0·003												
0·004-0·005									1			1
0·006-0·007									1			ʲ1
0·008-0·009									2		2	4
0·010-0·011												
0·012-0·013		1						2				3
0·014-0·015		1							1	2	1	5
0·016-0·017					1			3	2			6
0·018-0·019				1		1	3	1	1			7
0·020-0·021			1			2	1	1			1	6
0·022-0·023			1	2	2	2					2	9
0·024-0·025	2			1	1		1			2	1	8
0·026-0·027		2	1				1					4
0·028-0·029	1			1		1		1				4
0·030-0·031	1		2		1	1	1			1	1	8
0·032-0·033		1			1	1	1					4
0·034-0·035		1										1
0·036-0·037	2			1	1							4
0·038-0·039												
0·040-0·041												
0·042-0·043	1		1	1								3
0·044-0·045					1					1		2
0·046-0·047												
0·048-0·049				1								1
0·050-0·051												
0·052-0·053			1									1
0·054-0·055		1										1
0·056-0·057												
0·058-0·059												
0·060-0·061			1									1
0·062-0·063												
0·064-0·065	1											1
0·066-0·067		1										1
Total	8	8	8	8	8	8	8	8	8	8	8	88

[1]The averages are those for families in eight provinces. Prince Edward Island was not included on account of the smallness of its population. In calculating the provincial averages the cities of Montreal, Toronto, Winnipeg and Vancouver were omitted.

It is obvious from Statement LXXIII that the downward trend with increasing earnings of the heads in the number of guardianship children per family is typical of all the provinces. This is further illustrated by the scatter diagram following it. The averages for Prince Edward Island have been omitted, since the number of families in some of the earnings classes are so small

as to render them meaningless. The unweighted mean of the averages for the eight provinces agreed very closely with the weighted average for all Canada and for the sake of comparison they are repeated side by side.

LXXV.—WEIGHTED AVERAGES AND UNWEIGHTED MEAN OF AVERAGES OF NUMBER OF GUARDIANSHIP CHILDREN PER FAMILY, BY EARNINGS CLASS OF HEAD, CANADA, 1931

Earnings Class of Head	Guardianship Children per Family	
	Weighted Average	Unweighted Mean of Provincial Averages
No earnings	0·024	0·036
$ 1-$ 49	0·033	0·034
50- 449	0·032	0·035
450- 949	0·027	0·030
950- 1,449	0·024	0·029
1,450- 1,949	0·022	0·025
1,950- 2,949	0·020	0·024
2,950- 3,949	0·018	0·018
3,950- 4,949	0·016	0·012
4,950- 5,949	0·016	0·019
5,950 and over	0·019	0·019

The unweighted means are slightly higher than the weighted averages but the important thing is that they both follow the same trend. The smaller size of the weighted averages is doubtless due to the fact that they include the families in the four metropolitan centres, Montreal, Toronto, Winnipeg and Vancouver where, on the whole, there are fewer guardianship children than in the rest of the country. The large moving element in the populations of these cities probably accounts for the small number of guardianship children, since it has already been observed that guardianship children are less numerous in families with British-born or foreign-born heads than in the families of the native born.* It may be seen from Statement LXXIII that the tendency for the low-income families to harbour the maximum average number of guardianship children does not hold for these cities.

LXXVI.—GUARDIANSHIP CHILDREN PER NORMAL FAMILY WITH WAGE-EARNER HEAD, BY EARNINGS CLASS OF HEAD, MONTREAL, TORONTO, WINNIPEG AND VANCOUVER, 1931

Earnings Class of Head	Un-weighted Mean of Averages	Montreal	Toronto	Winnipeg	Vancouver
All classes	0·017	0·021	0·015	0·017	0·014
No earnings	0·017	0·023	0·012	0·011	0·022
$ 1-$ 49	0·021	0·039	0·026	0·010	0·018
50- 449	0·016	0·021	0·015	0·015	0·011
450- 949	0·017	0·021	0·014	0·016	0·015
950- 1,449	0·018	0·021	0·016	0·018	0·015
1,450- 1,949	0·018	0·023	0·016	0·018	0·013
1,950- 2,949	0·015	0·017	0·014	0·017	0·012
2,950- 3,949	0·018	0·016	0·014	0·021	0·022
3,950- 4,949	0·018	0·015	0·018	0·018	0·021
4,950- 5,949	0·015	0·008	0·011	0·025	0·017
5,950 and over	0·020	0·018	0·014	0·018	0·031

It may seem peculiar that in the very large cities where family welfare is so closely associated with income there is no apparent relationship between the number of guardianship children per family and the earnings of the head. However, the number of guardianship children per family with head earning less than $950 compares favourably with the averages for families with heads earning $950 or more, and the fact that the averages are not higher in the low-income classes is possibly due to the extreme hardship incurred in supporting children on a very low income in the large cities.

*See Statement LXIX, page 95.

HISTOGRAM SHOWING GUARDIANSHIP CHILDREN AND ADULT DEPENDENTS IN NORMAL FAMILIES
WITH
WAGE-EARNER HEADS, BY EARNINGS CLASS OF HEAD, CANADA, 1931

NUMBER OF FAMILIES
(THOUSANDS)

AVERAGE NUMBER PER FAMILY

AREA REPRESENTING GUARDIANSHIP CHILDREN....................
          "   "   ADULT DEPENDENTS ....:..........
          "   "   BOTH GUARDIANSHIP CHILDREN AND ADULT....
                                             DEPENDENTS

NO EARNINGS $ 50-499 $ 450-949 $ 950-1449 $ 1450-1949 $ 1950-2949
   $ 0-49 $ 2950-3949
                                                                 3950-4949
                                                                 4950-5949
                                                                 5950 & OVER

EARNING CLASS

Chart 5

Directly opposed to the downward trend in the number of guardianship children per family with the earnings of the head is the upward trend in the number of adult dependents per family with earnings, as the reader may observe from Statement LXXII, page 98. The situation may be reviewed at a glance by means of the histogram on page 101. The abscissae represent the number of families with heads in the given earnings groups and the ordinates the average number of guardianship children or adult dependents, as the case may be. Consequently, the areas of the rectangles represent the actual number of guardianship children or adult dependents living in families with heads in each earnings class. A comparatively small number of families (28,052), who failed to state the earnings of the head, were disregarded in plotting the diagram. The reader's attention is directed to the fact that, in each case, the area representing the smaller of the two groups of dependents was superimposed on that representing the larger group.

Summary.—Throughout the previous pages we have been discussing guardianship children and adult dependents living in private families, in order to determine if they are instrumental in stabilizing the sizes of the families. Passing attention was paid to lodgers living in private households and it was recalled that the available data pointed to the fact that such lodgers prefer to lodge in households where there is plenty of accommodation, possibly due to the fact that the family is undersized. Guardianship children are most numerous in families with heads under 25 or over 55 years of age, *i.e.*, at the ages when either they have no children of their own or their children have left home. Therefore, guardianship children do very often fill the places of own children in the family. However, since only 67,952 or 2·81 p.c. of the 2,419,360 private families (and these are not all small families) include guardianship children at all, the addition of guardianship children brings only a limited number of families closer to the typical size. Adult dependents who do not generally contribute to any extent to the family income are usually found in families where the head is able to support them, *i.e.*, when he reaches his maximum earning power during middle age, but only if his family is small. If the family is large, even though the head's earnings be above average, there will not be enough money to go around and, moreover, the addition of an extra dependent will crowd still more a household already cramped for room. That there are many families where this happens was made apparent in Chapter IV when housing accommodation in relation to persons per household was dealt with for the city of Toronto.* It is probable, however, that adult dependents are most common to undersized families so that they do stabilize family size to some extent.

LXXVII.—PERCENTAGES OF PRIVATE FAMILIES WITH AND WITHOUT OWN CHILDREN, HAVING OTHER DEPENDENTS, BY CONJUGAL CONDITION OF HEAD, CANADA, 1931

Locality	Total		Single		Married, Husband and Wife Living Together		Married, Husband or Wife Absent		Widowed		Divorced	
	Families with Own Children	Families without Own Children	Families with Own Children	Families without Own Children	Families with Own Children	Families without Own Children	Families with Own Children	Families without Own Children	Families with Own Children	Families without Own Children	Families with Own Children	Families without Own Children
	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p.c.	p c.	p.c.
CANADA......	5·54	9·25	2·27	13·36	5·44	7·84	4·41	6·10	6·66	10·13	3·79	6·14
Rural.........	6·31	10·19	2·18	12·38	6·20	9·56	4·45	5·60	7·81	10·00	5·06	6·32
Urban—												
Over 30,000.	4·60	7·57	2·99	14·16	4·51	5·65	4·08	6·88	5·31	9·81	3·78	5·07
1,000-30,000.	5·32	9·66	2·08	17·34	5·16	7·84	4·89	6·78	6·60	10·78	1·77	7·97
Under 1,000.	5·34	9·25	-	11·21	5·13	8·87	4·36	4·56	7·13	9·92	2·35	6·14

For every group of families listed in Statement LXXVII, heads without children of their own support guardianship children more frequently than heads with children. It is, of course, true that many of the single, widowed and divorced heads without own children would not be heads of families at all if they did not have to support dependents so that, in some cases, dependents tend to create small extraneous families. Consequently, when we say that dependents other than own children tend to lessen the dispersion in the sizes of families, we refer to normal families and other types which would exist as families without the dependents.

*See Statement XXXIII, page 68.

CHAPTER VIII

THE CENSUS FAMILY AND THE COMPLETED FAMILY

Introduction.—The following instructions given to enumerators at the time of the census deal with the reporting of the children.

"While it is not possible to lay down a rule applicable to every case, the following persons should generally be included as members of the family:—

"(a) Members of the family temporarily absent on the census day, either in foreign countries or elsewhere in Canada on business or visiting. (But a son or a daughter permanently located elsewhere, or regularly employed elsewhere and not sleeping at home should not be included with the family.)

"(b) Members of the family attending schools or colleges located in other districts. (But a student nurse who receives even a nominal salary should be enumerated where she is in training.)

"(c) Members of the family who are ill in hospitals or sanitariums and whose period of absence is more or less known."

The census measures only the size of the family living at home, an entirely different concept from the size of the completed biological family. And yet, as a proof that Canadians are rapidly becoming a non-fertile race, people are prone to compare the average size of the *census* family with their grandparents' family of 10. There is no doubt that families are smaller now than they were two generations ago, but such comparisons wildly exaggerate the differences.

LXXVIII.—PERCENTAGE DISTRIBUTION OF HEADS OF NORMAL PRIVATE FAMILIES AND AVERAGE NUMBER OF CHILDREN PER FAMILY, BY AGE GROUP, CANADA, 1931

Age Group of Head	P.C. of Heads	Average No. Own Children per Family
Total	100·00	2·27
Under 25	3·16	0·80
25–34	20·07	1·74
35–44	26·41	2·91
45–54	23·70	2·97
55 and over	26·65	1·59

From the second column of the above statement it is obvious that the average size of the family with head under 35 years of age is small because the family is not yet complete, while it is also small for heads over 55 because the children have left home.

Estimate of Sizes of Completed Families.—The determination of the average size of the completed family is a difficult statistical problem. It is obvious that only the sizes of those families already completed, *i.e.*, those born to women who have passed the child-bearing period, can be obtained by enumeration; and only those mothers still living, by no means a representative sample, can be enumerated. It is not possible to determine by enumeration the sizes of completed families for active women and it is the active women in which interest chiefly centres. Consequently, a predictable size distribution of completed families for active women must be *estimated* from the data available. This has been done by using the statement on births according to order for the mothers of 1931 contained in the Annual Report on Vital Statistics for the year. For purposes of reference, this statement has been reprinted as Table 14, Part II, page 214. The steps taken in arriving at an estimate are given in detail in the following pages.

LXXIX.—BIRTHS PER MILLION WOMEN ACCORDING TO ORDER OF BIRTH, BY AGE GROUP, CANADA, 1931

Order of Birth of Child	All Ages	Births to Mothers in Age Group						
		15–19	20–24	25–29	30–34	35–39	40–44	45–49
All births	639,229	25,123	133,832	176,076	147,579	105,442	45,601	5,576
1st birth	132,167	18,789	56,429	36,783	14,113	4,802	1,148	103
2nd "	114,989	5,308	41,141	39,845	19,448	7,419	1,718	110
3rd "	87,535	891	21,812	32,891	20,008	9,516	2,174	243
4th "	68,138	121	9,523	25,814	19,445	10,191	2,809	235
5th "	53,255	14	3,481	18,083	17,823	10,249	3,305	300
6th "	42,004	–	1,022	11,328	15,762	10,255	3,352	285
7th "	35,159	–	275	6,404	14,110	10,489	3,520	361
8th "	28,352	–	89	3,065	10,910	9,945	3,929	414
9th "	21,597	–	34	1,128	7,168	9,033	3,835	399
10th "	17,049	–	22	482	4,317	7,693	4,000	535
11th "	12,312	–	4	149	2,425	5,513	3,735	486
12th "	9,571	–	–	61	1,199	4,222	3,580	509
13th "	6,314	–	–	35	532	2,720	2,651	376
14th "	4,399	–	–	3	168	1,675	2,158	395
15th "	2,731	–	–	5	88	821	1,540	277
16th "	1,594	–	–	–	29	456	889	220
17th "	884	–	–	–	15	213	557	99
18th "	574	–	–	–	10	146	315	103
19th "	279	–	–	–	3	36	168	72
20th "	169	–	–	–	6	33	111	– 19
21st "	72	–	–	–	–	6	47	19
22nd "	54	–	–	–	–	9	37	8
23rd "	17	–	–	–	–	–	13	4
24th and over	14	–	–	–	–	–	10	4

In Statement LXXIX the births per million women in each five-year age group are classified by order as first, second, third, fourth, etc. Interest lies in this statement as a probability table, the births per million in each square being the probability that a woman in a given age group will bear a child of a given order during the year. Let us apply the probabilities to the life history of the average Canadian woman living through the child-bearing period. The row for first births gives the probabilities of her having a first birth during any one year while she is in each five-year age group. Since she can have a first birth only once, the probabilities are mutually exclusive and the probability of her having a first birth at all is the sum of the probabilities for each five-year age group multiplied by 5. The necessity of multiplying by 5 arises from the fact that, while the probabilities given for each age group measure the woman's chances of having a first birth during one year, she is five years in each age group. The operation of multiplying by 5 has not been carried out in Statements LXXIX and LXXX since in the subsequent calculations the 5's cancel. The probabilities of a woman having second, third, fourth, etc., children during her child-bearing period are calculated in the same way as the probability of having a first child.

In Statement LXXX the births to mothers in each age group as shown in Statement LXXIX are multiplied by the proportions of women alive at exact age 15 who are alive in the age groups. The proportions, taken from the *Canadian Life Tables*, 1931, are given below:—

Number of women alive at exact age 15.......................... 1·00000

Average number of survivors at—

15–19 years of age.. 0·99454

20–24 years of age.. 0·98054

25–29 years of age.. 0·96310

30–34 years of age.. 0·94414

35–39 years of age.. 0·92344

40–44 years of age.. 0·90020

45–49 years of age.. 0·87315

LXXX.—ESTIMATED BIRTHS PER MILLION WOMEN AT EXACT AGE 15, DURING SUBSEQUENT FIVE-YEAR INTERVALS OF CHILD-BEARING PERIOD, BASED ON BIRTHS IN CANADA, 1931

Order of Birth of Child	All Ages	Births to Mothers in Age Group (per million women at exact age 15)						
		15–19	20–24	25–29	30–34	35–39	40–44	45–49
1st birth	128,325	18,686	55,331	35,426	13,325	4,434	1,033	90
2nd "	110,850	5,279	40,340	38,375	18,362	6,851	1,547	96
3rd "	83,797	886	21,388	31,677	18,890	8,787	1,957	212
4th "	64,823	120	9,338	24,861	18,359	9,411	2,529	205
5th "	50,371	14	3,413	17,416	16,827	9,464	2,975	262
6th "	39,530	–	1,002	10,910	14,882	9,470	3,017	249
7th "	32,930	–	270	6,168	13,322	9,686	3,169	315
8th "	26,422	–	87	2,952	10,301	9,184	3,537	361
9th "	20,028	–	33	1,086	6,768	8,341	3,452	348
10th "	15,734	–	22	464	4,076	7,104	3,601	467
11th "	11,315	–	4	144	2,290	5,091	3,362	424
12th "	8,757	–	–	59	1,132	3,899	3,223	444
13th "	5,762	–	–	34	502	2,512	2,386	328
14th "	3,997	–	–	3	159	1,547	1,943	345
15th "	2,474	–	–	5	83	758	1,386	242
16th "	1,440	–	–	–	27	421	800	192
17th "	798	–	–	–	14	197	501	86
18th "	518	–	–	–	9	135	284	90
19th "	250	–	–	–	3	33	151	63
20th "	153	–	–	–	6	30	100	17
21st "	65	–	–	–	–	6	42	17
22nd "	48	–	–	–	–	8	33	7
23rd "	15	–	–	–	–	–	12	3
24th and over	12	–	–	–	–	–	9	3

We wish to arrive at the completed sizes of families. All mothers who have children must bear a first child so that the total probability of having a first child coincides with the number of families with children. The difference between the probability of having a first child and that of having a second child gives the probability of having only 1 child; similarly the differences for second and third children give the probability of having only 2 children. This process of differencing has been carried out below.

LXXXI.—DIFFERENCES IN BIRTHS OF SUCCESSIVE ORDERS, CANADA, 1931

Order of Birth	For All Women at Age 15		For Women Who Live Through Child-Bearing Period	
	Number of Births (1)	Difference (2)	Number of Births (3)	Difference (4)
1st birth	128,325	17,475	132,167	17,178
2nd "	110,850	27,053	114,989	27,454
3rd "	83,797	18,974	87,535	19,397
4th "	64,823	14,452	68,138	14,883
5th "	50,731	10,841	53,255	11,251
6th "	39,530	6,600	42,004	6,845
7th "	32,930	6,508	35,159	6,807
8th "	26,422	6,394	28,352	6,755
9th "	20,028	4,294	21,597	4,548
10th "	15,734	4,419	17,049	4,737
11th "	11,315	2,558	12,312	2,741
12th "	8,757	2,995	9,571	3,257
13th "	5,762	1,765	6,314	1,915
14th "	3,997	1,523	4,399	1,668
15th "	2,474	1,034	2,731	1,137
16th "	1,440	642	1,594	710
17th "	798	280	884	310
18th "	518	268	574	295
19th "	250	97	279	110
20th "	153	88	169	97
21st "	65	17	72	18
22nd "	48	33	54	37
23rd "	15	3	17	3
24th and over	12	12	14	14

Graduation.—It will be noted on examination of columns 2 and 4 of Statement LXXXI that there are more families of 10 than families of 9 and more families of 12 than families of 11. This is obviously due to careless reporting and to the tendency to state even numbers in preference to odd numbers. Consequently, it has been necessary to graduate the numbers of large families. It was considered unwise to carry the graduation lower than for the number of mothers bearing 8 children. Results of the graduation may be seen in Statements LXXXII (a) and (b) where a consistent tendency to report even orders of birth in preference to the odd orders will be noted.

LXXXII.—GRADUATION OF NUMBERS OF FAMILIES OF LARGE SIZES FOR (A) WOMEN AT EXACT AGE 15 AND (B) ALL WOMEN LIVING THROUGH THE CHILD-BEARING PERIOD, CANADA, 1931

Children per Family	Mothers Bearing Given Number of Children		Mothers out of 100,000 Bearing Given Number of Children	Distribution for	
	As Estimated in Statement LXXXI	Graduation		All Women	Married, Widowed or Divorced Women
(A) FOR WOMEN AT EXACT AGE 15					
Total	128,325	–	100,000	10,000	–
0	–	–	–	2,775	–
1	17,475	17,475	13,618	984	–
2	27,053	27,053	21,083	1,524	–
3	18,974	18,974	14,786	1,069	–
4	14,452	14,452	11,262	814	–
5	10,841	10,841	8,448	610	–
6	6,600	6,600	5,143	372	–
7	6,508	6,508	5,071	366	–
8	6,394	5,865	4,598	332	–
9	4,294	5,016	3,932	284	–
10	4,419	3,691	2,893	209	–
11	2,558	3,265	2,559	185	–
12	2,995	2,428	1,903	137	–
13	1,765	2,098	1,645	119	–
14	1,523	1,388	1,088	79	–
15	1,034	1,069	838	60	–
16	642	609	477	34	–
17	280	351	275	20	–
18	268	197	154	11	–
19	97	144	113	8	–
20 and over	153	145	114	8	–
(B) FOR ALL WOMEN LIVING THROUGH CHILD-BEARING PERIOD					
Total	132,167	–	100,000	10,000	10,000
0	–	–	–	2,565	1,712
1	17,178	17,178	12,997	966	1,077
2	27,454	27,454	20,772	1,545	1,722
3	19,397	19,397	14,676	1,091	1,217
4	14,883	14,883	11,261	837	933
5	11,251	11,251	8,513	633	706
6	6,845	6,845	5,179	385	429
7	6,807	6,807	5,150	383	427
8	6,755	6,181[1]	4,705	350	390
9	4,548	5,331[1]	4,058	302	336
10	4,737	3,942[1]	3,001	223	249
11	2,741	3,518[1]	2,678	199	222
12	3,257	2,629[1]	2,001	149	166
13	1,915	2,286[1]	1,740	129	144
14	1,668	1,517[1]	1,155	86	96
15	1,137	1,177[1]	896	67	74
16	710	673[1]	512	38	42
17	310	388[1]	295	22	24
18	295	218[1]	166	12	14
19	110	160[1]	122	9	10
20 and over	169	162	123	9	10

Graduation formula: $y = \dfrac{-3y_{-2} + 12y_{-1} + 17y_0 + 12y_1 - 3y_2}{35}$

[1]Difference in total mothers for crude and graduated data distributed in the third column.

Childless Women.—The proportion of women bearing no children will be the proportion not having a first birth. Therefore, according to Statement LXXIX, of 1,000,000 women living through the child-bearing period 1,000,000 − 5 × 132,167 or 339,165 will be childless, and similarly from Statement LXXX, of 1,000,000 women alive at exact age 15, 1,000,000 − 5 × 128,325 or 358,375 will be childless. Since these proportations seemed ridiculously high, the proportions of women childless given in the above statement were calculated by a refined method. It should be pointed out that by correcting the estimate of the proportions of women childless we automatically correct the estimates of the proportions of mothers bearing families of each size. The method of calculating the proportion of women childless will now be discussed in detail.

1931 as a Representative Year.—Our whole method depends on the birth orders in 1931 being representative of the birth orders for all years. No one year, however, will be perfectly representative since fertility is constantly changing and the first births in particular are very sensitive to the marriage rate of the previous year.

LXXXIII.—RATES OF FIRST BIRTHS AND MARRIAGES PER 1,000 POPULATION, CANADA AND QUEBEC, 1927-1932

Year	First Births per 1,000 Population in		Marriages per 1,000 Population in	
	Canada	Quebec	Canada	Quebec
1927	5·15	5·11	7·3	7·0
1928	5·30	5·22	7·6	7·0
1929	5·42	5·18	7·7	7·1
1930	5·66	5·49	7·0	6·6
1931	5·34	5·08	6·4	5·8
1932	5·09	4·69	6·0	5·2

It is obvious from the above statement that the first-birth rate for Canada as a whole increased rapidly from 1927 to 1930, probably due to the high marriage rate concomitant with the economic prosperity of the period but fell off with even greater rapidity in 1931 and 1932 due to the depression. Fortunately, 1931 seems to represent a mean between the two extremes. When the province of Quebec is considered separately, the 1931 figures are found to be lower than for any of the immediately preceding years possibly due to the decreasing marriage rate and because the first births for any one year are more closely connected with the marriages of the preceding year for Quebec than for the other provinces. Incidentally, it is interesting to note that the high percentage of large families in Quebec for 1931 is due not only to the abundance of large families but the scarcity of small new families. To overcome the difficulty presented by the fact that 1931 was a year abnormally low for first births in the province of Quebec it was decided to omit the Quebec figures in the estimate and assume that the percentage of women childless derived for the remaining eight provinces could ordinarily be applied to Quebec as well.

Corrections.—It was necessary to make several additions to the number of first births appearing in the vital statistics.

(1) When a mother bears twins first, both births are compiled in the Vital Statistics Annual Report as second births. Sufficient first births to compensate for the resulting discrepancy were, therefore, added on the basis of a special compilation made in 1930 of the order of births of twins and triplets.

(2) There were 8,365 illegitimate births in Canada in 1931. This estimate only applies to the proportion of women bearing legitimate children. It is important, however, that many of the mothers of illegitimate children probably marry later and bear legitimate children. These may or may not report their first legitimate child as their first offspring. If they do not they will not be included in our estimate of the married women bearing children. In correcting for this source of error three arbitrary assumptions were made: (i) that one-half the illegitimate births are first births; (ii) that one-half the women bearing illegitimate children marry and bear legitimate children at a later date; (iii) that one-half of these do not report their first legitimate child as their first offspring. On the basis of these assumptions it is apparent that our correction may be effected by adding one-eighth of the illegitimate births to the number of first births.

(3) It was estimated that only 96 p.c. of all births were registered in 1931 and, assuming the same inadequacy applied to first births alone, the first births at each age were multiplied by the fraction $\dfrac{100}{96}$.

The Proportion of All Women Bearing Children.—Statement LXXXIV gives the first-birth rate per 10,000 women derived from the Annual Report on Vital Statistics on the order of births after applying the corrections mentioned above. Column 2 gives the probable number of women out of 10,000 who will bear a child by the time they reach a given exact age.

LXXXIV.—FIRST BIRTHS PER 10,000 WOMEN, BY AGE GROUP, CANADA[1], 1931

Age Group	(1) First Births per 10,000 Women	At Exact Age	(2) Cumulative First Births per 10,000 Women
Under 15	1	15	1
15	13	16	14
16	59	17	73
17	180	18	253
18	383	19	636
19	549	20	1,185
20–24	627	25	4,320
25–29	404	30	6,340
30–34	154	35	7,110
35–39	53	40	7,375
40–44	11	45	7,430
45–49	1	50	7,435

[1]Exclusive of the province of Quebec.

Consequently, of 10,000 women living through the child-bearing period, 2,565 bear no children. Since, of 10,000 women between the ages of 45 and 49 in 1931, 1,029 were single, women who do not marry account for a large share of the childless women. Out of the 8,971 (10,000 – 1,029) women who do marry before the end of the child-bearing period, 1,536 (2,565 – 1,029) or 17·12 p.c. are childless. This corresponds roughly with the percentage of marriages which are sterile, although it does not allow for marriages contracted late in the child-bearing period, or prematurely terminated by death, separation or divorce.

Sterility in England and the United States.—The above detailed explanation of the method of deriving the percentage of childless women has been given in order that the reader may realize the difficulties encountered in making an estimate from the material available, and that he may judge its limitations for himself. For the sake of interest a comparison has been made with figures derived for the sterility of marriage in other countries. An intensive study of the fertility of marriage was made at the time of the 1911 English Census* when the following questions appeared on the householder's schedule:—

State, for each married woman entered on this schedule, the number of			
Completed years the present marriage has lasted. If less than one year, write "Under one."	Children born alive to present marriage (if no children born alive, write "None" in Column 7)		
	Total Children Born Alive	Children Still Living	Children Who have Died

Of the marriages of completed fertility, 16·2 p.c. were sterile. Since these included wives aged from 45 upwards, by arranging the marriages according to the wife's age at marriage it was possible to compare the fertility of the marriages solemnized at different periods from before 1851. It was found that sterility was increasing except in the group of women married between the ages of 15 and 19, where there was a considerable decrease. Since early marriages were becoming less frequent the decrease may be attributed to the probability that, for a growing percentage of the early marriages, fertility was assured beforehand. If sterile marriages were increasing during the latter part of the nineteenth century due to delayed marriages, the use of contraceptive methods and the development of a society in which the instinct for reproduction seems to decline, it is safe to assume that the increase has been continued into the twentieth century, characterized as it is by the growth of a more and more highly competitive society, the practice of birth control, and a declining birth rate. Consequently, one would expect the percentage of sterile marriages to be much higher in England in 1931 than it was in 1911.

Questions similar to those asked in the English Census appeared in the United States Census of 1910.

*See Vol. XIII, Census of England and Wales, 1911.

The mass data was never compiled but a special compilation for a small sample by the Millbank Memorial Fund gave approximately 9 p.c. of the rural marriages and 16 p.c. of the urban marriages as sterile. That there has been a marked increase during the past 21 years is extremely probable.

Distribution of Women According to Number of Children Borne.—In the last column of Statement LXXXII (a), page 106, the number per 10,000 women at age 15 who will be childless has been inserted. It was, of course, necessary in this case to allow for death by multiplying the number of first births in each age group by the probability of being alive. The 7,225 mothers were then distributed according to the number of children they would bear on the basis of the distribution in the preceding column.

In the fourth column of Statement LXXXII (b) a similar distribution was given for women living through the child-bearing period. The fifth column contains the size distribution of completed families for women living through the child-bearing period and marrying before its close. As has already been pointed out, no allowance is made for marriages terminated before the end of the child-bearing period by death, divorce or separation. In Statement LXXXV the number of children in completed families of each size is given. The average number of children per completed family is 4·01 while the median family contains 2·90 children. The median child comes from a completed family of 7·19 children. Only 2·68 p.c. of all children whose parents live through the child-bearing period belong to families of 1 child; 67·64 p.c. come from families with less than 10 children so that approximately one child out of three belongs to a family of 10 or more children. The modal family consists of 2 children, and the modal child comes from a family of 4. The average number of children in completed families with children is 4·85.

LXXXV.—ESTIMATED DISTRIBUTION OF COMPLETED FAMILIES PER 10,000 WOMEN LIVING THROUGH THE CHILD-BEARING PERIOD AND MARRYING BEFORE ITS CLOSE, NUMBER OF CHILDREN AND CUMULATIVE NUMBER PER 10,000, BY NUMBER OF CHILDREN PER COMPLETED FAMILY, CANADA, 1931

Children per Family	Families	Children	Children per 10,000 (cumulative)
Total	10,000	40,125	10,000
0	1,712	–	–
1	1,077	1,077	268
2	1,722	3,444	1,127
3	1,217	3,651	2,037
4	933	3,732	2,967
5	706	3,530	3,846
6	429	2,574	4,488
7	427	2,989	5,233
8	390	3,120	6,010
9	336	3,024	6,764
10	249	2,490	7,385
11	222	2,442	7,993
12	166	1,992	8,490
13	144	1,872	8,956
14	96	1,344	9,291
15	74	1,110	9,568
16	42	672	9,735
17	24	408	9,837
18	14	252	9,900
19	10	190	9,947
20 and over	10	212	10,000

Average children per completed family.. 4·01
Median children per family.. 2·90
Size of family containing median child.. 7·19

It appears that completed Canadian families are larger than they are generally thought to be. The large percentage of children who come from completed families of 10 or more children is most striking. The question will be raised as to whether the estimate grossly exaggerates the proportions of large families. The sizes of completed families will naturally be raised by the inclusion of stillbirths. In the depression year of 1931 the birth rate was undoubtedly affected. It has already been seen that the number of first births was influenced by the drop in the marriage rate during the preceding year. The births of lower orders (second, third, etc.) were probably

much more sensitive to the restrictive effect of the depression than were those of higher orders since the districts to which large families are common are mostly self-contained farming communities where economic conditions should have little effect on the birth rate. It is unlikely, however, that the results of the estimate would be greatly changed if it were possible to correct for these factors.

According to a very rough estimate, the average Canadian woman living through the child-bearing period and marrying before its close should bear 2·83 children to replace herself, her husband, and their contemporaries who do not marry or who die before reaching the end of the child-bearing period. Actually she bears 4·01 children so that, taking the length of a generation to be 28·38 years (the median age of mothers in 1931), we can calculate an annual rate of population increase per 1,000 as follows:—

$$\text{Rate} = \frac{4\cdot01 - 2\cdot83}{2\cdot83} \times \frac{1,000}{28\cdot38} = 14\cdot7.$$

Some 45·11 p.c. of families (which on completion will contain 0−2 children) fall below the maintenance level, the remaining 55 p.c. must make up for these families and provide any natural increase. Again, the average size of families with 0−8 children is only 2·80; therefore, it is evident that if there were no families of 9 or more children there would be no natural increase in population. It may be said, therefore, that 13·9 p.c. of our families, *viz.*, those consisting of 9 or more children on completion, account for the natural increase in our population. Elimination of these large families would result in cessation of population growth.

Comparison of Sizes of Census Families and Completed Families.—The average sizes of the normal private family and the completed family were respectively, 2·32 and 4·01 so that the latter was 1·73 times as large as the former. In comparing the size distributions of census families and completed families, it must be remembered that while the latter distribution applies only to women who are still active, census families include married women at all ages.

LXXXVI.—DISTRIBUTION PER 10,000 COMPLETED FAMILIES AND CENSUS FAMILIES ACCORDING TO NUMBER OF CHILDREN PER FAMILY, CANADA, 1931

Children per Family	(1) Completed Families	(2) Census Families	(3) Difference in Distribution (col. 1-col. 2)	(4) Cumulative Difference in Distribution	(5) Average Size of Completed Family for Census Family of Given Size	(6) Average Number of Children Absent from Census Family	(7) Census Family as P.C. of Completed Family
Total..................	10,000	10,000	-	-	-	-	-
0.....................	1,712	2.396	− 684	684	0·74	0·74	-
1.....................	1,077	2,106	−1,029	1,713	2·59	1·59	38·7
2.....................	1,722	1,811	− 89	1,802	3·58	1·58	55·9
3.....................	1,217	1,268	− 51	1,853	5·09	2·09	58·9
4.....................	933	855	78	1,775	6·47	2·47	61·9
5.....................	706	568	138	1,637	7·76	2·76	64·4
6.....................	429	380	49	1,588	8·95	2·95	67·0
7.....................	427	252	175	1,413	9·75	2·75	71·8
8.....................	390	161	229	1,184	10·58	2·58	75·6
9.....................	336	98	238	946	11·43	2·43	78·7
10....................	249	55	194	752	12·29	2·29	81·4
11....................	222	29	193	559	13·05	2·05	84·3
12....................	166	13	153	406	13·87	1·87	80·5
13....................	144	5	139	267	14·63	1·63	88·9
14....................	96	2	94	173	15·51	1·51	90·3
15....................	74	1	73	100	16·35	1·35	91·8
16....................	42	-	42	58	-	-	-
17....................	24	-	24	34	-	-	-
18....................	14	-	14	20	-	-	-
19....................	10	-	10	10	-	-	-
20....................	4	-	4	6	-	-	-
21....................	3	-	3	3	-	-	-
22....................	2	-	2	1	-	-	-
23 and over............	1	-	1	-	-	-	-

"Own" children compiled in the private family tables of Volume V of the census include only those children born to the heads of the family, adopted and guardianship children being listed separately. Since only the former are dealt with in this chapter, each of the census families considered must be derived from an equally large or larger completed biological family.

Columns 1 and 2 of Statement LXXXVI give the proportions of completed biological families and census families of each size. There were no census families with more than 18 children and the families out of 10,000 with 16, 17 and 18 children represented so small a fraction that they may be ignored.

Statement LXXXVI gives one census family of 15 children which must have been derived from:—

74 completed families with 15 children
42   "   "   "   16   "
24   "   "   "   17   "
14   "   "   "   18   "
10   "   "   "   19   "
 4   "   "   "   20   "
 3   "   "   "   21   "
 2   "   "   "   22   "
 1   "   "   "   25   "   (considering the average size of the families with 23 or more children to be 25).

The average size of these 39 families is 16·35, so that the census family of 15 is derived from a completed family of 16·35.

Similarly the 2 census families with 14 children are derived from 96 completed families with 14 children and 73 completed families with 16·35 children, the latter being the remaining completed families with 15 or more children after 1 is deducted to account for the 1 census family of 15. The census family of 14, therefore, is derived from a completed family of average size 15·51.

Take, for example, the census family with 8 children: the number in a sample of 10,000 families is 161 (column 2); these are derived from 390 completed families with 8 children (column 1) and 238 completed families of average size 11·43 (column 4) giving 10·58 as the average number of children in the completed family whence it is derived.

In column 6 the average number of children who have left home, died or are not yet born has been given for census families of each size. It might be well to point out that stillbirths are included in the sizes of completed families. In column 7 the size of the census family has been divided by the average size of the completed family whence it is derived. In census families with 1 child only 38·7 p.c. of the children are at home while in census families with 15 children, 91·8 p.c. of the children are at home. The percentage of children at home rises steadily with the size of the census family. The heads of the very large census families are generally at the age of maximum family responsibility; their family is complete biologically and the children have not yet left home. That the large census families are those where the children stay at home until they reach a considerable age would seem evident from Statement LXXXVII.

LXXXVII.—MEDIAN AGE OF CHILDREN IN CENSUS FAMILIES, BY SIZE, CANADA, 1931

Children in Family	Median Age of Children in Families	Children in Family	Median Age of Children in Families
	years		years
1	9·2	9	11·2
2	9·9	10	11·4
3	10·6	11	11·4
4	10·8	12	11·6
5	11·0	13	11·8
6	11·0	14	11·9
7	11·0	15	12·0
8	11·1		

The median age of children rises steadily with the size of the family. In the average census family of 15, 7 are above 12 years of age. Allowing an interval of only one year between births, the oldest child living at home will be over 19 years of age. The circumstances necessary to produce an extremely large census family are: first, the heads must have been married fairly young and be well along in the child-bearing period when the family is reported; secondly, they must be prolific; thirdly, their children must remain living at home.

LXXXVIII.—ESTIMATED CROSS-CLASSIFICATION OF 10,000 CENSUS FAMILIES AND COMPLETED FAMILIES ACCORDING TO SIZE, CANADA, 1931

Children per Census Family	Children per Completed Family																
	All Sizes	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 and over
All sizes...............	10,000	1,712	1,077	1,722	1,217	933	706	429	427	390	336	249	222	166	144	96	174
0.....................	2,396	1,712	264	205	85	44	26	13	11	9	7	5	4	3	3	2	3
1.....................	2,106	-	813	632	262	138	79	39	33	27	22	15	13	10	8	5	10
2.....................	1,811	-	-	885	367	193	110	54	47	38	30	22	19	13	11	8	14
3.....................	1,268	-	-	-	503	263	151	75	64	53	42	29	25	18	16	10	19
4.....................	855	-	-	-	-	295	169	83	71	59	47	33	28	20	18	11	21
5.....................	568	-	-	-	-	-	171	84	73	59	47	33	29	21	18	12	21
6.....................	380	-	-	-	-	-	-	81	70	57	45	32	27	20	17	11	20
7.....................	252	-	-	-	-	-	-	-	58	48	38	27	23	17	14	10	17
8.....................	161	-	-	-	-	-	-	-	-	40	32	22	19	14	12	8	14
9.....................	98	-	-	-	-	-	-	-	-	-	26	18	15	11	10	6	12
10....................	55	-	-	-	-	-	-	-	-	-	-	13	12	9	7	5	9
11....................	29	-	-	-	-	-	-	-	-	-	-	-	8	6	5	4	6
12....................	13	-	-	-	-	-	-	-	-	-	-	-	-	4	3	2	4
13....................	5	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	2
14....................	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1
15....................	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1

Statement LXXXVIII gives an estimated cross-classification of census families and completed families according to size. The distribution was built up in the following manner from the data given in columns 1 and 2 of Statement LXXXVI. It was first necessary to assume that the chances of a census family of given size being derived from completed families of the same size or each greater size were proportional to the numbers of completed families of those sizes minus the families already deducted to account for larger census families. Thus:—

The 1 census family of 15 was derived from 1 of the 174 completed families having 15 or more children.

The 2 census families of 14 were derived from the 96 completed families of 14 and the the 173 (174 − 1) completed families of 15 or more children, i.e., it was derived from $2 \times \dfrac{96}{96 + 173} = 1$ (approx.) families of 14 and $2 \times \dfrac{173}{96 + 173} = 1$ (approx.) families of 15.

The 5 census families of 13 were derived from the 144 completed families of 13 and 267 completed families of 14 or more children, i.e., they were derived from $5 \times \dfrac{144}{144 + 267} = 2$ (approx.) families of 13 and $5 \times \dfrac{267}{144 + 267} = 3$ (approx.) families of 14 or more.

Though constructed on an arbitrary basis, the above two-way frequency distribution enables us to visualize the correlation between the size of the census family and the size of the completed family. It will be seen, for example, that while there is only 1 chance out of 174 that the family, which on completion consists of 15 or more children, will be reported to consist of 15 children at the time of the census, there are 3 chances that it will be reported childless. This illustrates the difficulty of studying fertility from census family data.

Concluding Remarks.—Two factors complicate the calculation of the size distribution of completed families from the birth orders for any one year, viz., changing age distribution of active women and fluctuating birth rates. The first difficulty was overcome, since our method involved the computation of birth rates based on the age distribution of women, obtained from the census. It was quite impossible to adequately correct for fluctuating birth rates. Fortunately, 1931 appeared to be a much more representative year than other years of the same period since, while the stimulating effects of the boom period had disappeared, the influence of the depression on the birth rate was at that time only partially felt. In general, 1931 has been found to be a fairly representative year when dealing with social phenomena which, although sensitive to the business cycle, tend to lag behind it considerably. For this reason no resort was made to the actuarial practice of averaging rates for 3 years instead of taking them for a single year.

OCCUPATIONS AND EARNINGS OF FAMILY HEADS

Introduction.—This chapter is a summary and partial interpretation of the data compiled from the returns of the 1931 Census relating family size and composition to the occupation and earnings of heads. Attention is confined principally to what have been termed "normal" families with husband and wife both alive and living together. In Chapter VI it was stated that 86 p.c. of all families came under this class. Since information was not available with regard to the earnings of non-wage-earners, only the families of wage-earners are dealt with. Consequently, we must leave out such important occupational classes as independent farmers, workmen and tradesmen on their own account, private business men, professional men not on salary, and men living on income, but it is important to bear in mind when observing the data in the statements of this chapter, that in some occupations, the wage-earner derives only part of his living from his wages. For example, when he is not working for hire, the farm labourer or fisherman is often cultivating a small farm of his own. When employees are supplied with special facilities, such as a free house, this is not accounted for in his earnings. Consequently, the real earnings picture was better than that portrayed by a consideration of the cash earnings of wage-earners alone. However, of the 1,857,105 normal families in the nine provinces, 1,033,863 or 56 p.c. had wage-earner heads and contained 4,371,293 persons or 54 p.c. of the 8,140,001 living in private families. In short, the study will extend to the family life, under relatively homogeneous conditions, of 42 p.c. of the population of Canada.

Family Earnings.—Stated earnings of Canadian wage-earners, for the period June 1, 1930 to June 1, 1931, totalled $2,100,552,700, of which $1,340,546,400 or 63·82 p.c. was earned by heads of families and $11,426,350 or 0·54 p.c. by wives living with their husbands. The latter class consequently received only a very small fraction of the total earnings of wage-earners. Total stated earnings of the members of families with wage-earning heads, including heads, wives, own children and adopted children, amounted to $1,530,319,100 or 73 p.c. of the total earnings, the remaining 27 p.c. being distributed amongst wives and children of non-wage-earners, adult dependents and wards of all types of heads of families, and persons not belonging to private families, *viz.*, lodgers and servants.

LXXXIX.—DISTRIBUTION OF EARNINGS OF MEMBERS OF FAMILIES OF WAGE-EARNERS ACCORDING TO CLASSES OF MEMBERS, CANADA, YEAR ENDED JUNE 1, 1931

Status in Family of Earner	(1) Earnings	(2) P.C. Distribution of Earnings	(3) P.C. of Total Earnings of All Wage-Earners
	$		
All classes	1,530,319,100	100·00	72·85
Heads of families	1,340,546,400	87·60	63·82
Male	1,308,957,000	85·54	62·32
Married, living with wife	1,218,094,400	79·60	57·99
Other	90,862,600	5·94	4·33
Female	31,589,400	2·06	1·50
Wives of heads of families	9,586,200	0·63	0·45
Children of heads of families[1]	180,186,500	11·77	8·58

[1]Includes adopted children.

In column 1 of the above statement, the total stated earnings of the various classes of members of families of wage-earners is given. These earnings are distributed on a percentage basis in column 2 and in column 3 the percentages which the total earnings for each class form of the total earnings of all Canadian wage-earners are given. It is interesting to note that married heads of families living with their wives earned 58 p.c. of the total earnings of all Canadians. Children of wage-earners earned approximately nineteen times as much as wives of wage-earners.

Earnings of Heads of Families.—It is difficult to interpret the significance of the averages given in Statement XC, since, in each case, they cover groups of families living under very diverse conditions. Male heads earned considerably more than female heads but male heads had approximately 3 dependents to every 1 for females so that average earnings per person were higher for the families with female heads. All the averages may seem surprisingly low but 1930-31 was a year of extreme unemployment and many of the heads, unemployed for the greater part of the year, earned very little. Of the male heads, those who were married and living with their wives had the highest average earnings and single heads the lowest. Single heads, however, had few dependents and, for this reason, were apparently much better off than married heads. In fact, from Statement XCI (a reproduction of Statement IV, Chapter XIX, Volume I), it will be seen that the great majority of single heads of families, both male and female, had no dependents—they were the only persons in their families.

XC.—EARNINGS OF HEADS OF FAMILIES, BY MARITAL STATUS AND SEX OF HEAD, CANADA, YEAR ENDED JUNE 1, 1931

Marital Status of Head	Heads Stating Earnings	Total Earnings	Earnings per Head	Dependents per Head.	Earnings per Person
		$	$		$
Males	1,104,483	1,308,957,000	1,185	3·01	300
Married, living with wife	1,005,811	1,218,094,400	1,211	3·23	290
Married, wife absent	25,148	23,399,700	930	0·83	510
Widowed	30,826	31,154,700	1,011	1·78	360
Divorced	845	922,300	1,091	0·75	620
Single	41,853	35,385,900	845	0·11	760
Females	43,301	31,589,400	730	0·98	370
Married	9,254	4,822,800	521	0·025	420
Widowed	16,112	9,370,000	582	1·53	230
Divorced	724	497,400	687	1·22	310
Single	17,211	16,899,200	982	0·16	850

XCI.—HEADS OF FAMILIES, BY SEX, CONJUGAL CONDITION AND CLASS OF FAMILY, CANADA, 1931[1]

Conjugal Condition of Head and Class of Family	Heads of Families			P.C. in Each Family Class		P.C. of Class of Head in Each Family Class	
	Both Sexes	Males	Females	Males	Females	Males	Females
All classes	2,419,360	2,133,819	285,541	88·20	11·80	100·00	100·00
With children only	1,577,090	1,404,567	172,523	89·06	10·94	65·82	60·42
With children and dependents	92,544	82,521	10,023	89·17	10·83	3·87	3·51
With dependents only	69,335	56,424	12,911	81·38	18·62	2·64	4·52
Without children or dependents	680,391	590,307	90,084	86·76	13·24	27·67	31·55
Two married heads	1,857,105	1,857,105	–	100·00	–	100·00	–
With children only	1,335,336	1,335,336	–	100·00	–	71·90	–
With children and dependents	76,821	76,821	–	100·00	–	4·14	–
With dependents only	34,869	34,869	–	100·00	–	1·88	–
Without children or dependents	410,079	410,079	–	100·00	–	22·08	–
One married head	103,313	53,657	49,656	51·94	48·06	100·00	100·00
With children only	56,346	16,259	40,087	28·86	71·14	30·30	80·73
With children and dependents	2,600	1,048	1,552	40·31	59·69	1·95	3·13
With dependents only	2,705	1,953	752	72·20	27·80	3·64	1·51
Without children or dependents	41,662	34,397	7,265	82·56	17·44	64·11	14·63
Widowed head	285,625	92,612	193,013	32·42	67·58	100·00	100·00
With children only	182,614	52,341	130,273	28·66	71·34	56·51	67·49
With children and dependents	13,022	4,618	8,404	35·46	64·54	4·99	4·35
With dependents only	9,116	3,260	5,856	35·76	64·24	3·52	3·03
Without children or dependents	80,873	32,393	48,480	40·05	59·95	34·98	25·12
Divorced head	4,145	1,961	2,184	47·31	52·69	100·00	100·00
With children only	2,234	619	1,615	27·71	72·29	31·57	73·95
With children and dependents	88	33	55	37·50	62·50	1·68	2·52
With dependents only	112	81	31	72·32	27·68	4·13	1·42
Without children or dependents	1,711	1,228	483	71·77	28·23	62·62	22·11
Single head	169,172	128,484	40,688	75·95	24·05	100·00	100·00
With children only	560	12	548	2·14	97·86	0·01	1·35
With children and dependents	13	1	12	7·69	92·31	–	0·03
With dependents only	22,533	16,261	6,272	72·17	27·83	12·66	15·41
Without children or dependents	146,066	112,210	33,856	76·82	23·18	87·33	83·21

[1]Statement IV, Chap. XIX, Vol. I, Census of Canada, 1931.

Statement XCI applies to non-wage-earning heads of families as well as to wage-earners but it serves to indicate the various classes of families with heads in each conjugal condition class. The great majority of single heads of both sexes have no dependents and are really not heads of families at all. This is also true of the greater number of married male heads not living with their wives and the divorced male heads. The low earnings of the divorced male heads do not support the theory that divorces are obtained only by the well-to-do. Widowed male heads of families do not earn as much as those whose wives are still living, possibly because they are older and have passed the age of maximum earning power. They appear to have a slightly higher average number of dependents per family than widowed females and higher average earnings per person are shown in their case. At the same time the widowed female can provide her family with services which the widowed male cannot so it should not be assumed that the dependents of widowed males are more adequately provided for than those of widowed females. While, according to Statement XCI, only 31·57 p.c. of the divorced male heads of families have children of their own living at home, 73·95 p.c. of the divorced female heads have own children. The divorced female head earns more and has fewer dependents than the widowed female head.

Earnings of Heads of Normal Families.—The most significant information with regard to family earnings is that dealing with normal families where husband and wife are living together as heads of families. It was observed in Statement XC that the average earnings of married male heads of families amounted to $1,211 for 1930-31. This is the amount which each head would have earned if wages had been equal for all, from which it may be inferred that an equable distribution of wages would not enable everyone to maintain a high standard of living with the existing level of prices although it would eliminate extreme poverty. In Statements XCII and XCIII the distribution of earnings of heads of normal families is given.

XCII.—MALE FAMILY HEADS, NUMBER AND PERCENTAGE MARRIED AND LIVING WITH THEIR WIVES AND TOTAL EARNINGS, BY EARNINGS CLASS OF HEAD, CANADA, YEAR ENDED JUNE 1, 1931

Earnings Class of Head	Male Heads of Families			Earnings of Married Male Heads
	No.	Married, Living with Wives		
		No.	P.C.	
				$
All classes[1]	1,104,483	1,005,811	91·07	12,180,944
No earnings	22,414	19,062	85·05	—
$ 1–$ 49	3,754	3,021	80·47	[2]
50– 449	191,019	161,286	84·43	447,583
450– 949	288,977	262,135	90·71	1,815,538
950– 1,449	285,365	265,661	93·10	3,094,893
1,450– 1,949	161,526	151,793	93·97	2,513,575
1,950– 2,049	98,571	93,060	94·41	2,125,389
2,950– 3,949	31,115	29,355	94·34	953,902
3,950– 4,949	9,327	8,812	94·48	375,418
4,950– 5,949	4,968	4,667	93·94	239,068
5,950– 6,949	2,817	2,651	94·11	162,350
6,950– 7,949	1,319	1,222	92·65	88,256
7,950– 8,949	792	739	93·31	59,993
8,950– 9,949	517	483	93·42	44,058
9,950– 14,949	1,409	1,317	93·47	144,033
14,950– 19,949	322	301	93·48	47,502
19,950 and over	271	246	90·77	69,386

[1]Exclusive of those not stating earnings.
[2]Not added.

60374—7—8½

XCIII.—PERCENTAGE DISTRIBUTION OF HEADS OF NORMAL FAMILIES AND DISTRIBUTION OF TOTAL EARNINGS, BY EARNINGS CLASS OF HEAD, CANADA, YEAR ENDED JUNE 1, 1931

Earnings Class of Head	P.C. Distribution of					
	Heads of Normal Families			Total Earnings of		
	In Earnings Class	In Earnings Class or below	In Earnings Class or above	Heads in Class	Heads in Class or below	Heads in Class or above
All classes..................................	100·00	–	–	100·00	–	–
No earnings.............................	1·90	1·90	100·00	–	–	–
$ 1–$ 49..........................	0·30	2·20	98·10	1	1	1
50– 449..........................	16·04	18·24	97·80	3·68	3·68	100·00
450– 949..........................	26·06	44·30	81·76	14·91	18·59	96·32
950– 1,449..........................	26·41	70·71	55·70	25·41	44·00	81·41
1,450– 1,949..........................	15·09	85·80	29·29	20·64	64·64	56·00
1,950– 2,949..........................	9·25	95·05	14·20	17·45	82·09	35·36
2,950– 3,949..........................	2·92	97·97	4·95	7·83	89·92	17·91
3,950– 4,949..........................	0·88	98·85	2·03	3·08	93·00	10·08
4,950– 5,949..........................	0·46	99·31	1·15	1·96	94·96	7·00
5,950– 6,949..........................	0·26	99·57	0·69	1·33	96·29	5·04
6,950– 7,949..........................	0·12	99·69	0·43	0·72	97·01	3·72
7,950– 8,949..........................	0·07	99·76	0·31	0·49	97·50	2·99
8,950– 9,949..........................	0·05	99·81	0·24	0·36	97·86	2·50
9,950– 14,949..........................	0·13	99·94	0·19	1·18	99·04	2·14
14,950– 19,949..........................	0·03	99·97	0·06	0·39	99·43	0·96
19,950 and over.........................	0·03	100·00	0·03	0·57	100·00	0·57

[1]Not added.

It will be seen from Statement XCIII that 44·30 p.c. of the heads earned less than $950 during the year June 1, 1930 to June 1, 1931. Many of these were unemployed during part of the year, accounting for their presence in the lower earnings classes. As already pointed out in the Introduction, earnings include only wages.

The earnings class $950–$1,449, including 26·41 p.c. of the wage-earner heads, was the modal class. Heads in this class earned 25·41 p.c. of the total wages of heads, so we have a typical earnings class including one-quarter of the wage-earning heads of families earning one-quarter of the total earnings. Those who suggest an equable distribution of wages must regard this class as their ideal since the standard of living enjoyed by it would be that enjoyed by all wage-earners if earnings were equally dispersed provided there was no resultant change in the efficiency of production. A large proportion, viz., 44·30 p.c. of the married heads of families came below this class and earned 18·59 p.c. of the total earnings of heads while 29·09 p.c. of the heads earned more than $1,450 and 56·00 p.c. of the total earnings of heads.

Variation in Family Size and Composition with Earnings of Heads.—It is obvious from Statement XCIV that the trend in family size with earnings of head is not linear but fluctuates upwards and downwards. Since the number of heads per family for each group is fixed at 2, variation in the average size of the family is due to variation in the number of own children; the number of guardianship children and other dependents per family being relatively small (see Statement LXXII, Chapter VII). Heads earning $450–$949 had the largest number of children per family, 2·32, while those earning $3,950–$4,950 had the smallest number per family, 1·83. That is, the range in children per family for the 17 earnings classes was only 0·49 or 23 p.c. of weighted average children per family for all classes. The irregularity of the trend, however, is more significant than the smallness of the range since it indicates that family size is not a simple function of the earnings of the head. Interpretation of the significance of the averages in column 2 of Statement XCIV is rendered difficult since the age distribution of the heads is quite different for each earnings class due to the fact that earnings vary with age. Unfortunately no data are available with regard to the age distribution of the heads by earnings classes, but it is apparent from the age distribution of the children, given in columns 3, 4 and 5 of Statement XCIV, that the heads in the higher earnings classes are older than those in the lower. However, too much reliance cannot be placed on the use of ages of children as a basis for determining the age distribution of the heads since the former distribution, depending on the ages at which children leave home, varies with the earnings of the heads.

XCIV.—SIZE AND COMPOSITION OF NORMAL FAMILIES WITH WAGE-EARNER HEADS, NUMBER OF WIVES AND CHILDREN GAINFULLY OCCUPIED AND AVERAGE EARNINGS OF WIVES AND CHILDREN, BY EARNINGS CLASS OF HEAD, CANADA, 1931

Earnings Class of Head	No. per Family							Average Earnings of	
	Per-sons	Own Children in Age Group				Gainfully Occupied		Children Stating Earnings	Wives Stating Earnings
		All Ages	Under 7	7–14	15 and over	Chil-dren	Wives		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
								$	$
All classes........................	4·23	2·17	0·78	0·78	0·61	0·33	0·030	485	516
No earnings....................	4·00	1·95	0·50	0·64	0·81	0·55	0·094	470	476
$ 1–$ 49..............	4·03	1·97	0·68	0·66	0·63	0·42	0·089	352	346
50– 449..............	4·31	2·25	0·91	0·77	0·57	0·34	0·050	326	319
450– 949..............	4·38	2·32	0·90	0·82	0·60	0·35	0·036	416	460
950– 1,449..............	4·26	2·20	0·79	0·80	0·61	0·34	0·025	505	641
1,450– 1,949..............	4·13	2·07	0·70	0·77	0·60	0·30	0·017	598	833
1,950– 2,949..............	4·01	1·95	0·60	0·74	0·61	0·26	0·010	718	1,023
2,950– 3,949..............	3·93	1·87	0·53	0·70	0·64	0·23	0·007	767	1,171
3,950– 4,949..............	3·90	1·83	0·50	0·70	0·63	0·20	0·005	835	1,263
4,950– 5,949..............	3·95	1·87	0·44	0·72	0·71	0·19	0·005	879	1,698
5,950– 6,949..............	3·94	1·86	0·41	0·68	0·77	0·19	0·005	851	1,278
6,950– 7,949..............	3·96	1·90	0·42	0·73	0·75	0·20	0·002	864	1,867
7,950– 8,949..............	4·03	1·97	0·43	0·74	0·80	0·20	0·003	914	–
8,950– 9,949..............	3·98	1·90	0·39	0·66	0·85	0·15	0·006	703	2,867
9,950– 14,949..............	4·02	1·95	0·35	0·72	0·88	0·18	0·003	1,101	4,750
14,950– 19,949..............	4·19	2·10	0·30	0·83	0·97	0·17	–	1,012	–
19,950 and over..............	3·93	1·87	0·28	0·61	0·98	0·15	0·004	1,844	–

It may be seen from column 3 that after we pass the first two earnings classes the average number of children under 7 years of age per family decreases steadily with increasing earnings of head. Small children are most numerous, therefore, in the families with heads in the lower earnings classes, a fact which may have encouraged the popular belief that the poor have much larger families than the more prosperous. In Statement XCVI, page 118, it will be seen that 48·30 p.c. of the children under 7 years of age were found in families with heads in the two earnings classes $50–$449 and $450–$949. An additional 1·47 p.c. were found in the no-earnings and $1–$49-per-annum classes so that 49·77 p.c. of the children of wage-earners under 7 years of age were being reared in 1930-31 under conditions of near poverty. There is no consistent trend between the number of children 7–14 years of age per family with earnings of head but the number of children 15 years of age and over per family steadily increases as we ascend the earnings scale. This is because the heads in the higher earnings classes are older and also because they keep their families together longer.

The classes reporting no earnings and earnings amounting to less than $50 are obviously quite different from the other low earnings classes. Their children tend to be older and there are a large number of gainfully occupied children per family and they show better earnings than the children of the heads in the other low earnings classes probably because they are older and work more steadily; 9·4 p.c. of the wives in the no-earnings class and 8·9 p.c. of those of heads who earned less than $50 (by far the highest percentages for any of the earnings classes) were gainfully occupied. This reveals the identity of the heads reporting no earnings—in a great many cases they were only nominal heads of their families, their wives or children being the real breadwinners. The age distribution of the children indicates that many of the heads were older men.

The number of children gainfully occupied per family decreases steadily with increasing earnings of heads despite the fact that there are more children 15 years of age and over in the families with heads in the higher earnings classes. The average earnings of gainfully occupied children, however, increased considerably with increasing earnings of head, the inference being that children of the more well-to-do, in addition to being probably better trained by virtue of a more complete education, worked only when they could secure more remunerative employment while the children of the poorer heads were forced to take whatever work they could get. It will be seen later that for occupation groups in Quebec and Ontario the percentage of children 15 years and over at school correlates very highly with earnings of heads.

Only 3 p.c. of the wives of wage-earners were gainfully occupied and these were confined largely to the lower earnings classes. The few wives of heads in the higher earnings classes who did earn, earned fairly large salaries indicating that they generally followed professions through choice while the wives of the poorer heads were obliged to accept casual or poorly remunerated employment.

Children's Contributions to Family Earnings.—It is obvious that the gainfully occupied children bear a considerable share of the burden of supporting their families.   In Statement XCV the ratio of children gainfully occupied per family to children 15 years of age and over is given for each earnings class of head.   In addition, the total earnings of wage-earning children are expressed as a percentage of the total earnings of heads for each class.

XCV.—RATIO OF GAINFULLY OCCUPIED CHILDREN PER FAMILY TO CHILDREN 15 YEARS OF AGE
AND OVER, AND EARNINGS OF CHILDREN AS PERCENTAGE OF EARNINGS OF HEADS,
FOR NORMAL FAMILIES, BY EARNINGS CLASS OF HEAD, CANADA, YEAR
ENDED JUNE 1, 1931

Earnings Class of Head	Ratio Children Gainfully Occupied to Children 15 Years of Age and over	Earnings of Children as P.C. of Earnings of Heads[2]
All classes	–	13·5
No earnings	0·68	–
$ 1–$ 49	0·67	1
50– 449	0·60	40·4
450– 949	0·58	21·0
950– 1,449	0·56	14·7
1,450– 1,949	0·50	10·8
1,950– 2,949	0·43	8·1
2,950– 3,949	0·36	5·5
3,950– 4,949	0·32	3·8
4,950– 5,949	0·27	3·3
5,950– 6,949	0·25	2·6
6,950– 7,949	0·27	2·4
7,950– 8,949	0·25	2·2
8,950– 9,949	0·18	1·1
9,950– 14,949	0·20	1·8
14,950– 19,949	0·18	1·1
19,950 and over	0·15	1·0

[1]Not given.
[2]Available for wage-earning children only.

Earnings of children amounted to 40·4 p.c. of the earnings of the heads in the earnings class $50–$449.   When it is remembered that this class included, in 1931, 16·04 p.c. of all families, the importance of the assistance which children afforded their families in meeting the crises of irregular employment will be fully realized. The family seems to be in a stronger position during periods of economic depression than the individual, and the old adage that there is safety in numbers holds particularly true when the individuals are connected by family ties.

It is the family with young children which would appear to suffer most when the earnings of the head are low.   The children are too young to offer the family any financial assistance and the mother is forced to stay at home to care for them.

XCVI.—PERCENTAGE DISTRIBUTION OF MEMBERS OF FAMILIES, BY EARNINGS CLASS OF HEAD,
CANADA, 1931

Earnings of Class of Head	P.C. Distribution of				P.C. Gainfully Occupied	
	Own Children in Age Group				Children	Wives
	All Ages	Under 7	7–14	15 and over		
All classes	100·00	100·00	100·00	100·00	100·00	100·00
No earnings	1·70	1·21	1·55	2·53	3·20	5·96
$ 1–$ 49	0·27	0·26	0·25	0·31	0·39	0·90
50– 449	16·60	18·60	15·82	14·99	16·84	26·71
450– 949	27·80	29·70	27·44	25·81	27·83	31·37
950– 1,449	26·74	26·64	26·88	26·71	27·42	22·19
1,450– 1,949	14·34	13·38	14·89	14·91	13·78	8·69
1,950– 2,949	8·29	7·11	8·72	9·25	7·29	3·23
2,950– 3,949	2·50	1·94	2·62	3·10	2·06	0·66
3,950– 4,949	0·74	0·56	0·78	0·91	0·52	0·13
4,950– 5,949	0·40	0·26	0·43	0·55	0·28	0·08
5,950– 6,949	0·22	0·14	0·23	0·33	0·15	0·04
6,950– 7,949	0·11	0·06	0·11	0·15	0·07	0·01
7,950– 8,949	0·07	0·04	0·07	0·10	0·05	0·01
8,950– 9,949	0·04	0·02	0·04	0·07	0·02	0·01
9,950– 14,949	0·12	0·06	0·12	0·19	0·07	0·01
14,950– 19,949	0·03	0·01	0·03	0·05	0·02	–
19,950 and over	0·02	0·01	0·02	0·04	0·01	–

XCVII.—PERCENTAGE DISTRIBUTION OF MEMBERS OF FAMILIES WITH EARNINGS OF HEADS LESS THAN AND MORE THAN GIVEN AMOUNTS, CANADA, 1931

Earnings of Head	P.C Distribution of				P.C. Gainfully Occupied	
	Own Children in Age Group				Children	Wives
	All Ages	Under 7	7-14	15 and over		

(A) IN FAMILIES WITH HEADS EARNING LESS THAN SPECIFIED AMOUNT

	All Ages	Under 7	7-14	15 and over	Children	Wives
All classes	100·00	100·00	100·00	100·00	100·00	-
No earnings	1·70	1·21	1·55	2·53	3·20	5·96
$ 49 50	1·97	1·47	1·80	2·84	3·59	6·86
449.50	18·57	20·07	17·62	17·83	20·43	33·57
949.50	46·37	49·77	45·06	43·64	48·26	64·94
1,449.50	73·11	76·41	71·94	70·35	75·68	87·13
1,949.50	87·46	89·79	86·83	85·26	89·46	95·82
2,949.50	95·75	96·90	95·55	94·51	96·75	99·05
3,949.50	98·25	98·84	98·17	97·61	98·81	99·71
4,949.50	98·99	99·40	98·95	98·52	99·33	99·84
5,949.50	99·39	99·66	99·38	99·07	99·61	99·92
6,949.50	99·61	99·80	99·61	99·40	99·76	99·96
7,949.50	99·72	99·86	99·72	99·55	99·83	99·97
8,949.50	99·79	99·90	99·79	99·65	99·88	99·98
9,949.50	99·83	99·92	99·83	99·72	99·90	99·99
14,949 50	99·95	99·98	99·95	99·91	99·97	100·00
19,949.50	99·98	99·99	99·98	99·96	99·99	-

(B) IN FAMILIES WITH HEADS EARNING SPECIFIED AMOUNT OR MORE

	All Ages	Under 7	7-14	15 and over	Children	Wives
All classes	100·00	100·00	100·00	100·00	100·00	100·00
$ 0.50	98·30	98·79	98·45	97·47	96·80	94·04
49.50	98·03	98·53	98·20	97·16	96·41	93·14
449.50	81·43	79·93	82·38	82·17	79·57	66·43
949.50	53·63	50·23	54·94	56·36	51·74	35·06
1,449.50	26·89	23·59	28·06	29·65	24·32	12·87
1,949.50	12·54	10·21	13·17	14·74	10·54	4·18
2,949.50	4·25	3·10	4·45	5·49	3·25	0·95
3,949.50	1·75	1·16	1·83	2·39	1·19	0·29
4,949.50	1·01	0·60	1·05	1·48	0·67	0·16
5,949.50	0·61	0·34	0·62	0·93	0·39	0·08
6,949.50	0·39	0·20	0·39	0·60	0·24	0·04
7,949.50	0·28	0·14	0·28	0·45	0·17	0·03
8,949.50	0·21	0·10	0·21	0·35	0·12	0·02
9,949.50	0·17	0·08	0·17	0·28	0·10	0·01
14,949.50	0·05	0·02	0·05	0·09	0·03	-
19,949.50	0·02	0·01	0·02	0·04	0·01	-

Statements XCVI and XCVII contain an interesting distribution of family dependents and workers by earnings classes of heads. The high percentage of children under 7 years of age in families with heads in the lower earnings classes has already been mentioned. It is interesting to note from Statement XCVIIA that 64·94 p.c. of the gainfully occupied wives were those whose husbands earned less than $950.

Occupational Classification.—In a young country like Canada where hard and fast lines of social demarcation have not yet become established and a strong democratic spirit tends to keep down social barriers, the significance of social class is not so important as in European and Asiatic countries. Fertility studies in Europe devote much attention to differentials between social classes; the upper classes have been found to marry later and to be less fertile in marriage than the lower classes. Similar studies in the United States have given rise to the theory that families of inherent low fertility have tended to rise to prominence on that account; the less fertile families have accumulated social and educational advantages not available to large families from generation to generation. The influence of class on family size in Canada may best be examined on the basis of occupation, since it is our best criterion of the individual's training, education, social background and physical environment.

The census compilations of family data by occupation of head were confined to normal families of wage-earners so that we can measure average earnings in each occupation. There were 368 individual occupations, each containing 10 or more families but, since so many groups would be unwieldy in analysis, only those occupations containing 1,000 or more families have been dealt with. There were 135 of these including 934,971 families or 90 p.c. of the total number (1,033,863) of normal families with wage-earning heads.

XCVIII.—NUMBER OF FAMILIES, PERSONS PER FAMILY AND RELEVANT DATA FOR 135 OCCUPATIONS, CANADA, 1931

Occupation	X₁ Average Persons per Family	X₂ Average Earnings of Heads	X₃ P.C. of Families Living in Cities of 100,000 and over	X₄ P.C. Gainfully Occupied[6] of British Racial Origin	X₅ Earnings of Wage-Earners 25-34 Years of Age as P.C. of Those 45-54	X₆ P.C. of Wage-Earners 35-54 Years of Age	No. of Families
		$					
All classes[1]...........................	4·17	1,424	36·6	61·4	84·4	48·4	934,971
Foremen and overseers[5].....................	5·26	1,630	10·9	41·0	87·0	59·0	1,216
Section foremen, sectionmen; trackmen.....	4·88	1,015	4·2	32·8	71·9	48·7	12,998
Foresters and timber cruisers...............	4·87	1,066	3·4	51·6	86·7	44·8	1,491
Lumbermen...............................	4·87	483	4·5	23·0	94·8	36·1	10,033
Coal miners..............................	4·87	700	0·9	58·3	95·1	51·4	9,905
Labourers (coal mining)...................	4·84	644	0·6	63·2	99·7	38·5	2,318
Other machine operators[5].................	4·81	982	4·2	37·6	95·9	41·4	1,381
Millwrights (metal products)...............	4·75	1,118	23·2	63·2	99·0	59·0	2,629
Sawyers (wood products)..................	4·73	746	10·7	48·3	84·1	45·9	2,206
Fishermen...............................	4·72	526	4·5	41·4	86·6	41·2	4,114
Boiler firemen...........................	4·72	1,002	26·5	56·0	90·1	50·8	4,567
Labourers (other mining)..................	4·71	745	5·3	32·5	105·3	36·2	3,484
Carpenters...............................	4·69	839	33·5	50·7	89·2	53·6	48,083
Paper makers............................	4·63	1,435	5·8	41·8	81·3	33·0	1,965
Stone cutters, dressers, and carvers.........	4·62	1,151	40·8	48·2	84·7	47·8	1,682
Foremen and overseers (wood products)....	4·62	1,388	14·5	54·5	87·4	57·9	1,359
Inspectors, graders, and sealers (wood products).................................	4·59	1,035	16·5	50·3	84·6	46·3	1,401
Foremen and overseers (building and construction)..............................	4·59	1,416	32·1	62·5	97·2	60·5	3,923
Furnacemen (metal products).............	4·59	1,111	24·6	55·5	97·1	48·1	285
Labourers and unskilled workers[2]..........	4·56	594	28·2	39·9	89·4	40·5	190,655
Teamsters, draymen, carriage drivers.......	4·55	863	35·9	56·2	97·0	43·9	10,368
Foremen, inspectors (steam railway)........	4·55	1,761	24·9	73·9	86·6	67·5	4,435
Longshoremen and stevedores..............	4·54	725	56·5	43·8	94·5	53·1	2,726
Blacksmiths, hammermen, and forgemen (mfg.).................................	4·53	978	31·5	52·4	85·5	51·6	6,404
Machine operators (boots and shoes)........	4·53	814	61·6	26·2	97·1	38·6	2,907
Locomotive engineers.....................	4·51	2,250	24·2	81·1	63·0	77·2	6,638
Cutters (leather and leather products)......	4·48	845	57·8	31·2	88·8	39·0	1,129
Locomotive firemen.......................	4·47	1,400	20·7	74·3	67·0	55·2	4,378
Brakemen (steam railway)................	4·46	1,430	22·6	73·0	67·2	62·2	6,355
Boilermakers, platers, and riveters (mfg.)...	4·45	1,078	37·8	68·3	84·1	56·8	3,443
Car builders and repairers (mfg.)............	4·45	1,232	28·6	69·7	92·1	63·6	3,487
Yardmen, n.e.s. (steam railway)............	4·42	1,362	27·3	76·6	76·7	57·6	1,537
Conductors (steam railway)................	4·41	2,159	24·7	80·3	75·6	75·7	4,098
Moulders, coremakers, and casters..........	4·41	803	33·1	54·7	88·5	55·1	5,734
Butter and cheese makers..................	4·40	994	10·2	41·0	86·5	30·3	1,436
Brick and stone masons....................	4·37	876	40·0	58·1	88·5	49·1	6,627
Firemen—fire department..................	4·37	1,680	61·5	68·0	88·8	53·2	3,814
Street car conductors......................	4·34	1,359	74·9	54·1	82·8	60·1	3,107
Plumbers, steam fitters, and gas fitters......	4·32	1,129	42·1	63·0	86·4	47·8	8,559
Hoistmen, cranemen, and derrickmen[3]......	4·32	1,166	27·4	71·2	103·8	53·3	2,427
Filers and grinders........................	4·31	929	27·4	63·9	86·9	47·3	1,338
Tailors (mfg.)............................	4·31	929	77·9	26·3	88·7	52·1	4,753
Captains, mates, and pilots.................	4·30	1,595	25·0	58·4	74·5	50·7	2,539
Plasterers and lathers.....................	4·28	829	53·5	58·0	92·5	46·7	3,174
Watchmen and caretakers.................	4·28	975	33·3	64·8	93·2	44·0	9,693
Ironers and pressers.......................	4·27	807	15·7	20·9	97·2	12·0	1,770
Postmen and mail carriers.................	4·27	1,185	27·9	69·9	87·7	55·2	4,997
Stationary enginemen, n.e.s................	4·26	1,253	35·1	77·2	90·3	55·7	12,143
Motormen (electric railway)...............	4·26	1,364	61·8	70·0	88·0	63·1	4,055
Switchmen, signalmen, flagmen............	4·26	1,307	28·0	74·1	84·3	52·0	3,033
Weavers (textile products).................	4·25	732	14·4	30·4	107·3	28·9	1,690
Foremen and overseers (agriculture)........	4·24	1,104	2·1	66·2	70·6	56·7	1,978
Miners (other mining).....................	4·23	1,081	3·2	34·0	117·8	39·2	4,662
Bakers (mfg.)............................	4·22	1,054	42·2	52·4	85·8	37·4	4,518
Deliverymen and drivers, n.s...............	4·22	1,016	49·0	50·3	92·0	33·3	2,745
Police and detectives......................	4·21	1,630	45·3	70·3	90·1	51·2	8,294
Agents—ticket, station (railway)...........	4·21	2,018	12·1	77·2	72·6	61·3	4,221
Floorwalkers, foremen, overseers (commercial)...............................	4·20	1,649	50·1	71·5	86·6	56·9	1,239
Baggagemen, expressmen..................	4·20	1,571	31·8	78·4	77·0	59·2	1,512
Engineering officers (water transportation)..	4·20	1,315	28·4	71·3	76·7	52·9	2,212
Foremen and overseers (metal products)....	4·20	1,713	30·8	76·2	78·5	59·9	4,552
Butchers and slaughterers (mfg.)..........	4·19	1,032	45·0	52·9	100·1	41·1	5,218
Painters, decorators, and glaziers...........	4·18	852	46·8	59·1	87·1	44·8	15,744

n.s.—not specified; n.e.s.—not elsewhere specified.
[1]Unweighted means for classes given.
[2]Not agricultural, mining, or logging.
[3]Electric light and power (including stationary enginemen).
[4]Commercial occupations.
[5]Pulp, paper, and paper products.
[6]Gainfully occupied is here used because occupation and racial origin were not cross-classified for wage-earners in 1931.

XCVIII.—NUMBER OF FAMILIES, PERSONS PER FAMILY AND RELEVANT DATA FOR 135 OCCUPATIONS, CANADA, 1931—Con.

Occupation	X_1 Average Persons per Family	X_2 Average Earnings of Heads	X_3 P.C. of Families Living in Cities of 100,000 and over	X_4 P.C. Gainfully Occupied[6] of British Racial Origin	X_5 Earnings of Wage-Earners 25–34 Years of Age as P.C. of Those 45–54	X_6 P.C. of Wage-Earners 35–54 Years of Age	No. of Families
		$					
Sheet metal workers and tinsmiths.........	4·17	1,035	46·8	61·0	87·3	43·8	3,715
Seaman, sailors, and deckhands.............	4·17	806	15·7	60·5	79·8	49·2	2,212
Machinists (metal products)................	4·16	1,107	37·3	70·5	90·0	49·7	21,539
Electricians and wiremen...................	4·16	1,373	37·3	64·5	83·1	40·0	11,498
Wood turners, planers—wood machinists....	4·15	839	22·9	58·2	88·9	41·4	1,490
Sewers, sewing machinists—shop, factory (mfg.).....................................	4·14	837	89·9	11·1	96·2	35·7	1,371
Officers—steam railway....................	4·14	3,830	32·7	84·1	64·3	69·6	1,562
Cooks.....................................	4·14	890	38·5	28·5	99·0	61·0	5,273
Dynamo, motor, and switch board operators	4·13	1,493	20·1	74·3	89·6	44·1	1,315
Farm labourers............................	4·13	472	5·6	44·7	83·3	28·1	41,217
Finishers and polishers (wood products).....	4·11	825	27·3	62·8	85·4	48·8	1,392
Packers, wrappers, and labellers............	4·10	899	38·2	66·7	87·5	41·3	2,041
Machine tenders, n.e.s. (metal products).....	4·10	818	31·2	72·9	97·5	42·9	2,394
Polishers and buffers (metal products)......	4·09	797	34·9	71·6	93·4	44·8	1,257
Mechanics, n.e.s. (metal products).........	4·08	1,116	34·6	60·9	84·8	35·7	21,740
Structural iron workers and steel erectors...	4·08	946	43·5	63·8	85·6	43·1	1,064
Truck drivers.............................	4·07	965	41·4	63·8	88·8	29·7	22,084
Commercial travellers.....................	4·07	1,978	53·6	56·4	83·8	59·1	12,197
Purchasing agents and buyers..............	4·06	2,021	20·4	76·2	78·0	59·2	4,838
Sales agents, canvassers, demonstrators.....	4·06	1,684	35·2	67·0	83·8	65·6	4,422
Inspectors, gaugers, and samplers[4].........	4·04	1,516	34·4	78·1	77·6	40·2	1,729
Public service officials.....................	4·03	2,348	32·7	75·0	73·5	57·6	8,224
Managers—other transportation.............	4·03	1,633	6·6	72·2	88·1	57·0	2,137
Managers (building and construction).......	4·02	2,981	41·7	64·4	78·4	67·7	1,146
Fitters, assemblers, and erectors...........	4·02	881	29·6	77·0	86·0	45·0	2,365
Electric and oxy-acetylene welders (mfg.)...	4·02	1,106	37·2	68·0	88·3	37·0	1,464
Other ranks (army, navy and air force).....	4·01	1,337	72·9	88·0	64·7	33·9	1,298
Insurance agents...........................	4·00	1,901	41·9	69·1	76·5	67·6	10,038
Pressmen and plate printers................	3·98	1,562	61·2	68·2	83·2	44·1	1,086
Telegraph operators.......................	3·96	1,720	23·8	71·3	83·4	40·6	3,663
Cabinet and furniture makers..............	3·96	919	37·4	56·6	86·4	49·1	2,183
Tool makers, die cutters and sinkers........	3·95	1,192	33·4	79·7	92·0	52·7	2,081
Linemen and cablemen.....................	3·95	1,430	29·7	81·1	85·0	37·9	3,829
Insurance officials.........................	3·95	4,189	50·3	79·6	57·9	66·8	2,552
Brokers and agents, n.e.s..................	3·94	2,138	36·5	74·5	75·6	60·3	3,457
Shippers (warehousing and storage).........	3·94	1,143	48·3	74·6	90·1	42·4	9,091
Barbers, hairdressers, manicurists..........	3·94	974	46·9	48·1	96·3	40·2	3,498
Mechanical engineers......................	3·93	2,486	43·5	76·0	78·5	56·7	2,034
Collectors (trade).........................	3·92	1,319	55·2	62·2	86·7	42·6	1,175
Furriers—fur cutters, dressers, sewers......	3·91	1,179	85·7	16·4	77·4	32·7	1,059
Chauffeurs and bus drivers.................	3·91	985	55·1	49·3	81·7	30·4	6,576
Compositors; printers, n.s.................	3·90	1,665	53·7	72·3	77·9	40·6	6,457
Upholsterers...............................	3·89	933	41·4	58·3	80·7	36·6	1,585
Clergymen and priests.....................	3·89	1,800	16·7	57·6	58·7	68·8	6,284
Messengers (other transportation and communication)............................	3·88	1,221	54·3	65·7	76·1	35·8	1,381
Warehousemen and storekeepers...........	3·88	1,236	35·8	86·3	89·4	48·1	3,495
Cutters (textile products)..................	3·86	1,139	71·6	44·9	86·3	39·3	1,251
Managers—metal products.................	3·85	4,042	42·0	71·3	59·7	69·1	2,660
Civil engineers and surveyors..............	3·85	2,851	44·5	79·1	68·1	58·7	4,430
Managers—retail stores....................	3·84	2,420	39·6	54·0	67·7	53·6	10,581
Officials, finance..........................	3·84	3,516	31·4	80·0	54·9	75·9	4,489
Elevator tenders..........................	3·84	905	63·0	72·6	87·8	37·4	1,502
Professors and college principals............	3·82	3,633	43·9	42·0	40·7	50·3	1,118
Jewellers, watchmakers, repairers..........	3·81	1,345	58·4	58·6	89·4	45·0	1,173
Janitors and sextons.......................	3·79	919	40·7	76·4	86·0	47·8	11,181
Office clerks..............................	3·79	1,519	47·7	75·0	85·4	34·4	37,454
Salesmen..................................	3·79	1,351	43·1	63·6	87·4	37·9	46,154
Managers—wholesale trade.................	3·78	3,511	48·8	70·6	67·7	67·4	4,966
Accountants and auditors..................	3·77	2,404	46·4	80·3	84·1	57·9	11,736
Real estate agents and dealers.............	3·74	1,832	52·2	75·0	89·0	57·2	1,298
Teachers—school..........................	3·70	2,115	30·7	61·5	70·1	32·7	7,001
Authors, editors, and journalists...........	3·69	2,645	55·3	78·0	69·7	42·8	1,451
Electrical engineers.......................	3·67	2,645	50·1	84·4	69·6	47·7	2,600
Bookkeepers and cashiers..................	3·65	1,490	47·8	69·4	89·2	28·7	12,960
Waiters...................................	3·63	945	62·0	36·7	83·0	45·9	3,795
Bell-boys and porters—not railway........	3·61	878	54·6	65·6	84·3	38·6	1,350
Musicians and music teachers..............	3·59	1,413	58·9	62·3	95·3	37·1	1,096
Advertising agents........................	3·58	2,685	59·4	84·2	78·6	50·3	1,118
Stock and bond brokers....................	3·56	2,799	64·1	83·7	89·4	55·7	1,836
Designers and draughtsmen................	3·55	1,975	48·9	79·7	80·8	34·8	2,242
Chemists, assayers, metallurgists..........	3·52	2,275	42·4	73·6	76·6	34·8	1,730
Domestic servants, n.e.s..................	3·27	691	46·9	30·1	93·0	39·5	1,191

In Statement XCVIII, occupations have been ranked according to size of family. Foremen and overseers in pulp and paper and paper products had the largest families and domestic servants the smallest. Since number of heads for all classes was fixed at 2, the variation in family size was confined to the number of dependents per family which ranged from 3·26 for the largest average family to 1·27 for the smallest. That is, heads of families occupied as foremen and overseers in pulp and paper and paper products had 2·6 dependents to every one for those occupied as domestic servants. This would seem to indicate that occupation has an important bearing on family size in Canada.

Supplementary data have been given in Statement XCVIII in order to evaluate the importance of incidental factors in determining family size for each occupation. If these figures are compared for the two extreme classes, foremen and overseers in pulp and paper and paper products, and domestic servants, it will be seen that average earnings for heads of families engaged in the former occupation amounted to $1,630 as compared with $691 for heads engaged in the latter. That is, earnings were much higher for heads of families in the occupation with the largest families than for the occupation with the smallest families indicating that there are wide deviations from the rule that family size correlates inversely with earnings of head and explaining why a more marked relationship was not discovered between family size and earnings of head in Statement XCIV. Of the families with heads engaged in the former occupation, 10·9 p.c. were living in cities of 100,000 population and over, as compared with 46·9 p.c. of the families of domestic servants. The fact that the pulp and paper industry is scattered throughout the country in small towns rather than centralized in the large cities probably is connected with the large size of the families of persons engaged in it. In both occupations a relatively low percentage of the gainfully occupied are of British racial origin. Domestic servants appeared to reach their maximum earnings younger than foremen and overseers in pulp and paper and paper products, so that none of the difference in family size could be attributed to this factor; 59·0 p.c. of the wage-earning foremen and overseers in pulp and paper and paper products were between the ages of 35 and 54 compared with 39·5 p.c. of the domestic servants. The age distribution of those engaged in the former occupation was consequently more favourable to large average family size than for those engaged in the latter.

It is obvious that these factors, important as they may be, cannot be regarded as accounting for the total range in family size between the two occupational classes. The small size of the families of domestic servants is easily explained on the basis of the occupation itself. A very large family would most likely debar a man from employment as a servant while the employer might consider childless families highly desirable, particularly when he provided living accommodation for them. The domestic realizing his position would not wish to burden himself with a large family. This is a striking indication of the possibility of economic factors lowering the birth rate.

It is obvious that the increasing demand for domestic servants cannot be filled by the children of domestics who, as a class, are scarcely reproducing themselves. During the period 1921-31, domestic servants increased from 83,923 to 142,554. The increase must have come from other occupational classes and the children of persons engaged in other occupations. This throws an interesting light on the current shortage of competent domestic servants; domestics are generally the cast-offs of other occupational classes.

Type of Occupation.—The 135 occupations shown in Statement XCVIII may conveniently be divided into fifteen groups of nine, as spaced off in the statement. The first group, containing the nine occupations with the largest average persons per family, is comprised of occupations featuring outdoor or heavy physical work, *viz.*, sectionmen, foresters and timber cruisers, lumbermen, miners and labourers in coal mines, machine operatives in pulp and paper and paper products, millwrights and sawyers. Foremen and overseers in the manufacturing of pulp and paper and paper products have probably risen from workers in similar occupations. In contrast, the occupations in the last group, including those with the smallest families, are indoor occupations and do

not entail manual work. If the intermediate groups are observed one by one, from those containing the largest families to those containing the smallest, a gradual change from the outdoor occupations to the indoor, office and professional occupations is noted. The investigation may be carried further by classifying the occupations into seven types, A, B, C, D, E, F, and G on the basis of the nature of the work. The types may be described as follows:—

Type	Nature of Work
A	Outdoor—heavy manual
B	Indoor—heavy manual
C	Outdoor—light manual and supervisory
D	Indoor—light manual and supervisory
E	Officials, managers, salesmen
F	Professional and clerical
G	Personal service

There was, unfortunately, no method available for making the above classification on a quantitative basis. Consequently, the classification was entirely arbitrary and difference of opinion may exist as to the type to which some of the occupations belong. It would be difficult to attach labourers and unskilled workmen to any one type and a similar difficulty arose with respect to carpenters. However, the remaining 133 occupations were classified and in Statement XCIX the distribution of the individual occupations of each type according to average persons per family is given.

It is evident from the Statement XCIX that there is a well-defined relationship existing between average persons per family and the nature of the occupation of the head. The A occupations, where the work is mostly outdoor and requires a strong physique, produce the largest families and the F and G occupations including the professions, the clerks, the barbers, the domestics, etc., produce the smallest families. This is in line with the theory that as we remove man from the environment of nature and place him in artificial surroundings his reproductive rate decreases.

The relationship can best be measured by means of the correlation ratio between average persons per family and type of occupation of head.* The correlation ratio was ·815. Consequently, 66 p.c. of the variance in average persons per household from occupation to occupation is associated with general types into which the occupations can be divided.

Type of occupation measures psychological characteristics as well as physiological. Mode of living varies from occupation to occupation. The professional man leads a very different life from the labourer and social ambitions create a strong incentive for voluntary limitation of family size; in addition, the professional man marries later than the labourer.

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* The square root of the complement of the sum of the variance in average persons per household within classes of occupation from the class mean divided by the total variance from the general mean for all classes. The correlation ratio may be derived from the following formula:—

$$r^2 = 1 - \frac{\sum\limits^{K} n_K (x - \bar{x}_K)^2}{\sum\limits^{N} (x - \bar{x})^2}$$

where x — average persons per family for individual occupations.

x_K — mean of the averages for the Kth class.

$\bar{x}$ — average person per family for all classes.

n_K — number of occupations in the Kth class.

N — total number of occupations.

XCIX.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF 133 OCCUPATIONS ACCORD-
ING TO AVERAGE NUMBER OF PERSONS PER FAMILY IN RELATION
TO TYPE OF OCCUPATION OF FAMILY HEAD, CANADA, 1931

Average Persons per Family	Type of Occupation of Head							
	A	B	C	D	E	F	G	Total
3·25–3·34							1	1
3·35–3·44								
3·45–3·54						1		1
3·55–3·64					2	2	2	6
3·65–3·74					1	4		5
3·75–3·84				1	4	4	1	10
3·85–3·94			2	5	4	3	1	15
3·95–4·04			2	5	6	1		14
4·05–4·14	1	2	1	7	4			15
4·15–4·24		4	5	7	1			17
4·25–4·34	1	3	5	5				14
4·35–4·44	1	3	1	1				6
4·45–4·54	3	4	1	1				9
4·55–4·64	2	2	4					8
4·65–4·74	2	2						4
4·75–4·84	1	1	1					3
4·85–4·94	3	1						4
4·95–5·04								
5·05–5·14								
5·15–5·24								
5·25–5·34			1					1
Total	14	22	23	32	22	15	5	133
Mean persons per family	4·60	4·43	4·34	4·12	3·92	3·76	3·64	4·17

The A occupations are largely rural and the E, F and G occupations urban. Families with heads in the latter occupations are living in the larger cities where the density of population is high. Urban families are smaller than rural due particularly to the absence of very large families in the cities. It was observed from Statement XXXIII, page 68, Chapter IV, that large families in the city of Toronto generally suffered from very inadequate housing accommodation. The inference was drawn that their inability to provide sufficient space for housing a large family would influence parents to voluntarily limit the sizes of their families. The importance of the contribution of the large family class to our population increase was clearly indicated in Chapter VIII and its absence in the larger cities is reducing the rate of natural increase of our population. The distribution of labour which results in the concentration of production in large cities is, therefore, considerably reducing the rate of population growth. This point will be more thoroughly dealt with later.

Correlation between Average Family Size and Average Earnings of Heads.—Referring back to the analysis of the data presented in Statement XCVIII, page 120, it is seen that the unweighted mean of the average persons per household for the 135 occupations was 4·17. The mean variance of the averages about this mean was 0·12 so that their standard deviation was 0·35. How much of this variance can be associated with the measurable attributes of the occupations given in Statement XCVIII? Statement C is a scatter diagram cross-classifying average earnings of family heads with average persons per family for the 135 occupations.

C.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF 135 OCCUPATIONS ACCORDING TO INTERVALS OF AVERAGE EARNINGS OF HEADS OF FAMILIES IN RELATION TO AVERAGE NUMBER OF PERSONS PER FAMILY, CANADA, 1931

Average Earnings of Head	3.25-3.34	3.35-3.44	3.45-3.54	3.55-3.64	3.65-3.74	3.75-3.84	3.85-3.94	3.95-4.04	4.05-4.14	4.15-1.24	4.25-4.34	4.35-4.44	4.45-4.54	4.55-4.64	4.65-4.74	4.75-4.84	4.85-4.94	4.95-5.04	5.05-5.14	5.15-5.24	5.25-5.34	Total
$ 450-$ 549								1								1		1				3
550- 649														1		1						2
650- 749	1										1		1		2		1					6
750- 849								4	2	2	1	2			1							12
850- 949				2		2	1	2	3	1	2	1			1							15
950- 1,049								2		1	3	1	1	1	1	1	1					13
1,050- 1,149								2	1	1	4	1		1	1		1	1				13
1,150- 1,249								3	1				2		1	1						8
1,250- 1,349						1		1	1			1	2									6
1,350- 1,449				1		1		1				1	2	1	2	3						12
1,450- 1,549					1	1		1	1													4
1,550- 1,649								2			3	1									1	7
1,650- 1,749							1	1	1	1		1										5
1,750- 1,849						1		1								1						3
1,850- 1,949								1														1
1,950- 2,049					1				2	1												4
2,050- 2,149					1			1														2
2,150- 2,249												1										1
2,250- 2,349			1					1					1									3
2,350- 2,449							2															2
2,450- 2,549								1														1
2,550- 2,649						2																2
2,650- 2,749					1																	1
2,750- 2,849					1																	1
2,850- 2,949								1														1
2,950- 3,049							1															1
3,050- 3,149																						
3,150- 3,249																						
3,250- 3,349																						
3,350- 3,449																						
3,450- 3,549						2																2
3,550- 3,649						1																1
3,650- 3,749																						
3,750- 3,849									1													1
3,850- 3,949																						
3,950- 4,049							1															1
4,050- 4,149																						
4,150- 4,249								1														1
Total.......	1		1	6	5	10	15	14	15	17	14	6	9	9	5	3	4				- 1	135

The correlation between average earnings of head and average family size obtained from the above scatter diagram was − ·41. It is interesting to observe that, while family size was always relatively small for the occupations in which earnings were highest, it varied from high to low in the occupations where earnings were low. This is more clearly illustrated in Statement CI.

CI.—MEAN OF AVERAGE PERSONS PER HOUSEHOLD AND STANDARD DEVIATION IN AVERAGES
FOR NINE GROUPS OF 15 OCCUPATIONS EACH, ARRANGED IN ORDER OF
DESCENDING EARNINGS, CANADA, 1931

Group	Mean of Average Persons per Family	Standard Deviation of Averages
1.	3·82	0·16
2.	4·01	0·31
3.	4·15	0·34
4.	4·20	0·33
5.	4·19	0·28
6.	4·38	0·28
7.	4·23	0·26
8.	4·12	0·30
9.	4·43	0·41

The occupations were arranged in nine groups of 15 each on the basis of average earnings of heads of families. The first group contains the 15 occupations with heads receiving the highest average earnings, the second, the 15 occupations next in line, etc. Earnings of heads of families for occupations in the first group ranged from $2,404 to $4,189. The mean of the average sizes of families was considerably smaller in this group than in any of the lower earnings groups and the standard deviation of the averages about their group mean was also small as compared with the other groups. Wage-earners earning $2,400 and up who might be considered to belong to the upper class of wage-earners have small families, there being little variation between occupations. There is a strong indication of regulation of family size resulting in a family of standard size. This eliminates the very large family and explains why the birth rate is low for these classes and why they make little contribution to the natural increase of our population. The occupations in which average earnings of family heads exceeded $2,400 were as follows:—

Managers—metal products   Insurance officials

Managers—building and construction   Stock and bond brokers

Railway officers—steam railways   Authors, editors and journalists

Managers—retail stores   Civil engineers and surveyors

Managers—wholesale import and export   Electrical engineers

    houses; commercial agencies   Mechanical engineers

Advertising agents   Professors and college principals

Officials—finance

The mean of the average sizes of families is also small for the second group in Statement CI, including occupations in which earnings ranged from $1,720 up to $2,348. It was considerably higher than for the first group, however, due to the presence of three occupations in which average family size was fairly large, viz., foremen and inspectors—steam railways—with 4·55 persons per family, locomotive engineers with 4·51 persons per family, and conductors—steam railways—with 4·41 persons per family. It is interesting that the standard deviation of the averages is large for this group. The trend between family size and earnings of heads would appear to be very irregular in the last 7 groups and the standard deviation in the average for each group is generally large. The conclusion is, therefore, that heads of families in the highest earnings classes tend to have small families of uniform size while families with heads in the lower earnings classes vary in size from large to small, depending on the occupation.

Correlation between Average Family Size and Urbanization of Occupation.—It has already been pointed out that the urban or rural location of the occupation will have an important bearing on the average size of the families of heads engaged in it. As a measure of urbanization we have taken the percentage of families with heads in each occupation in cities with population of 100,000 and over. The correlation between family size and urbanization of occupation as measured by this index was − ·55 which may be considered highly significant in view of the fact that an even higher correlation would certainly result from the use of a less arbitrary index of urbanization. Occupations with a low representation of families in the seven cities with population above the 100,000 mark but with a large representation in the smaller towns and cities are undoubtedly more urban than those purely rural occupations, such as fishing, but our index does not distinguish them. Unfortunately, the data required for the construction of a more refined index were not available.

Correlation between Average Family Size and Percentage of Gainfully Occupied of British Racial Origin.—It is well known that workers of certain racial origins are found largely in certain occupations either through choice or necessity. Since family size varies with race, the racial origins of the heads of families engaged in each occupation will have a bearing on the average size of the family. The only data available for the racial content of each occupation were for the gainfully occupied males—no data were available for either family heads or wage-earners alone. To construct an index from these data for each occupation giving each race a predetermined weight would be a laborious task and would yield results of doubtful value. Consequently, family size was correlated with the percentage of the gainfully occupied of British racial origin. The British generally have small families and their presence in the occupation may also serve as an indication of the presence of other small family races. The coefficient of correlation between family size and percentage gainfully occupied of British racial origin was − ·35. Racial content would not appear to contribute greatly to the variance in family size between occupations.

Effect of Delayed Earnings on Family Size.—Some occupations require a long and expensive training so that the wage-earner does not receive his maximum earnings until late in life, while in the less skilled occupations he may receive his maximum earnings as soon as he reaches manhood. Persons engaged in the former occupations will marry later than those in the latter occupations and be less able to support a family at the ages when children are usually born. It is difficult to measure the occupations for this attribute with census data. The method used has been to express the average earnings of the wage-earners between 25 and 34 years of age as a percentage of the average earnings of wage-earners between 45 and 54 years of age. For the sake of brevity we shall refer to this as the delayed-earnings index. The obvious drawback to the use of this device was that most of the wage-earners who train themselves for the skilled occupations do not belong to them at all between the ages of 25 and 34 and do not earn as much as those fortunate individuals who are able to enter the occupation at these ages. For example, the actuary is generally a *clerk* during his apprenticeship and earns his small salary while in this occupation. The coefficient of correlation between average family size and this index was ·30 and it will be seen later that the correlation becomes much lower when the other factors measured, particularly average earnings of heads of families at all ages, are partialled out. Are we then to conclude that family size in the occupations requiring skill and training is not appreciably decreased by the fact that wage-earners in these occupations earn their maximum after they have passed the ages when children are usually born or that our index of delayed earnings has not been valid? It is safe to conclude that the low correlation indicates both that the influence of delayed earnings is not very important and that the importance it does possess has not been fully measured.

Average Family Size and Age Distribution of Family Heads.—No data were available with regard to the age distribution of family heads by occupations. Consequently, it was not possible to standardize average persons per family in each occupation for ages of heads. However, data were available for the age distribution of male wage-earners in each occupation and the percentage of wage-earners between 35 and 54 years of age in each occupation will serve to indicate the percentage of family heads at the ages when their families are largest. The correlation between family size and percentage of wage-earners 35–54 was only 0·12. It must not be assumed, however, that the age distribution of the heads will not distort average family size in individual occupations.

CII.—SIMPLE CORRELATIONS BETWEEN PAIRS OF VARIABLES FOR 135 OCCUPATIONS, CANADA, 1931

Variable	X_1 Average Persons per Family	X_2 Average Earnings of Heads	X_3 P.C. of Families Living in Cities of 100,000 and over	X_4 P.C. Gainfully Occupied of British Racial Origin	X_5 Delayed- Earnings Index	X_6 P.C. of Wage- Earners 35-54 Years of Age
X_1	-	-	-	-	-	-
X_2	$-\cdot41$	-	-	.-	-	-
X_3	$-\cdot55$	$+\cdot16$	-	-	-	-
X_4	$-\cdot35$	$+\cdot49$	$+\cdot03$	-	-	-
X_5	$+\cdot30$	$-\cdot50$	$-\cdot06$	$-\cdot38$	-	-
X_6	$+\cdot12$	$+\cdot53$	$-\cdot11$	$+\cdot41$	$-\cdot40$	-

The correlations between average persons per family and the five independent variables already discussed have been summarized in Statement CII. The intercorrelations between the independent variables have also been given and they will be seen to be high in some cases. The multiple coefficient of correlation between average family size and the five independent variables was $\cdot75$. Squaring this, we find that 56 p.c. of the total variance in family size was associated with these five variables and it cannot be assumed that the remaining 44 p.c. of the variance was entirely independent of the attributes measured by them, since, as has already been discussed, they do not measure the attributes with absolute accuracy. The distribution of the variance was as follows:—

DISTRIBUTION OF VARIANCE ASSOCIATED WITH THE FIVE INDEPENDENT VARIABLES

Independent Variable	P.C. of Variance Associated with Variable
Total	55·5
X_2 (average earnings of heads)	13·9
X_3 (percentage of families in cities 100,000 and over)	25·4
X_4 (percentage of gainfully occupied of British racial origin)	10·2
X_5 (delayed earnings)	0·5
X_6 (percentage of wage-earners 35-54 years of age)	5·5

The above figures are graphically presented in Chart 6.

VARIANCE IN AVERAGE SIZES OF FAMILIES OF WAGE-EARNERS ASSOCIATED WITH FIVE ATTRIBUTES OF OCCUPATIONAL CLASSES, CANADA, 1931

P.C. OF VARIANCE ASSOCIATED WITH ALL FIVE VARIABLES	INDEPENDENT VARIABLE★	RELATIVE IMPORTANCE OF EACH INDEPENDENT VARIABLE
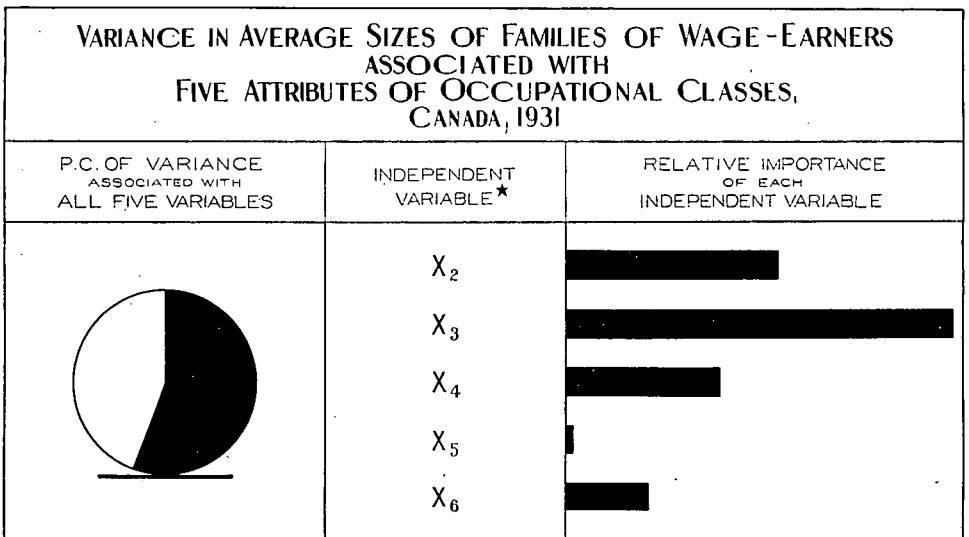
★ Independent variables may be identified above.

Chart 6

Consequently, of the total variance in family size between occupations, 25 p.c. was associated with the urbanization of the occupation. Urbanization was approximately twice as important in causing variation in family size as either earnings of heads or percentage of the wage-earners of British racial origin. The age distribution of the wage-earners accounted for 10 p.c. of the total variance, much more than was indicated by the low simple coefficient of correlation, so that the true weight of the age factor is apparent only when the other variables are held constant. The delayed earnings factor is then of negligible importance.

Analysis of Variance in Family Size between Occupations and Rural and Urban Groups for Ontario.—The most significant relationship disclosed by the above study has been that between average family size and urbanization of occupation. The importance of urbanization in determining family size may now be dealt with in another way. Family data by occupation are available for rural and urban parts of the provinces of Ontario and Quebec, but since the presence of two very different and very important racial groups in the urban parts of the province of Quebec complicates investigation of family size when we are not able to hold the race factor constant, the following study has been confined to Ontario where the influence of race on family size from occupation to occupation is probably not great enough to appreciably vitiate the results. In Statement CIII the numbers of own children per family are given for 46 occupations by rural and urban groups. In order that the averages should be significant, only those occupations are shown with at least 25 families in each rural or urban group. The 46 occupations were selected on this basis. Occupations that include a large number of wage-earners and are distributed

CIII.—AVERAGE NUMBER OF OWN CHILDREN PER FAMILY WITH HEAD IN SELECTED OCCUPA-
TIONS, RURAL AND URBAN BY SIZE GROUPS, ONTARIO, 1931

Occupation	Children per Family							
	Urban				Rural	Sum	Mean	Sum of Squares
	100,000 and over	30,000– 100,000	1,000– 30,000	Under 1,000				
Farm labourers	1·74	1·51	1·80	1·72	1·92	8·69	1·74	15·193
Bakers (mfg.)	1·86	1·62	1·97	1·98	2·02	9·45	1·89	17·966
Butchers and slaughterers (mfg.)	1·77	2·00	2·06	2·45	2·16	10·44	2·09	22·045
Foremen and overseers (wood products)	1·85	1·67	2·15	2·36	2·51	10·54	2·11	22·704
Sawyers	1·69	1·95	2·27	2·52	2·65	11·08	2·22	25·184
Cabinet and furniture makers	1·72	1·76	1·91	2·08	2·08	9·55	1·91	18·357
Compositors; printers, n.s.	1·63	1·62	1·62	2·39	1·78	9·04	1·81	16·786
Blacksmiths, hammermen, and forgemen	1·94	1·84	2·12	2·84	2·40	11·14	2·23	25·469
Machinists (mfg.)	1·68	1·76	1·94	1·79	2·15	9·32	1·86	17·510
Millwrights (mfg.)	1·99	2·20	2·46	2·96	2·98	12·59	2·52	32·494
Mechanics, n.e.s. (mfg.)	1·63	1·64	1·85	1·63	1·87	8·62	1·72	14·923
Boiler firemen	1·96	1·84	2·43	2·29	2·51	11·03	2·21	24·676
Stationary enginemen, n.e.s.	1·84	2·01	2·14	2·22	2·24	10·45	2·09	21·951
Foremen and overseers (building and construction)	1·98	1·83	2·21	2·39	2·22	10·63	2·13	22·794
Brick and stone masons	1·92	2·24	2·14	1·80	2·17	10·27	2·05	21·233
Carpenters	1·98	2·07	2·26	1·82	2·27	10·40	2·08	21·778
Electricians and wiremen	1·71	1·84	1·88	2·29	1·87	9·59	1·92	18·585
Painters, decorators, and glaziers	1·80	1·82	1·96	1·74	2·02	9·34	1·87	17·502
Plumbers, steam fitters, and gas fitters	1·85	1·83	2·10	2·54	2·11	10·43	2·09	22·085
Sheet metal workers and tinsmiths	1·79	1·64	1·89	2·69	2·02	10·03	2·01	20·782
Foremen, inspectors (steam railway)	1·98	1·91	2·17	2·74	2·62	11·42	2·28	26·649
Agents—ticket and station (railway)	1·55	1·44	1·72	1·86	2·13	8·70	1·74	15·431
Switchmen, signalmen, and flagmen	1·83	1·87	2·21	2·62	2·45	10·98	2·20	24·597
Section foremen, sectionmen; trackmen	1·97	2·13	2·49	2·43	2·48	11·50	2·30	26·673
Truck drivers	1·77	1·78	1·94	1·82	1·96	9·27	1·85	17·219
Teamsters, draymen, carriage drivers	1·99	1·89	2·31	2·17	2·40	10·76	2·15	23·337
Postmen and mail carriers	2·06	1·92	1·86	1·64	1·99	9·47	1·89	18·039
Telegraph operators	1·53	1·39	1·65	1·51	1·96	8·04	1·61	13·117
Linemen and cablemen	1·75	1·71	2·04	1·24	1·80	8·54	1·71	14·926
Managers (retail stores)	1·51	1·55	1·67	1·22	1·65	7·60	1·52	11·682
Managers (wholesale trade)	1·08	1·49	1·64	1·55	1·67	7·43	1·49	11·268
Inspectors, gaugers, and samplers	1·76	1·63	1·59	1·38	1·78	8·14	1·63	13·355
Sales agents, canvassers, demonstrators	1·57	1·42	1·75	1·31	1·75	7·80	1·56	12·322
Salesmen	1·45	1·47	1·60	1·60	1·73	7·85	1·57	12·376
Officials—finance	1·40	1·31	1·66	1·33	1·52	7·22	1·44	10·511
Insurance agents	1·56	1·64	1·71	1·59	1·57	8·07	1·61	13·040

[1]Not agricultural, mining, or logging.
n.s.—not specified; n.e.s.—not elsewhere specified.
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CIII.—AVERAGE NUMBER OF OWN CHILDREN PER FAMILY WITH HEAD IN SELECTED OCCUPA-
TIONS, RURAL AND URBAN BY SIZE GROUPS, ONTARIO, 1931—Con.

	Children per Family							
Occupation	Urban				Rural	Sum	Mean	Sum of Squares
	100,000 and over	30,000–100,000	1,000–30,000	Under 1,000				
Public service officials.............	1·55	1·47	1·56	1·55	1·70	7·83	1·57	12·290
Police and detectives.............	1·88	1·58	1·77	1·76	1·95	8·94	1·79	16·064
Clergymen.......................	1·87	1·79	1·81	1·66	1·68	8·81	1·76	15·555
Teachers—school.................	1·38	1·24	1·46	1·23	1·46	6·77	1·35	9·218
Accountants and auditors.........	1·39	1·41	1·50	1·66	1·53	7·49	1·50	11·267
Janitors and sextons.............	1·49	1·68	1·73	1·71	1·82	8·43	1·69	14·272
Watchmen and caretakers, n.e.s....	1·73	1·82	1·93	1·90	1·93	9·31	1·86	17·365
Bookkeepers and cashiers.........	1·39	1·24	1·41	1·38	1·55	6·97	1·39	9·765
Other clerical (office clerks).......	1·54	1·48	1·57	1·57	1·63	7·79	1·56	12·149
Labourers and unskilled workers[1]..	2·01	1·97	2·24	2·24	2·32	10·78	2·16	23·339
Sums.............................	79·32	78·92	88·15	89·17	92·98	428·54	–	–
Means............................	1·72	1·72	1·92	1·94	2·02	–	–	–
Sums of squares..................	138·8870	138·0762	172·4747	183·0031	193·4018	–	–	825·84

throughout the rural and urban divisions are therefore dealt with and, consequently, small occupations and those purely rural or purely urban have been excluded. Children per family range from 2·98 in families of rural millwrights to 1·24 in families of school teachers, cashiers, and bookkeepers living in cities with populations of 30,000 and less than 100,000. The variance in average children per family is, obviously, partly due to occupation and partly to urbanization. In addition, there is a variance due to sampling which would occur even in the case of homogeneous groups of families. In order to distribute the total variance amongst the above three factors, use is made of a method of statistical analysis developed by R. A. Fisher which has been applied successfully in biological research.

In the last three columns of Statement CIII the sums, means, and sums of squares of the average persons per family in each row are given. Similarly, the bottom rows contain the sums, means and sums of squares for each column. The totals given in the lower right-hand corner may be checked by addition of both submarginal rows and columns.

CIV.—ANALYSIS OF VARIANCE IN NUMBER OF OWN CHILDREN PER FAMILY, ONTARIO, 1931

Item	Degrees of Freedom	Variance	Mean Variance
Between means of occupations...	45	17·79	0·40
Between means of rural and urban groups.........................	4	3·43	0·86
Sampling error...	180	6·16	0·03
Total...	229	27·38	–

Correction term—

$$\frac{(428·54)^2}{230} = 798·46$$

Sums of squares between means of occupations—

$$\frac{(8·69)^2 + (9·45)^2 + \ldots\ldots\ldots\ldots + (10·78)^2}{5} = \begin{array}{r} 816·25 \\ -798·46 \\ \hline 17·79 \end{array}$$

Sums of squares between means of rural and urban groups—

$$\frac{(79·32)^2 + \ldots\ldots\ldots\ldots + (92·98)^2}{46} = \begin{array}{r} 801·89 \\ -798·46 \\ \hline 3·43 \end{array}$$

Total variance..

$$\begin{array}{r} 825·84 \\ -798·46 \\ \hline 27·38 \end{array}$$

The total variance may be obtained by subtracting from the total sums of squares 825·84 the correction term 798·46. The difference is 27·38.

Each calculation has been given in detail in order that the reader may follow the procedure step by step. A feature of the method of analysis of variance is the additive nature of both the degrees of freedom and the variance. Thus the variance due to sampling may be obtained by subtracting from the total variance the variance between means of occupations and between means of rural and urban groups.

The concept of degrees of freedom used in obtaining mean variance may be new to the reader. Throughout this monograph in calculating mean variance for frequency distributions the sums of the squares of the deviations about the mean have been divided by the total frequency which is generally symbolized by "n." It is obvious that in calculating a mean from a small number of observations it is not the true mean which is obtained but the mean of a sample that will differ from the mean of the universe. Now the sum of the squared deviations of a frequency distribution is a minimum when the deviations are taken about the mean of the distribution. Consequently, the sum of the squared deviations about the mean of the universe will be greater than that of the squared deviations about the mean of the sample so that there is a constant tendency to underestimate the mean variance of frequency distributions. In order to avoid this error we may divide the sum of the squared deviations, not by the number of observations "n", but by the number of degrees of freedom, $n - 1$. It is obvious that this will increase the mean variance appreciably only when n is small.

This is consistent with the principle that as n increases, the mean of the sample becomes a closer approximation to the mean of the universe.

Returning to Statement CIV, it will be seen that the mean variances between means of occupations and between means of rural and urban groups are each many times the mean variance due to chance variation. Consequently, it is safe to assume without resorting to formal proof that both variances are highly significant. The mean variance between means of rural and urban groups is more than twice the mean variance between means of occupations. If we consider occupation a measure of social class and urbanization a measure of environment in so far as it can be dissociated from class, we must conclude that physical environment has a greater influence on family size than social class.

The unweighted means of the averages for children per family for each rural and urban group, given at the foot of Statement CIV, provide an index of family size in which social class, as measured by occupation, is held constant. Each occupational class is given the same weight regardless of its actual representation. Since the means for the urban "100,000 and over" group and the urban "30,000-100,000" group are equal it would seem that families are not larger in the cities of medium size than in the three big cities. They are, however, much larger in the urban "1,000-30,000" group. There is no significant difference between the urban "1,000-30,000" group and the urban "under 1,000" group, but rural families are considerably larger than any of the urban families. The population may, therefore, be divided into three rural and urban groups in which family size differs notably, viz., the urban "30,000 and over"; the urban "under 30,000" and the rural. One might say that there is an average city family, an average town family and an average rural family. That the city family is smallest and the rural family is largest can be attributed to differential fertility since children stay at home longest in the large cities.

CV.—FAMILY SIZE, RURAL AND URBAN BY SIZE GROUPS, ONTARIO, 1931

Locality	Own Children per Family Living at Home	Estimated Size of Completed Family	Difference between Size of Completed Family and Size Required for Perpetuation	Increase per 1,000
Urban 30,000 and over	1·72	2·98	0·13	1·7
Urban under 30,000	1·93	3·34	0·51	6·6
Rural	2·02	3·49	0·66	8·5

The importance of small differences in family size for various sections of the population may be realized from examination of the above statement. It was pointed out in Chapter VIII, page 110, that the average completed family was 1·73 times as large as the average number of children living at home. To obtain the sizes given in the second column of Statement CV the averages of the first column were multiplied by this factor. It was also estimated that to perpetuate herself, her husband, and their unmarried contemporaries the average married woman living through the child-bearing period should bear 2·83 children. According to our figures, the wives of wage-earners in the large cities of Ontario were barely doing this in 1931. In fact, it is quite safe to say that they are not now perpetuating themselves, since the averages given in Statement CV have resulted from births during several pre-censal decades and the birth rate has since been steadily declining. The low average sizes of their families and the decline in the birth rate during the period while the families have developed indicates that large sections (not necessarily geographical) of the population of Canada are not to-day maintaining their numbers, any natural increase being the result of an age distribution more favourable to births than to deaths. In constructing a rate of natural increase based on family size, we eliminate the influence of age distribution except in so far as family size is determined by the age distribution of the heads of families. A crude index of natural increase may be obtained from the following formula:—

$$\text{Rate of natural increase per 1,000} = \frac{\text{Average size of completed family} - 2\cdot83}{2\cdot83} \times \frac{1,000}{28\cdot38}.$$

This rate must not, of course, be used in any refined calculations due to its many obvious deficiencies. In the first place, the calculation of the average size of the family is a very rough one, particularly in view of the fact that the data on the age distribution of family heads are insufficient to permit standardization. The length of a generation, 28·38 years, has been obtained from the median age of Canadian mothers for 1931. It is apparent that this median will vary from year to year and also that length of generation will differ considerably for each section of the population. It would obviously be impossible to determine an accurate measure of length of generation for each section of the population especially in view of the continuous movement of persons from section to section. The rate, however, is useful as an aid in visualizing the importance of differences in average size of family and has been introduced for this reason.

It will be seen from the fourth column of Statement CV that the rate of increase among rural wage-earners is five times that among urban-over-30,000 wage-earners. It is particularly important that the "town" rate of increase is nearly four times the "city" rate—an argument in favour of the decentralization of industry. Another interpretation of the figures in Statement CV might be that families are smallest in the large cities because birth control knowledge is more widely disseminated and that eventually family size in the small towns and rural districts will approach that in the large cities. If this is the case the rate of natural increase of Canada's population will decrease very rapidly and an actual decline will set in at an early date. However, it is probable that the more widespread practice of birth control in the large cities is due largely to the difficulty of supporting large families. Decentralization of industry under these circumstances might tend to increase family size and the rate of increase of the population.

Comparison of Census and Vital Statistics Data on Family Size by Occupation of Head.—It is always interesting to compare census data with similar data gathered annually, such as the vital statistics. A special tabulation by occupation of father has been made of the average number of living children born to the mothers of 1931. It is not possible to obtain so detailed an occupational classification from the vital statistics reports as from the census reports due to their incompleteness and the fact that they apply to a considerably smaller universe, *viz.*, the births of 1931. There were, however, 52 occupations for which both census and vital statistics data were available. The average number of dependents per census family* and the

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* The census family as used above includes children and dependents living at home at the time of the census.

average number of living children per mother for these have been given in Statement CVI. Dependents per family include guardianship children and other dependents but their numbers are too small to appreciably alter the averages. The linear coefficient of correlation between the two averages for the 52 occupations was ·75. The regression equation relating the two variables was $X_1 = 1,035 X_2 + 0.983$ where X_1 represents the size of the census family and X_2 the size of the vital statistics family. The average numbers of dependents per census family calculated from this equation have been given in the third column of Statement CVI. The fourth column gives the differences between the actual and calculated sizes of census families. The vital statistics averages have been adjusted for the ages of mothers and are supe.ior to the census averages in this respect. Consequently, when the age distribution of the heads of census families is favourable to large average family size, one should expect a positive difference between the average size of the census family and the average calculated on the basis of the vital statistics data and

CVI.—COMPARISON OF AVERAGE NUMBER OF DEPENDENTS PER CENSUS FAMILY AND AVERAGE BIRTH ORDER FOR 52 OCCUPATIONS, CANADA, 1931

Occupation	Average Dependents per Family	Average of Living Children Born to Mothers	Dependents per Family (calculated)	Difference between Actual and Calculated No. of Dependents	P.C. of Wage-Earners between 35 and 54 Years of Age
Section foremen, sectionmen; trackmen	2·88	3·83	2·95	−0·07	48·7
Fishermen	2·72	4·00	3·12	−0·40	41·2
Labourers (mining)	2·71	3·92	3·04	−0·33	36·2
Carpenters	2·69	3·56	2·67	+0·02	53·6
Stone cutters, dressers, and carvers	2·62	3·40	2·50	+0·12	47·8
Inspectors, graders, scalers (wood products)	2·59	3·32	2·42	+0·17	46·3
Foremen and overseers (building and construction)	2·59	3·11	2·20	+0·39	60·5
Labourers and unskilled workers[1]	2·56	4·03	3·15	−0·59	40·5
Blacksmiths, hammermen, and forgemen	2·53	3·77	2·89	−0·36	51·6
Locomotive engineers	2·51	3·24	2·34	+0·17	77·2
Cutters (leather and leather products)	2·48	3·23	2·33	+0·15	39·0
Locomotive firemen	2·47	3·01	2·10	+0·37	55·2
Boilermakers, platers, and riveters (mfg.)	2·45	3·33	2·43	+0·02	56·8
Car builders and repairers (mfg.)	2·45	3·00	2·09	+0·36	63·6
Conductors (steam railway)	2·41	2·87	1·95	+0·46	75·7
Moulders, coremakers, and casters	2·41	3·20	2·30	+0·11	55·1
Butter and cheese makers	2·40	3·90	3·02	−0·62	30·3
Brick and stone masons	2·37	3·35	2·45	−0·08	49·1
Firemen (fire department)	2·37	3·18	2·27	+0·10	53·2
Plumbers, steam fitters, and gas fitters	2·32	3·22	2·32	–	47·8
Tailors (mfg.)	2·31	2·85	1·93	+0·38	52·1
Captains, mates, and pilots	2·30	2·86	1·94	+0·36	50·7
Plasterers and lathers	2·28	3·35	2·45	−0·17	46·7
Postmen and mail carriers	2·27	3·22	2·32	−0·05	55·2
Stationary enginemen, n.e.s.	2·26	3·02	2·11	+0·15	55·7
Switchmen, signalmen, and flagmen	2·26	2·93	2·02	+0·24	52·0
Police and detectives	2·21	3·00	2·09	+0·12	51·2
Agents—ticket and station (railway)	2·21	3·16	2·25	−0·04	61·3
Butchers and slaughterers (mfg.)	2·19	3·45	2·55	−0·36	41·1
Painters, decorators, and glaziers	2·18	3·34	2·44	−0·26	44·8
Sheet metal workers and tinsmiths	2·17	3·19	2·29	−0·12	43·8
Seamen, sailors, and deckhands	2·17	3·17	2·26	−0·09	49·2
Electricians and wiremen	2·16	3·21	2·31	−0·15	40·0
Cooks	2·14	3·10	2·19	−0·05	61·0
Farm labourers	2·13	3·44	2·54	−0·41	28·1
Structural iron workers and steel erectors	2·08	3·10	2·19	−0·11	43·1
Commercial travellers	2·07	2·96	2·05	+0·02	59·1
Public service officials	2·03	2·93	2·02	+0·01	57·6
Managers (building and construction)	2·02	3·17	2·26	−0·24	67·7
Electric and oxy-acetylene welders (mfg.)	2·02	2·96	2·05	−0·03	37·0
Other ranks—army, navy and air force	2·01	2·93	2·02	−0·01	33·9
Insurance agents	2·00	2·85	1·93	+0·07	67·6
Telegraph and telephone operators	1·96	2·88	1·96	–	40·6
Firemen and cablemen	1·95	2·74	1·82	+0·13	37·9
Barbers, hairdressers, manicurists	1·94	3·10	2·19	−0·25	40·2
Upholsterers	1·89	2·91	2·00	−0·11	36·6
Clergymen	1·89	2·22	1·28	+0·61	68·8
Managers (retail stores)	1·84	3·09	2·18	−0·34	53·6
Salesmen	1·79	2·56	1·63	−0·16	37·9
Managers (wholesale trade)	1·78	2·61	1·68	+0·10	67·4
Authors, editors, and journalists	1·69	2·36	1·43	+0·26	42·8
Musicians and music teachers	1·59	2·34	1·41	+0·18	37·1

[1]Not agricultural, mining, or logging.
n.e.s.—not elsewhere specified.

a negative difference when the age distribution of heads is unfavourable. There was a positive correlation· of ·50 between the differences between the actual and calculated sizes of census families and the percentages of wage-earners between 35 and 54 years of age in each occupation, indicating that 25 p.c. of the variance of the former was associated with the favourableness of the ages of the heads of families to large average family size. When allowance is made for this factor, the correlation between the number of dependents per census family and the average number of living children born to the mothers of 1931 is increased from ·75 to ·82.

Considering the various reasons why the vital statistics data are not strictly comparable with the census data, it is surprising that the correlation is so high. It points to the reliability of vital statistics data as a source of information for studies in differential fertility. It also indicates that differentials in census family size from occupation to occupation are largely the result of differential fertility since they correlate highly with the vital statistics differentials.

Family Size by Occupation of Head, by Provinces.—Study of family size by occupation of head by provinces is rendered difficult on account of the small number of wage-earners in each occupation. For example, few occupations in Prince Edward Island include a sufficient number of wage-earning heads of families to make the average sizes of their families significant. In Statement CVII the average persons per family is given for 42 of the largest and most homogeneous occupation groups in the remaining eight provinces. The averages are omitted for several occupations in the Prairie Provinces where the number of heads of families was less than 25. The unweighted means of the eight provincial averages for each occupation are given in the first column and the occupations ranked in descending order, according to family size. For the sake of brevity, these means will be referred to as the Canada averages. At the foot of Statement CVII the coefficients of dispersion of the averages for each province are given. Family size appears to vary most from occupation to occupation in Quebec and New Brunswick, clearly the result of differential racial content in occupations.

In Statement CVII the occupations are ranked according to decreasing family size for each province. It is noteworthy that section foremen, sectionmen and trackmen have the largest families in five of the eight provinces as well as for Canada, while fishermen, ranking second for Canada, also rank second in five provinces. In addition, in the provinces where these two occupations do not rank first and second, respectively, in family size they rank fairly high. It is evident that a comparatively large average family is peculiar to certain occupations in every province. How well an occupation maintains its rank in family size from province to province can be measured by the mean of the squares of the rank differences between the Canada average and the provincial averages. This measure may be termed rank variance. The rank variance for each occupation is given in the last column of Statement CVII from which it may be seen that it is very small for some occupations and very high for others. The two occupations which have a uniformly high ranking in family size have already been discussed. Janitors and sextons, compositors and printers, professional engineers, salesmen, accountants and auditors, and clerks have a uniformly low ranking indicating that families with heads in these occupations are comparatively small in every province. Rank variance is largest for three occupations, *viz.*, clergymen, miners, and cooks. While clergymen rank eleventh and fourteenth in the sizes of their families in Alberta and British Columbia, respectively, they rank forty-first, forty-second and forty-second in Nova Scotia, New Brunswick and Quebec, respectively. In the three latter provinces average family size is increased by the inclusion of a large French-Canadian element in the population. Due to the fact that the great majority of French-Canadians are Roman Catholic, there is practically no French-Canadian representation among the clergymen, and they will consequently rank very low in the average family size in these provinces. Allowing for this factor it is evident that clergymen tend to have larger families than the other professional classes. In Statement XCVIII, page 120, the average size of the families of coal miners for Canada was given as 4·87 and the average size of the families of miners engaged in other types of mining as 4·23. Coal miners have considerably larger families than other miners with the result that, in the provinces where they are mostly coal miners, miners will rank much higher in family size than in the other provinces.

The cause of the high rank variance in the case of cooks is not so apparent but it probably is a lack of homogeneity in the occupational class.

CVII.—AVERAGE SIZE OF NORMAL FAMILIES WITH WAGE-EARNER HEADS FOR 42 SELECTED OCCUPATIONS OF HEAD, RANKED ACCORDING TO DECREASING SIZE OF MEANS OF AVERAGES, CANADA[1] AND PROVINCES, 1931

Occupation Ranked According to Decreasing Size of Mean of Averages	Un-Weighted Mean of Provincial Averages	Average Persons per Family								
		Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Rank Variance
Section foremen, sectionmen; trackmen	4·93	5·28	5·28	5·86	4·50	4·91	4·77	4·46	4·36	-
Fishermen	4·84	5·07	5·49	5·21	4·30	4·78	-	-	4·16	-
Lumbermen	4·68	4·85	5·23	5·41	4·46	4·60	-	4·41	3·81	-
Boilermakers, platers, and riveters	4·60	5·13	5·55	4·80	4·14	4·51	4·75	4·11	3·88	-
Teamsters, draymen, carriage drivers	4·57	4·75	4·80	4·91	4·25	4·64	4·82	4·41	4·01	-
Carpenters	4·57	4·67	5·06	5·44	4·21	4·43	4·59	4·22	3·94	-
Blacksmiths, hammermen, and forgemen	4·56	4·98	5·34	5·17	4·17	4·30	4·42	4·26	3·87	-
Locomotive engineers	4·55	4·86	5·11	5·13	4·31	4·43	4·34	4·25	3·98	-
Labourers (mining)	4·54	5·14	4·83	5·38	4·31	4·15	4·13	4·40	3·96	-
Miners	4·51	5·34	5·25	4·90	4·13	3·44	4·62	4·28	4·15	-
Labourers and unskilled workers[4]	4·50	4·62	4·92	5·01	4·23	4·45	4·59	4·23	3·97	-
Locomotive firemen	4·46	4·89	5·34	5·27	4·37	4·11	4·09	3·91	3·69	-
Brakemen	4·42	5·01	4·93	5·33	4·22	4·02	4·07	3·91	3·85	-
Conductors (steam railway)	4·41	4·88	4·76	5·39	4·21	3·90	4·21	3·93	3·96	-
Moulders, coremakers, and casters	4·38	4·68	4·94	4·90	4·26	4·38	-	3·72	3·81	-
Brick and stone masons	4·32	4·43	5·06	4·93	4·11	4·15	4·11	4·07	3·71	-
Plumbers, steam fitters, and gas fitters	4·28	4·70	4·74	4·81	4·04	4·16	4·21	3·85	3·76	-
Watchmen and caretakers	4·28	4·40	4·82	4·89	3·92	4·11	4·49	4·06	3·57	-
Conductors and motormen (street car)	4·24	4·55	4·29	4·90	4·04	4·24	4·08	4·09	3·73	-
Farm labourers	4·20	4·44	4·61	4·61	3·92	4·21	4·18	3·88	3·78	-
Bakers	4·20	4·45	4·68	4·86	3·93	4·11	3·92	3·94	3·67	-
Butchers and slaughterers (mfg.)	4·19	4·68	4·12	4·65	4·01	4·20	4·41	3·82	3·65	-
Machinists (mfg.)	4·19	4·66	4·65	4·72	3·91	3·91	4·17	3·91	3·57	-
Cooks	4·19	4·77	5·08	4·29	3·91	3·82	4·16	3·72	3·73	-
Agents—ticket and station[2]	4·18	4·18	4·30	5·17	3·92	4·00	4·07	4·13	3·67	-
Police and detectives	4·17	4·46	4·51	4·81	3·89	3·99	4·00	3·91	3·82	-
Tailors (mfg.)	4·16	4·69	4·23	4·56	4·12	4·07	3·98	3·80	3·84	-
Painters, decorators, and glaziers	4·16	4·60	4·53	4·57	3·93	4·00	4·03	3·97	3·65	-
Truck drivers	4·11	4·25	4·50	4·45	3·91	4·00	4·13	3·83	3·81	-
Seamen, sailors, and deck-hands	4·11	4·36	4·21	4·73	3·68	-	-	-	3·55	-
Electricians and wiremen	4·09	4·64	4·43	4·60	3·87	3·92	3·87	3·76	3·60	-
Mechanics, n.o.s. (mfg.)	4·05	4·27	4·35	4·68	3·80	3·90	3·93	3·83	3·64	-
Shippers (warehousing and storage)	4·04	4·69	4·07	4·48	3·73	3·99	4·02	3·72	3·59	-
Clergymen	3·91	3·71	3·71	3·91	3·83	4·06	4·08	4·13	3·84	-
Commercial travellers	3·91	4·02	3·85	4·57	3·61	3·91	3·94	3·90	3·46	-
Janitors and sextons	3·89	4·18	4·18	4·05	3·68	3·75	3·97	3·84	3·45	-
Compositors; printers, n.s.	3·89	4·29	3·98	4·48	3·71	3·80	3·65	3·60	3·59	-
Engineers[3] (professional service)	3·88	4·19	4·17	4·06	3·64	3·82	3·82	3·80	3·57	-
Salesmen	3·84	4·03	3·92	4·28	3·59	3·77	3·91	3·72	3·52	-
Teachers—school	3·78	3·70	3·83	4·26	3·46	4·00	3·66	3·73	3·59	-
Accountants and auditors	3·75	3·78	3·89	4·33	3·50	3·60	3·69	3·64	3·56	-
Other clerical (office clerks)	3·74	4·00	3·93	4·10	3·58	3·61	3·66	3·59	3·48	-
Unweighted mean for all occupations	4·24	4·56	4·62	4·78	3·98	4·10	4·14	3·96	3·75	-
Standard deviation	0·35	0·44	0·56	0·42	0·28	0·28	0·35	0·24	0·26	-
Coefficient of dispersion	0·08	0·10	0·12	0·11	0·07	0·07	0·09	0·06	0·07	-

RANK OF OCCUPATION BY FAMILY SIZE

Section foremen, sectionmen; trackmen	1	2	5	1	1	1	4	1	1	3
Fishermen	2	5	2	8	6	2	2	2	2	8
Lumbermen	3	11	7	3	2	4	3	4	17	31
Boilermakers, platers, and riveters	4	4	1	22	14	5	5	13	10	69
Teamsters, draymen, carriage drivers	5	13	17	14	8	3	1	3	4	40
Carpenters	6	19	10	2	11	8	7	10	9	32
Blacksmiths, hammermen, and forgemen	7	7	3	9	13	10	10	7	11	11

[1]Exclusive of Prince Edward Island.
[2]Railway transportation.
[3]Exclusive of mining engineers.
[4]Not agricultural, mining, or logging.
n.s.—not specified; n.e.s.—not elsewhere specified.

CVII.—AVERAGE SIZE OF NORMAL FAMILIES WITH WAGE-EARNER HEADS FOR 42 SELECTED OCCUPATIONS OF HEAD, RANKED ACCORDING TO DECREASING SIZE OF MEANS OF AVERAGES, CANADA[1] AND PROVINCES, 1931—Con.

Occupation Ranked According to Decreasing Size of Mean of Averages	Un-Weighted Mean of Provincial Averages	Average Persons per Family								Rank Variance
		Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	
Locomotive engineers	8	10	8	11	4	7	12	8	5	7
Labourers (mining)	9	3	15	5	5	15	20	5	7	35
Miners	10	1	6	15	15	42	6	6	3	157
Labourers and unskilled workers[4]	11	22	14	12	9	6	8	9	6	25
Locomotive firemen	12	8	4	7	3	19	22	21	24	70
Brakemen	13	6	13	6	10	22	26	20	12	51
Conductors (steam railway)	14	9	18	4	12	33	14	19	8	71
Moulders, coremakers, and casters	15	17	12	17	7	9	15	37	18	76
Brick and stone masons	16	28	11	13	17	16	21	15	23	32
Plumbers, steam fitters, and gas fitters	17	14	19	20	18	14	13	26	20	17
Watchmen and caretakers	18	29	16	18	25	18	9	16	36	73
Conductors and motormen (street car)	19	24	29	16	19	11	23	14	22	31
Farm labourers	20	27	22	27	23	12	16	25	19	27
Bakers	21	26	20	19	21	17	35	18	25	33
Butchers and slaughterers (mfg.)	22	18	34	26	20	13	11	31	27	61
Machinists (mfg.)	23	20	21	24	26	31	17	23	35	33
Cooks	24	12	9	36	27	35	18	36	21	104
Agents—ticket and station[2]	25	35	28	10	24	23	25	12	26	67
Police and detectives	26	25	24	21	29	27	29	22	15	23
Tailors (mfg.)	27	15	30	31	16	20	31	33	13	73
Painters, decorators, and glaziers	28	23	23	29	22	24	27	17	28	28
Truck drivers	29	33	25	34	28	26	19	29	16	42
Seamen, sailors, and deckhands	30	30	31	23	36	30	30	30	37	17
Electricians and wiremen	31	21	26	28	30	29	37	34	30	23
Mechanics, n.e.s. (mfg.)	32	32	27	25	32	34	34	28	29	13
Shippers (warehousing and storage)	33	16	35	33	33	28	28	39	32	48
Clergymen	34	41	42	42	31	21	24	11	14	173
Commercial travellers	35	38	40	30	38	32	33	24	41	30
Janitors and sextons	36	36	32	41	35	39	32	27	42	23
Compositors; printers, n.s.	37	31	36	32	34	37	42	41	33	16
Engineers[3] (professional service)	38	34	33	40	37	36	38	32	34	13
Salesmen	39	37	38	37	39	38	36	38	39	3
Teachers—school	40	42	41	38	42	25	40	35	31	43
Accountants and auditors	41	40	39	35	41	41	39	40	38	7
Other clerical (office clerks)	42	39	37	39	40	40	40	41	42	40	7

CVIII.—RANK OF PROVINCES ACCORDING TO FAMILY SIZE FOR 42 OCCUPATIONS, 1931

Rank	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
1	8	8	25	-	-	-	1	-
2	12	16	11	-	1	2	-	-
3	18	15	5	-	1	3	-	-
4	2	-	1	5	9	22	3	-
5	1	1	-	4	22	7	6	1
6	-	1	-	16	7	6	10	2
7	-	1	-	15	-	2	19	5
8	1	-	-	2	2	-	3	34

For each occupation the provinces have been ranked according to decreasing family size and Statement CVIII shows the number of occupations for which each province has given rank. For 34 of the 42 occupations British Columbia had the smallest average family of any of the provinces and for 5 occupations it had the second smallest average family, indicating that the small size of the average family in British Columbia cannot be explained on an occupational basis since small families are peculiar to all occupations. Each province appears to have a modal rank, the modal tendency being strongest in Quebec where families are largest for 25 occupations and in British Columbia. The regional differentiation in family size is consequently independent of social class and would appear to apply to the majority of individual classes with a few notable exceptions, such as clergymen.

In Table 11, Part II, page 210, the average earnings of heads of families, the average number of children earning per family and the earnings per child, by occupation of head have been given for each province. The following linear coefficients of correlation between average earnings of heads of families and average earnings of their children were obtained:—

Nova Scotia	·71	Manitoba	·76
New Brunswick	·88	Saskatchewan	·64
Quebec	·84	Alberta	·69
Ontario	·84	British Columbia	·68

The correlations were high in every province particularly in the East. It has already been observed in the first pages of the chapter (Statement XCIV, page 117) that average earnings per wage-earning child steadily increase with increasing earnings of heads of families. Evidently, earnings of children tend to be determined by the earnings of their parents. It was pointed out before that children of heads of families in the higher earnings classes do not accept employment so readily as those of the poorer heads since they are able to wait for a remunerative position. Location possibly accounts for the correlation to some extent since earnings of father and son, living and working in the same place, will reflect the general level of earnings in the locality. The importance of this factor is reduced as we take finer geographical groups. Children, particularly those living at home, probably tend to follow their father's occupation and this would naturally cause a correlation between earnings of father and son. It is interesting to observe that the correlations are higher in the older provinces and the question may be raised as to whether Canadian wage-earners are being progressively regimented into an occupational caste system as the nation's economic system becomes more static.

CIX.—RANK CORRELATIONS BETWEEN VARIABLES, FOR 42 OCCUPATIONS, YEAR ENDED JUNE 1, 1931

Variable	x_1 Earnings of Head	x_2 Smallness of Family	x_3 Earnings of Children	x_4 P.C. of Children 15 Years of Age and over at School	x_5 Children Gainfully Occupied	x_6 Children Gainfully Occupied as P.C. of Children 15 Years of Age and over
Quebec—						
x_1	-	-	-	-	-	-
x_2	+·29	-	-	-	-	-
x_3	+·81	+·60	-	-	-	-
x_4	+·88	+·37	+·72	-	-	-
x_5	-·28	-·29	-·08	-·43	-	-
x_6	-·62	+·05	-·28	-·76	+·59	-
Ontario—						
x_1	-	-	-	-	-	-
x_2	+·46	-	-	-	-	-
x_3	+·84	+·69	-	-	-	-
x_4	+·89	+·42	+·71	-	-	-
x_5	-·46	-·39	-·22	-·60	-	-
x_6	-·67	-·12	-·36	-·80	+·73	-

In Tables 12 and 13, Part II, pages 212, 213, occupations in the provinces of Quebec and Ontario are ranked according to six variables. The rank coefficients of correlation between these variables are given in Statement CIX. The rank coefficient of correlation does not differ greatly in value from the Pearsonian coefficient and, once the occupations are ranked for each variable, it is very easy to compute. It will be noticed that the correlations are generally somewhat higher in Ontario than in Quebec where they are probably disturbed by the racial factor but that they all follow the same trend in each province.

Correlations which possess particular interest are discussed below, one by one, commencing with those in the first column.

r_{12}, the correlation between earnings of head and smallness of family was ·29 for Quebec and ·46 for Ontario. This compares with a Pearsonian coefficient of ·41 for 135 occupations for Canada.

r_{13}, the correlation between earnings of head and earnings per wage-earning child living at home was ·81 for Quebec and ·84 for Ontario. It is interesting to compare these correlations with the Pearsonian correlations given on page 137.

	Rank Coefficient	Pearsonian Coefficient
Quebec...................................	·81	·84
Ontario...................................	·84	·84

The rank coefficient generally closely approximates the Pearsonian coefficient.

r_{14}, the correlation between earnings of head and percentage of children 15 years of age and over at school was ·88 for Quebec and ·89 for Ontario. These correlations are very high and indicate that family heads in the higher earning classes given their children a much more complete education than the poorer heads. The children of wage-earners in the higher earnings class were receiving a better education and were able to secure much more remunerative employment in 1930-31 than the children of those in the lower earnings classes. There were evidently two choices open to the former children—they could continue at school or go to work and they only worked when the pay was good.

r_{15}, the correlation between earnings of head and children per family gainfully occupied was − ·28 for Quebec and − ·46 for Ontario. That the negative correlation was not higher was due to the fact that the wage-earners with larger earnings were older and had older children who were available for employment in greater numbers. This tended to counteract the higher proportion of older children of the poorer heads who were gainfully occupied.

r_{16}, the correlation between earnings of head and children per family gainfully occupied as percentage of the number of children 15 years of age and over was − ·62 for Quebec and − ·67 for Ontario. This indicates that children in the poorer families go to work much earlier than children in the better-off families.

r_{23}, the correlation between smallness of family and earnings of children was ·60 for Quebec and ·69 for Ontario. Evidently, children living in small families tend to earn more than children living in large families. This may be partly because the head of a small family is able to educate his children better than the head of a large family but it is probable that the correlation results from the fact that the classes who have small families are at the same time the classes who are in the best position to give their children a good start in life. In addition, families are small in the cities where earnings tend to be high.

r_{24}, the correlation between smallness of family and percentage of children 15 years of age and over at school was ·37 for Quebec and ·42 for Ontario. These correlations are rather low and it would seem that the earnings of the father has much more bearing on his ability to keep his children at school than has the size of his family. Large families *per se* do not prohibit advanced schooling.

r_{34}, the correlation between earnings of children and percentage of children 15 years of age and over at school was ·72 for Quebec and ·71 for Ontario. This is a further illustration of a point which has been repeatedly stressed, *viz.*, that two courses are open to the child of the prosperous wage-earner, either school or work, and that he is in a bargaining position with regard to work. When he does go to work he is older and his longer education may improve his earnings status.

r_{36}, the correlation between earnings of children and children gainfully occupied as percentage of children 15 years of age and over was − ·28 for Quebec and − ·36 for Ontario. Although these correlations are low their direction is of interest since it reveals that the larger the percentage of children with heads in a given occupation class who accept employment the smaller their average earnings. The children who are forced to work do not earn as much as those who work through choice.

Concluding Remarks.—A wide variety of family statistics have been discussed in this chapter and this summary will review some of the more important findings.

Family size was found to vary widely between occupations so that the natural increase of our population is being contributed largely by certain occupational groups while others are scarcely perpetuating themselves.

CX.—FAMILY SIZE AND RELATED DATA, BY BROAD GROUPING OF OCCUPATION OF HEAD OF FAMILY, CANADA, 1931

| Occupation of Head | Number of Normal Families | Own Children | | | Estimated Rate of Natural Increase | P.C. of Family Heads in Given Occupation |
		Total	Per Family	Per Completed Family (estimated)		
All occupations.............................	1,033,863	2,245,417	2·17	3·75	11·8	100·00
Agriculture...............................	43,195	90,435	2·09	3·62	10·2	4·18
Fishing, hunting, and trapping.............	4,872	12,933	2·65	4·58	22·6	0·47
Logging...................................	12,289	34,746	2·83	4·90	26·7	1·19
Mining, quarrying, oil, and salt wells......	25,794	67,210	2·61	4·52	21·8	2·50
Manufacturing.............................	187,565	399,865	2·13	3·68	11·0	18·14
Electric light and power...................	23,046	53,460	2·32	4·01	15·2	2·23
Building and construction..................	104,969	251,358	2·39	4·13	16·8	10·15
Transportation and communication........	134,991	302,152	2·24	3·88	13·6	13·08
Warehousing and storage..................	16,437	31,483	1·92	3·32	6·3	1·59
Trade.....................................	93,812	170,615	1·82	3·15	4·1	9·07
Finance, insurance........................	20,263	37,267	1·84	3·18	4·5	1·96
Service...................................	121,312	223,732	1·84	3·18	4·5	11·73
Professional..............................	50,447	85,893	1·70	2·94	1·4	4·88
Personal.................................	41,925	78,192	1·87	3·24	5·3	4·06
Clerical...................................	51,096	86,640	1·70	2·94	1·4	4·94
Labourers.................................	190,655	476,690	2·50	4·33	19·4	18·44
Unspecified...............................	595	1,201	2·02	3·49	8·5	0·06
Occupations with less than 10 persons......	2,972	5,630	1·89	3·27	5·7	0·29

It is apparent from Statement CX that average family size and rate of increase varies widely between occupational classes. It is smallest for the trade, finance, service and clerical groups which evidently draw on other occupations for their recruits. While the professional service class draws picked recruits with the result that the increase of the fittest elements of the population is retarded, the personal service class must recruit largely the cast-offs from other occupations tending to reduce the rate of increase of the least fit element. Differential fertility as between occupational classes may consequently tend to stop the increase of both the fittest and least fit sections of the population. It follows that the average man is most prolific. The national stock improves when the greater increase comes from classes slightly above the average and deteriorates when it comes from classes slightly below the average. It is probable that in studies of differential fertility too much attention is often paid to the fertility of extreme classes. A high rate of increase among imbeciles and idiots may create a problem in that it taxes the accommodation of asylums but it does not necessarily result in racial degeneration of serious consequence.

It is evident that changing occupational content from decade to decade will tend to alter average family size and the rate of growth of the population. There is no evidence, however, that marked changes in occupational content of the population have been a major factor in contributing to the decrease in family size during the last fifty years. The progressively increasing concentration of individual occupations in large cities has, however, been one of the most important causes of the decline.

CHAPTER X

THE FARM HOUSEHOLD

Despite the phenomenal pace at which the centralization of industry has advanced in Canada during the seventy years of Canada's nationhood, the farm family has lost little ground as the unit of agricultural production. Ambitious attempts at farming on a mass-production scale which from time to time have been made in all sections of Canada, particularly the West, have almost inevitably failed and, at present, such schemes are advanced with less ardour than ever before. In previous chapters much evidence has been brought forth to illustrate the love of Canadians for their homes, and the importance of the family in our social system. Canadians of all races, particularly in the rural districts, have their distinctive and almost always admirable modes of family life and, for this reason, agriculture, the family industry, has progressed slowly but steadily through decades of political and economic unrest.

Farm Population.—The question, "Total number of persons, all ages, living on this farm June 1, 1931?" was inserted in the farm schedules for the first time at the 1931 Census. There were 3,289,140 persons*, or 31·7 p.c. of the total population of Canada, reported as living on 671,535 farms, the average farm household consisting of 4·90 persons. The rural farm population of the United States formed a considerably smaller proportion of its population in 1930 since it included only 30,157,513 persons or 24·6 p.c. of 122,775,046, its total population. There has been, however, a well-known tendency for the urban population of Canada to grow at the expense of the rural.

CXI.—RURAL AND URBAN POPULATION, CANADA, 1901-1931

Census Year	Population			
	Total	Urban	Rural	
			No.	P.C.
1901	5,371,315	2,014,222	3,357,093	62·50
1911	7,206,643	3,272,947	3,933,696	54·58
1921	8,787,949	4,352,122	4,435,827	50·48
1931	10,376,786	5,572,058	4,804,728	46·30

While the rural population during the three decades 1901-31 gained by 1,447,635 persons or 43·1 p.c., the urban population gained by 3,557,836 persons or 176·6 p.c. so that the percentage which the rural population forms of the total has steadily decreased. The construction of railways, which opened to settlement the plains of Western Canada, at the same time facilitated the division of labour in the production of clothing and household goods. This has had a profound effect on the composition of the Canadian family. It is seen in the early chapters of this monograph that the average size of the household was largest in all the settled parts of Canada in 1861. The typical farm home, which was at the same time the typical Canadian home, was practically a self-contained unit; the men worked on the farm while the women were busy at home, preparing meals and manufacturing clothing and household goods. Families were large and children were an asset or, at least, not a burden since food was plentiful, clothing was provided from the resources of the home and the children were able, at an early age, to fit into the productive machinery of the home. With the coming of the railway, however, children commenced to leave home while still young, the young men hearkening to the call of the West and the girls attracted by the bright lights of the city. Production for export and the outside market began to be of more importance than production for home consumption with the result that foodstuffs, formerly available in unlimited quantities, came to have a cash value. Goods from mail order houses replaced homespun clothes. They may have been more attractive but they represented cash expenditure and

* Exclusive of inmates of institutional farms and persons living in households other than that of the farm operator.

had to be provided for the whole family so that children represented an item of expense in the farmer's budget. This has undoubtedly acted as a check on the birth rate. Moreover, the child, conscious of the burden he was imposing on his family, and unable to fit into the apparently increasing efficiency of farm production, became eager to leave home at the earliest possible moment. Harvesters' excursions to the West and the industrial growth both at home and in the United States presented an easy avenue of escape. Yet, the above picture, though a true one, deals with intangible things, human satisfactions and enjoyments, difficult to measure and capable of statistical treatment only in some of the results they produce. Average family size is a gauge, sensitive to every social change and, just as it is difficult to determine the effect of the motion of an individual molecule in the steam boiler on the pressure gauge which measures the motion of the totality of molecules, so is it difficult to estimate the relative importance of a single economic or social factor in determining average family size which reacts to them all. In the following pages the problem of interpreting the significance of average household size in 218 Canadian counties and census divisions is dealt with: in some of these life still resembles that existing throughout most of Eastern Canada in 1861, while in others change has been very rapid and none can predict the situation that will exist ten years from now.

Sizes of Farms.—Although the farmers' sons and daughters may have seemed eager to leave their farm homes, they carried away with them a deep love of family life which has been reflected, for example, in the tendency for lodgers to seek private homes. Moreover, the immigrant, confronted by the difficulties of life in a new and unfamiliar land, has been doubly endeared to his home, and family life has thus become as strongly established in the newer farming districts of Canada as in the older ones. As supporting the fact that large-scale farming has made very little headway in Canada, Statement CXXXVI will be found to give the average sizes of farms in the various provinces, and Statement CXII gives the distribution of farms according to size for Canada as a whole and for each province. Only 47,646 farms or 6·5 p.c. of all occupied farms consisted of 640 acres or more. These farms averaged 1,036·9 acres per farm and contained 30·3 p.c. of the occupied farm area in Canada. But many of the farms consisting of 640 acres or more are family-operated, there being 87,311 family workers on such farms in 1930 as compared with 13,871 permanent employees and 93,670 temporary employees.

CXII.—NUMERICAL AND PERCENTAGE DISTRIBUTION OF FARMS ACCORDING TO SIZE, CANADA AND PROVINCES, 1931

Province	Total Farms	1–4 Acres	5–10 Acres	11–50 Acres	51–100 Acres	101–200 Acres	201–639 Acres	640 Acres and over
NUMBER								
CANADA	728,623	19,713	24,028	80,070	148,225	233,306	175,605	47,646
Prince Edward Island	12,865	333	357	3,052	5,071	3,418	631	3
Nova Scotia	39,444	2,468	3,055	9,616	10,325	9,526	4,207	247
New Brunswick	34,025	925	1,392	7,308	11,457	8,650	4,106	187
Quebec	135,957	3,442	3,268	16,976	43,915	48,823	19,094	439
Ontario	192,174	7,825	8,109	30,605	68,620	58,295	18,100	620
Manitoba	54,199	1,028	1,205	2,379	3,121	19,958	21,803	4,705
Saskatchewan	136,472	570	505	976	1,377	40,680	66,338	26,026
Alberta	97,408	692	810	1,301	1,774	39,318	38,767	14,746
British Columbia	26,079	2,430	5,327	7,857	2,595	4,638	2,559	673
PERCENTAGE								
CANADA	100·0	2·7	3·3	11·0	20·4	32·0	24·1	6·5
Prince Edward Island	100·0	2·6	2·8	23·7	39·4	26·6	4·9	1
Nova Scotia	100·0	6·3	7·7	24·4	26·2	24·1	10·7	0·6
New Brunswick	100·0	2·7	4·1	21·5	33·7	25·4	12·1	0·5
Quebec	100·0	2·5	2·4	12·5	32·3	35·9	14·0	0·3
Ontario	100·0	4·1	4·2	15·9	35·7	30·3	9·4	0·3
Manitoba	100·0	1·9	2·2	4·4	5·8	36·8	40·2	8·7
Saskatchewan	100·0	0·4	0·4	0·7	1·0	29·8	48·6	19·1
Alberta	100·0	0·7	0·8	1·3	1·8	40·4	39·8	15·1
British Columbia	100·0	9·3	20·4	30·1	10·0	17·8	9·8	2·6

[1]Less than 0·1 p.c.

The extent to which farming is a family industry can possibly be best gauged by examination of the status of farm workers.

CXIII.—NUMBER OF FARM WORKERS, CANADA, 1930, BY SIZE OF FARM, 1931

Farm Size	Family Workers	Employees	
		Permanent	Temporary
All occupied farms	1,093,383	64,130	489,828
1- 4 acres	24,099	382	3,975
5- 10 "	29,181	763	11,310
11- 50 "	100,665	3,090	42,753
51-100 "	216,655	9,531	73,655
101-200 "	350,411	17,481	111,056
201-299 "	68,547	4,781	26,987
300-479 "	156,455	8,794	82,190
480-639 "	60,059	5,437	44,232
640 acres and over	87,311	13,871	93,670

There were seventeen times as many family workers on Canadian occupied farms in 1931 as permanent hired employees. Family workers were over 14 years of age and worked the year round on the farm. Temporary employees, though much more numerous than permanent employees, worked only 4,023,911 weeks as compared with 3,334,760 weeks for the permanent employees. The average temporary farm hand in 1930, therefore, worked only 6·8 weeks on each farm. However, he might be included several times in the total for temporary employees, as he would be reported by each farmer for whom he worked during the year. Consequently, it is probable that the actual number of men engaged in temporary farm work was much less than the figure reported in Statement CXIII. Allowing the family worker 52 weeks work per year, family farm workers worked 56,856,000 weeks in 1930 as compared with 7,368,671 weeks for hired workers so that family workers contributed 7·7 weeks labour for every week contributed by hired workers. Of the 728,623 occupied farms in Canada in 1931, only 281,044 or 38·6 p.c. reported expenditure for hired labour in 1930, the remaining 61·4 p.c. being operated by the farm operator and his family without outside help.

Family Self-Sufficiency on Farms.—The farm family is, therefore, generally self-sufficient with respect to farm labour. To what extent does it provide its own foodstuffs? From Statement CXIV below, we see that 75·8 p.c. of all occupied farms reported cows in milk or in calf. The percentage would be even higher if we could allow for non-resident farms.

CXIV.—FARMS REPORTING COWS IN MILK OR IN CALF, CANADA AND PROVINCES, 1931

Province	Occupied Farms	Farms Reporting Cows in Milk or in Calf	
		No.	P.C. of Occupied Farms
CANADA	728,623	582,089	75·8
Prince Edward Island	12,865	10,825	84·0
Nova Scotia	39,444	23,821	79·0
New Brunswick	34,025	25,402	80·2
Quebec	135,957	114,351	80·5
Ontario	192,174	157,493	78·3
Manitoba	54,199	45,001	80·5
Saskatchewan	136,472	111,413	72·0
Alberta	97,408	72,984	69·2
British Columbia	26,079	14,499	53·0

The percentage of farms reporting milch cows is high for every province except British Columbia. It will be noted that a surprisingly large portion of the farms in the Prairie Provinces have milch cows.

CXV.—DISTRIBUTION OF FARMS REPORTING COWS IN MILK OR IN CALF, ACCORDING TO NUMBER REPORTED, CANADA AND PROVINCES, 1931

Province	Farms Reporting Cows in Milk or in Calf	Farms Reporting					
		1–4 Cows	5–9 Cows	10–14 Cows	15–19 Cows	20–29 Cows	30 Cows and over
CANADA	582,089	273,174	191,692	39,226	49,898	16,582	11,517
Prince Edward Island	10,825	8,281	2,482	41	17	3	1
Nova Scotia	23,821	22,498	1,277	25	16	4	1
New Brunswick	25,402	23,039	2,294	46	16	1	6
Quebec	114,351	90,405	22,772	797	301	43	33
Ontario	157,493	84,927	66,434	4,283	1,580	157	112
Manitoba	45,001	10,476	17,247	5,585	8,161	2,463	1,069
Saskatchewan	111,413	11,333	44,715	17,111	24,659	8,494	5,101
Alberta	79,284	11,557	32,003	10,917	14,709	5,228	4,870
British Columbia	14,499	10,658	2,468	421	439	189	324

According to Statement CXV, 273,174 farms, or 51·8 p.c. of the total reporting, report only from 1 to 4 cows so that it would appear that more than one-half the farmers keeping milch cows do so primarily to provide for home consumption. In Nova Scotia, where farming is still conducted on a part-time basis along the sea-coast, fishing providing a complementary source of income, 79·0 p.c. of the farms report milch cows, and 94·4 p.c. of these report only from 1 to 4. The importance of these farms (where only a small number of cows is kept) in Canada's dairy industry can best be realized by estimating the population living on them for which a full supply of dairy produce is provided besides some surplus for outside sale. Assuming that 4·90 persons, the average size of the Canadian farm household, live on each of the 273,174 farms reporting from 1 to 4 cows in milk or in calf we get a population of 1,339,000 persons or 13 p.c. of the total population of Canada. It is also noteworthy that only 11,517 farms or 2 p.c. of those reporting cows in milk or in calf report 30 cows or more indicating that there has been little tendency towards large-scale dairy farming.

CXVI.—PERCENTAGES OF ALL OCCUPIED FARMS REPORTING VARIOUS CLASSES OF LIVE STOCK, CANADA AND PROVINCES, 1931

Province	P.C. of Occupied Farms Reporting					Mean of Per-centages
	Cows in Milk or in Calf	Sheep	Swine	Poultry	Bees	
CANADA	75·8	17·9	60·1	79·8	2·4	47
Prince Edward Island	84·0	36·7	65·4	86·6	0·1	55
Nova Scotia	79·0	24·7	51·7	76·5	0·3	46
New Brunswick	80·2	28·6	66·4	84·0	1·0	52
Quebec	80·5	37·9	71·2	83·3	3·8	55
Ontario	78·3	18·8	59·9	83·1	3·7	49
Manitoba	80·5	9·0	65·3	82·6	3·6	48
Saskatchewan	72·0	3·7	57·5	76·0	0·6	42
Alberta	69·2	7·0	56·0	74·1	0·3	41
British Columbia	53·0	5·9	23·8	67·7	5·5	31

Poultry are kept on 79·8 p.c. of Canadian farms and swine on 60·1 p.c. Evidently the farm family depends on the farm to provide poultry and eggs even more frequently than for dairy produce. Swine are also kept on the majority of farms except in British Columbia. From the averages of the percentages given in the last column of Statement CXVI, it would appear that farm families are most self-sufficient with respect to live-stock produce in the provinces of Prince Edward Island and Quebec and least self-sufficient in British Columbia, which is significant in view of the fact that British Columbia is the province having the smallest families. Bees are found only on a small percentage of farms throughout Canada.

Average Size of Farm Household.—This chapter will deal primarily with the significance of the average size of the farm household obtained by dividing the farm population in each district by the number of occupied farms exclusive of non-resident farms. Non-resident farms are particularly common in Western Canada and are generally operated by farmers living on farms in another census subdistrict.

CXVII.—AVERAGE PERSONS PER FARM HOUSEHOLD AND PER RURAL HOUSEHOLD,[1] CANADA
AND PROVINCES, 1931

Province	Persons per	
	Farm Household	Rural Household
CANADA...	4·90	4·62
Prince Edward Island...	4·59	4·60
Nova Scotia..	4·67	4·55
New Brunswick...	5·45	5·20
Quebec...	6·14	5·79
Ontario..	4·51	4·21
Manitoba...	5·09	4·75
Saskatchewan..	4·70	4·73
Alberta..	4·26	4·20
British Columbia...	4·00	3·50

[1]Exclusive of hotels, rooming houses, camps and institutions.

The average farm household is larger than the average for the rural population as a whole,
except in Prince Edward Island and Saskatchewan where the rural non-farm households are
apparently slightly larger than the farm households. Of the total 3,289,140 farm population
of Canada, 3,223,874 live in rural districts so that the urban farm population is insignificant.
It will be included in the total in all these studies.

Farm Operators.—According to Statement CXVIII, farm operators in the Eastern Provinces
are for the most part indigenous to the home provinces while the majority of those in the Western
Provinces are foreign-born with a considerable percentage born in other provinces. This has a
marked bearing on their age distribution as will be seen from Statement CXIX. Nova Scotia,
with 35·5 p.c., has the highest percentage of farm operators 60 years of age and over, while
Prince Edward Island, New Brunswick, Ontario and British Columbia have, respectively, 30·7
p.c., 27·1 p.c., 25·9 p.c. and 24·5 p.c., of their farm operators 60 years of age and over. This
factor will tend to reduce the average size of the farm household in these provinces since there
will be a large proportion of households where all children have left home. On the other hand,
Saskatchewan and Alberta have a large proportion of very young farm operators, many of whom
are bachelors or only recently married, thus tending to lower the average.

CXVIII.—NUMBER AND PERCENTAGE BORN IN CANADA AND IN PROVINCE OF RESIDENCE, OF
FARM OPERATORS REPORTING BIRTHPLACE, CANADA AND PROVINCES, 1931

Province	Farm Operators Reporting Birthplace				
	Total	Canada		Province of Residence	
		No.	P.C.	No.	P.C.
CANADA..	671,090	454,794	67·8	380,529	56·7
Prince Edward Island..............................	12,098	11,864	98·1	11,723	96·9
Nova Scotia.......................................	38,017	36,655	96·4	36,211	95·2
New Brunswick....................................	33,033	31,277	94·7	29,806	90·2
Quebec..	126,582	123,453	97·5	122,570	96·8
Ontario...	177,581	154,644	87·1	149,054	83·9
Manitoba..	50,206	22,761	45·3	13,147	26·2
Saskatchewan.....................................	119,945	41,014	34·2	9,276	7·7
Alberta...	88,066	24,811	28·2	5,960	6·8
British Columbia..................................	25,562	8,315	32·5	2,782	10·9

CXIX.—AGE DISTRIBUTION OF FARM OPERATORS, CANADA AND PROVINCES, 1931

Age Group	P.C. of Farm Operators in									
	Canada	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
All ages......................	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
Under 20 years.............	0·3	0·3	0·2	0·3	0·2	0·2	0·2	0·4	0·5	0·2
20–24 years................	2·8	2·0	1·2	1·9	2·5	1·8	2·7	4·2	4·8	1·6
25–29 "	7·0	4·8	3·1	5·0	7·5	5·5	7·6	9·2	9·6	3·8
30–34 "	9·4	7·7	6·0	7·8	10·4	8·5	10·2	10·6	11·2	5·9
35–39 "	11·8	10·7	8·6	10·6	12·0	10·9	13·0	13·6	13·0	9·3
40–49 "	26·3	22·4	21·7	24·2	25·3	24·0	27·8	30·6	28·6	28·1
50–59 "	21·9	21·4	23·7	23·1	22·1	23·2	21·0	20·2	19·5	26·6
60–69 "	14·1	18·2	21·0	17·6	13·9	17·5	13·0	8·5	9·6	17·7
70 years and over..........	6·4	12·5	14·5	9·5	6·1	8·4	4·5	2·7	3·2	6·8

It is not a simple matter to devise an index measuring the favourableness of an age distribution to large average family size. It was found in Chapter VI that the ratio of the number of heads of families 35–54 years of age to the number under 25 and "65 and over," correlated with average private family size. Applying a similar index to the age distribution of farm operators, it will be found that Alberta has an extremely favourable index despite the fact that the average size of farm households in that province, 4·26 persons, is very small. Apparently, age distribution of farm operators is a minor factor in determining average size of farm household. The Eastern Provinces have a very high percentage of operators above the ages of maximum family responsibility while the Western Provinces have a high percentage below these ages. The favourableness which might be expected from the large percentage of middle-aged farm operators in British Columbia and Alberta is offset by the fact that they belong to a moving population since, according to Statement CXVIII, only 6·8 p.c. of the Alberta farm operators and 10·9 p.c. of those in British Columbia were born in their province of residence. It would appear that length of residence in province and duration of time on farm are more potent factors than age in determining the size of the farm operator's household.

CXX.—PERCENTAGE DISTRIBUTION OF FARM OPERATORS, BY NUMBER OF YEARS ON PRESENT FARM, CANADA AND PROVINCES, 1931

Years on Present Farm	P.C. of Farm Operators in									
	Canada	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	On-tario	Mani-toba	Sas-katch-ewan	Al-berta	British Col-umbia
Total......................	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
Less than 2 years...........	10·1	4·7	4·9	6·6	8·2	9·9	12·3	11·2	13·8	15·2
2 years.................	6·5	3·6	3·5	4·7	4·9	5·0	7·6	8·5	10·5	7·6
3 "	6·2	4·0	3·2	4·4	4·8	4·6	7·1	8·6	9·8	7·0
4 "	4·8	3·4	2·9	3·8	4·0	3·8	5·7	6·8	6·3	5·5
5– 9 "	15·7	13·2	12·6	13·4	15·7	15·4	16·2	17·2	15·7	18·7
10–14 "	16·4	15·1	14·6	15·5	15·8	18·2	16·1	15·2	15·3	20·2
15–19 "	11·2	10·6	10·7	11·1	10·6	11·3	11·0	12·5	10·6	9·9
20 years and over..........	29·1	45·4	47·6	40·5	36·0	31·8	24·0	20·0	18·0	15·9

35·1, 40·4 and 35·3 p.c. of the farm operators in Saskatchewan, Alberta and British Columbia, respectively, have been on their present farms less than 5 years as compared with 27·6 p.c. for Canada as a whole. There will, as a result, be a large proportion of incompleted farm families in these provinces tending to lower the average size of the household.

Average Size of Farm Household in the Counties and Census Divisions.—Since a continuous breakdown of census data into fine geographical groupings is unfeasible, most of the census compilations were made for provinces. Consequently, each province is dealt with as a unit on the assumption that the population studied is homogeneous throughout though, actually, conditions may vary widely within the province itself. Since the farm population and the number of farms at the 1931 Census is available by counties in Eastern Canada and by census divisions in Western Canada an opportunity is afforded of observing the variation of the average size of the farm household within each province.

In Statement CXXI the counties and census divisions in each province are distributed according to average size of farm household. It will be noted that the average for each county tends to conform to the average for the whole province. For example, Quebec, where the provincial average is largest, has a relatively large average household for every county, while British Columbia, where the provincial average is smallest, has a relatively small average in every county. At the bottom of the column for each province the unweighted mean of the averages for the divisions is given and also the standard deviation and coefficient of dispersion of the averages about the unweighted means. To avoid grouping errors the actual averages for each county to two decimal places were used in the calculation of these statistics. British Columbia had the largest coefficient of dispersion indicating that it was the least homogeneous province geographically with respect to size of average farm household. Alberta, New Brunswick and Quebec also had relatively large coefficients of dispersion. It should, consequently, be borne in mind that family conditions found in parts of the provinces of British Columbia, Alberta, New Brunswick and Quebec are less likely to be typical of those found throughout the province than are conditions found in parts of the remaining provinces. Attention is now directed to the study of the variation of the average size of the farm household by counties and census divisions, dealing with each province separately.

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CXXI.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF 218 COUNTIES AND CENSUS DIVISIONS ACCORDING TO AVERAGE SIZE OF FARM HOUSEHOLD AND PROVINCES, CANADA, 1931

Average Persons per Farm Household	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Total
3·1 and less than 3·2								1	1	2
3·2 " " " 3·3								1		1
3·3 " " " 3·4								1	1	2
3·4 " " " 3·5										
3·5 " " " 3·6										
3·6 " " " 3·7										
3·7 " " " 3·8					1				2	3
3·8 " " " 3·9								2	2	4
3·9 " " " 4·0								1	1	2
4·0 " " " 4·1					5		1		1	7
4·1 " " " 4·2					3		2	2	1	8
4·2 " " " 4·3		2			4			2		8
4·3 " " " 4·4					5		2	1		8
4·4 " " " 4·5	2	1	1		11		1	3		19
4·5 " " " 4·6		5	3		8		4			20
4·6 " " " 4·7		2			7	2	1	1		13
4·7 " " " 4·8		2		1	3	1	1			8
4·8 " " " 4·9	1	4	2	1	1	4				13
4·9 " " " 5·0		1	2			3	2	1		9
5·0 " " " 5·1					1		2	1		4
5·1 " " " 5·2		1		3		1	1		1	7
5·2 " " " 5·3				3	1	1	1			6
5·3 " " " 5·4				4	1	1				6
5·4 " " " 5·5			1	5		1				7
5·5 " " " 5·6				2	1	1				4
5·6 " " " 5·7			2	5	2					9
5·7 " " " 5·8										
5·8 " " " 5·9				3	1	1				5
5·9 " " " 6·0				6						6
6·0 " " " 6·1			1	5						6
6·1 " " " 6·2			1	3						4
6·2 " " " 6·3				4						4
6·3 " " " 6·4			1	4						5
6·4 " " " 6·5			1	4						5
6·5 " " " 6·6				2						2
6·6 " " " 6·7				1						1
6·7 " " " 6·8										
6·8 " " " 6·9				1						1
6·9 " " " 7·0				1						1
7·0 " " " 7·1										
7·1 " " " 7·2				1						1
7·2 " " " 7·3				2						2
7·3 " " " 7·4				2						2

CXXI.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF 128 COUNTIES AND CEN-
SUS DIVISIONS ACCORDING TO AVERAGE SIZE OF FARM HOUSEHOLD AND
PROVINCES, CANADA, 1931—Con.

Average Persons per Farm Household	Prince Edward Island	Nova Scotia	New Bruns- wick	Quebec	On-. tario	Mani- toba	Sas- katch- ewan	Al- berta	British· Col- umbia	Total
7·4 and less than 7·5.........										
7·5 " " " 7·6........				2						2
7·6 " " " 7·7........										
7·7 " " " 7·8........										
7·8 " " " 7·9........				1						1
Total.................	3	18	15	66	55	16	18	17	10	218
Unweighted mean...........	4·58	4·66	5·30	6·05	4·55	5·03	4·65	4·15	3·89	
Standard deviation..........	0·22	0·24	0·67	0·69	0·43	0·32	0·36	0·52	0·53	
Coefficient of dispersion......	0·05	0·05	0·13	0·11	0·09	0·06	0·08	0·13	0·14	

QUEBEC

Size of Farm Household.—Since the farms and rural districts of the province of Quebec present an extremely interesting field for a statistical study of family size, this province is dealt with first. Although the average size of the Quebec rural family dropped considerably between 1861 and 1881, it has varied little since, showing at times a slight tendency to rise. In many parts of the province the average size of the farm household is the same as it was one hundred years ago when households were correspondingly large in every settled part of Canada. Moreover, in 56 of the 66 counties the population is over 70 p.c. French, and so we can observe the reaction of a population, homogeneous with respect to race, religion and culture, to the different physical conditions found in a large province. That physical conditions have a pronounced effect on family size in Quebec is evident from the surprisingly wide dispersion in household size from county to county. In Statement CXXII the average size of the farm household in each county is given along with the crude and standardized birth rates taken from the *Special Report on Births in Canada According to Place of Residence of Mother, 1930-32*, issued by the Vital Statistics Branch of the Dominion Bureau of Statistics. It was, unfortunately, not feasible to compile a birth rate for the purely farm or rural population since many mothers gave their post office address as their place of residence. However, when there were towns with populations of 5,000 and over in the county, separate rates were given for each town and the remainder of the county so that the rates given in the following statement are for the counties exclusive of towns 5,000 and over. The standardized rates were based on the age distribution of women 15-50 years of age, in five-year age groups.

CXXII.—AVERAGE SIZE OF FARM HOUSEHOLD AND BIRTH RATES, 1930-1932, QUEBEC, BY
COUNTIES, 1931

County	Persons per Farm Household (1)	Rank of County (2)	Birth Rate, 1930-32					
			Crude			Standardized		
			Rate (3)	Rank of County (4)	Difference in Rank (col. 4- col. 2) (5)	Rate (6)	Rank of County (7)	Difference in Rank (col. 7- col. 2) (8)
Quebec......................	6·14	–	29·0	–	–	27·9	–	–
Chicoutimi................	7·80	1	43·6	2	1	48·8	3	2
Rimouski.................	7·53	·2	35·1	14	12	38·4	19	17
Saguenay.................	7·52	3	38·2	6	3	45·4	6	3
Témiscouata...............	7·38	4	35·9	12	8	41·2	15	11
Lac-St-Jean...............	7·34	5	45·1	1	– 4	51·8	1	– 4
Charlevoix................	7·28	6	35·8	13	7	38·5	18	12
Montmorency..............	7·26	7	33·2	18	11	35·6	27	20
Kamouraska..............	7·12	8	32·4	23	15	39·4	17	9
Matane...................	6·90	9	41·5	3	– 6	48·3	4	– 5
L'Islet...................	6·83	10	32·9	21	11	37·7	21	11
Champlain................	6·69	11	33·2	19	8	38·3	20	9
Beauce...................	6·58	12	37·1	10	– 2	42·5	12	–
Lévis....................	6·50	13	29·9	35	22	33·5	34	21
Bellechasse...............	6·46	14	33·8	17	3	41·5	14	–

CXXII.—AVERAGE SIZE OF FARM HOUSEHOLDS AND BIRTH RATES, 1930-1932, QUEBEC, BY COUNTIES, 1931—Con.

County	Persons per Farm Household	Rank of County	Birth Rate, 1930-32					
			Crude			Standardized		
			Rate	Rank of County	Difference in Rank (col. 4— col. 2)	Rate	Rank of County	Difference in Rank (col. 7— col. 2)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Quebec—Con.								
Quebec...................	6·44	15	26·9	45	30	25·8	55	40
Bonaventure..............	6·43	16	33·9	16	–	43·3	11	— 5
Frontenac................	6·40	17	37·7	8	— 9	45·1	7	—10
Gaspé....................	6·37	18	38·0	7	—11	46·7	5	—13
Portneuf.................	6·37	19	32·7	22	3	34·8	30	11
Maskinongé..............	6·33	20	32·0	24	4	34·1	33	13
St-Maurice...............	6·30	21	29·6	36	15	35·1	28	7
Montreal and Jesus Islands	6·29	22	18·3	65	43	17·3	66	44
Montmagny..............	6·25	23	32·0	25	2	36·5	26	3
Arthabaska..............	6·23	24	31·1	27	3	36·9	23	— 1
Dorchester..............	6·22	25	36·7	11	—14	43·9	10	—15
Lotbinière..............	6·17	26	33·1	20	— 6	39·6	16	—10
Verchères...............	6·13	27	28·1	40	13	30·0	44	17
Chambly................	6·10	28	18·8	64	36	20·0	65	37
Temiskaming............	6·08	29	39·2	5	—24	44·6	9	—20
Wolfe...................	6·06	30	34·2	15	—15	41·9	13	—17
Labelle.................	6·05	31	37·4	9	—22	44·8	8	—23
Terrebonne..............	6·01	32	29·2	38	6	31·1	42	10
Yamaska................	6·01	33	30·8	29	— 4	34·4	31	— 2
Mégantic................	5·98	34	31·1	28	— 6	36·7	25	— 9
Nicolet.................	5·97	35	30·4	33	— 2	33·4	36	1
Richelieu...............	5·97	36	26·4	46	10	27·6	51	15
Joliette................	5·94	37	31·8	26	—11	36·9	24	—13
Papineau................	5·92	38	30·7	30	— 8	37·0	22	—16
Laprairie...............	5·92	39	26·1	48	9	28·9	47	8
Berthier................	5·85	40	27·4	42	2	29·4	45	5
Deux-Montagnes..........	5·84	41	26·4	47	6	29·2	46	5
Hull....................	5·81	42	30·4	34	— 8	35·0	29	—13
L'Assomption............	5·66	43	29·2	39	— 4	31·4	41	— 2
Beauharnois.............	5·64	44	19·4	63	19	21·6	63	19
Vaudreuil...............	5·62	45	23·1	57	12	23·1	61	16
Richmond...............	5·62	46	30·6	31	—15	34·3	32	—14
Drummond...............	5·62	47	27·1	43	— 4	30·9	43	— 4
Napierville..............	5·59	48	27·0	44	— 4	31·6	40	— 8
Shefford................	5·52	49	27·9	41	— 8	33·4	37	—12
Montcalm...............	5·48	50	29·3	37	—13	33·2	38	—12
Pontiac.................	5·47	51	25·7	49	— 2	32·5	39	—12
Rouville................	5·47	52	24·8	52	–	26·3	53	1
Bagot..................	5·46	53	30·4	32	—21	33·5	35	—18
Soulanges...............	5·44	54	25·3	50	— 4	28·7	49	— 5
Iberville...............	5·39	55	24·9	51	— 4	27·3	52	— 3
Compton................	5·35	56	24·6	53	— 3	28·9	48	— 8
Sherbrooke..............	5·33	57	23·0	58	1	24·6	58	1
St-Hyacinthe............	5·33	58	21·8	60	2	22·7	62	4
Stanstead...............	5·26	59	22·0	59	–	23·6	59	–
Argenteuil..............	5·23	60	21·7	61	1	24·9	57	— 3
Chateauguay............	5·20	61	23·2	55	— 6	26·2	54	— 7
St-Jean.................	5·14	62	23·8	54	— 8	27·7	50	—12
Abitibi..................	5·13	63	39·3	4	—59	49·1	2	—61
Missisquoi..............	5·13	64	23·2	56	— 8	23·6	60	— 4
Brome..................	4·84	65	16·7	66	1	20·1	64	— 1
Huntingdon..............	4·72	66	21·2	62	— 4	25·5	56	—10

In Statement CXXII the counties have been ranked in order of the average sizes of their farm households, Chicoutimi ranking first with 7·80 persons per farm household and Huntingdon last with 4·72.

CXXIII.—PERCENTAGE OF POPULATION OF FRENCH RACIAL ORIGIN, SELECTED COUNTIES, QUEBEC, 1931

County	P.C. French Racial Origin	County	P.C. French Racial Origin
Argenteuil................................	58·1	Montreal and Jesus Islands..............	60·8
Brome...................................	45·3	Pontiac.................................	41·2
Chambly.................................	61·8	Sherbrooke..............................	71·8
Huntingdon..............................:	47·9	Stanstead...............................	66·2
Missisquoi...............................	67·9		

In the above statement the percentage of the population reporting French racial origin is given for the nine counties containing a considerable non-French element. In the remaining counties the total population is at least 70 p.c. French racial origin, the French predominating

even more considerably in the farm population. Of the counties appearing above, three rank at the bottom of Statement CXXII in the average size of farm household while the average farm household is small in the remaining six.

Correlation of Household Size and Birth Rate.—By inspection it is obvious that the counties having the largest average households have also the highest birth rates. Evidently large families are assured in these counties by a continuous supply of children. The rank correlation of household size with crude birth rate was ·72 and with standardized birth rate ·67. It is not surprising that household size correlates better with the crude birth rate than with one standardized for age, for an age distribution favourable to a high birth rate would tend to favour large families since it would contain a small proportion of elderly family heads. On the other hand, a population with a large proportion of young married women would have an age distribution favourable to a high crude birth rate but average family size would be lowered by the presence of a large proportion of incompleted families.

It is noteworthy that Abitibi county, though ranking sixty-third among the counties in average household size, ranks fourth in crude birth rate and second in standardized birth rate, making rank differences of −59 and −61. Abitibi is a new county which has been colonized largely by an influx from the older parts of the province. During the decade 1921-31, the rural population increased from 12,215 to 19,421, an increase of 59 p.c. Since the colonists from southern Quebec were forced to travel a considerable distance to settle in Abitibi, it is unlikely that their families were very large when they arrived, a goodly portion being unmarried men. In addition, the hermit trapper is a familiar figure in the less-settled parts of Canada. During the summer he works his small farm and in the winter he traps. Consequently, it is likely that in Abitibi there are many households of one person. Moreover, the proportion of completed families is probably small. At the same time, the birth rate is responding to the possibilities of expansion and it is most likely that large families are assured for Abitibi farms in the future. It is evident that a district rapidly increasing its population by an influx of colonists from distant parts of the province or from outside the province has a small average farm household since immigration lowers the average size of the family even though the birth rate be very high. This illustrates the fallacy of interpreting average family size solely on the basis of fertility, particularly in the past when the whole country and each of its parts was passing through various stages of settlement. Temiskaming county, also in process of colonization from outside, has a rank in household size well below that to be expected from its birth rate.

In contrast, Lévis, Quebec, Montreal and Jesus Islands and Chambly are counties which have a large positive difference in rank in household size and birth rate. That is, the average farm household is much larger in these counties which lie about the cities of Montreal and Quebec than would be expected from the birth rate. One explanation would be that children stay at home longer because the higher prices for farm produce resulting from the proximity of a metropolitan market makes their labour on the home farm more profitable; another, that they obtain employment in the city but still live at home. It is also possible that heads of large families employed in the city settle their families on nearby farms since their incomes are insufficient to support them inside the city. It seems apparent, however, that the large cities do not exert the same drain on the population of the rural districts in their immediate vicinity as they do on the population of rural districts somewhat farther away.

Correlation of Household Size with Increase in Rural Population and Density of Settlement.—In the accompanying map, counties have been shaded according to the size intervals in which their average households lie. The counties of Argenteuil, Brome, Chambly, Huntingdon, Missisquoi, Montreal and Jesus Islands, Pontiac, Sherbrooke and Stanstead, which were seen from Statement CXXIII to have a large non-French content, and the county of Abitibi have been shown in white. In the remaining counties differential household size must be interpreted in terms of the influence of physical and economic factors. It is obvious that the average household is very large in the counties of northeastern Quebec, and those bordering on the Lower St. Lawrence. The smallest households in Quebec, on the other hand, are found in the counties in the south west. The former group of counties has a largely indigenous population which has been increasing steadily by the natural increase resulting from a high birth rate. Though they have been settled for many generations there is still land available for colonization. It is in line with the theory that population grows in accordance with the density of population which the land can support that these counties have experienced a rapid growth due to natural increase.

AVERAGE PERSONS PER FARM
HOUSEHOLD
IN
56 COUNTIES,
QUEBEC, 1931

PERSONS PER FARM HOUSEHOLD

5.00 – 5.49

5.50 – 5.99

6.00 – 6.49

6.50 – 6.99

7.00 – 7.49

7.50 – 7.99

*Counties shown in white
have a large non-French element*
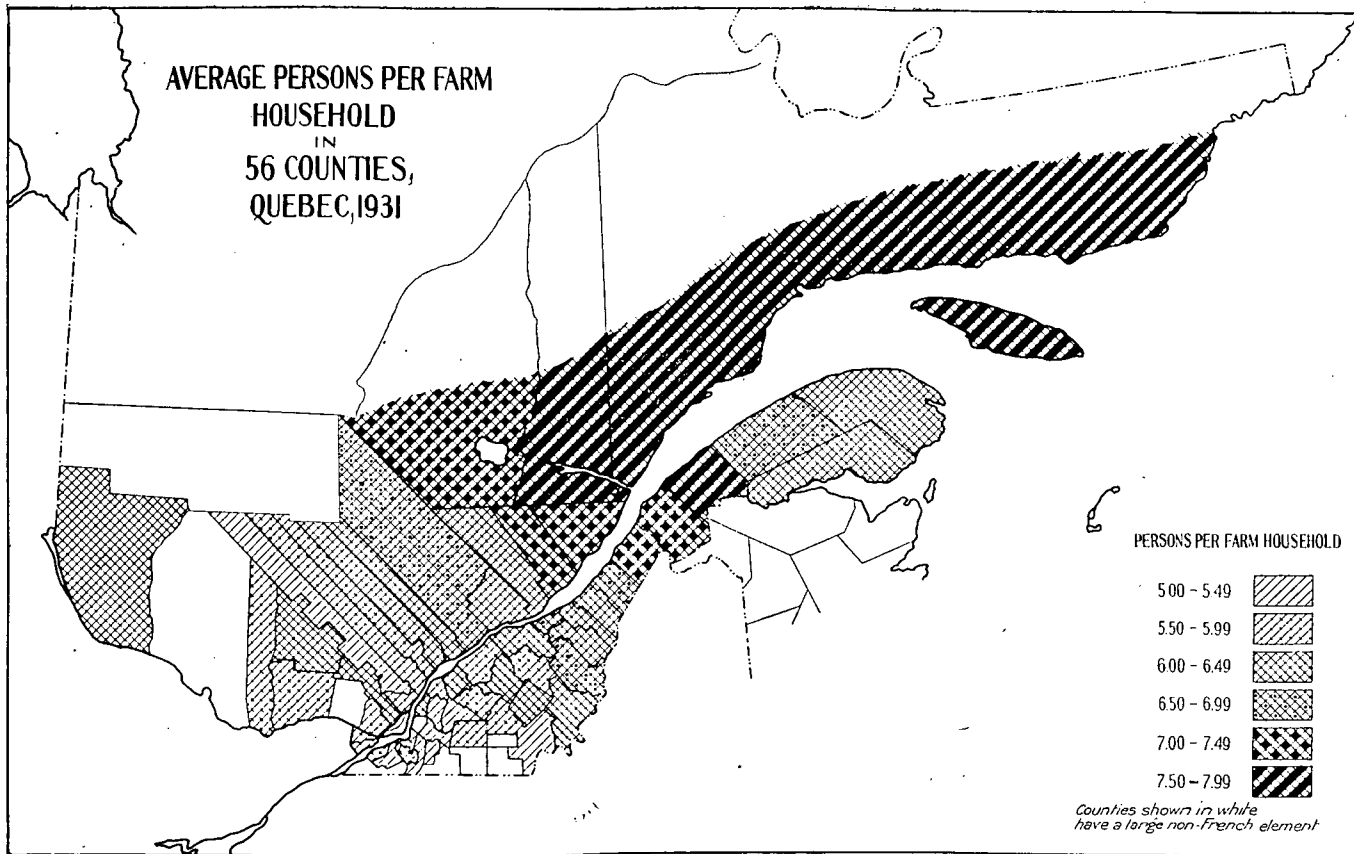
Map 1

CXXIV.—ACTUAL AND CALCULATED SIZE OF FARM HOUSEHOLD AND PERCENTAGE OF LAND AREA OCCUPIED, 1931, AND RURAL POPULATION, QUEBEC, 1931 AND 1921

County	Persons per Farm Household			Farm Popu-lation[1] (4)	Oc-cupied Farms[1] (5)	Y P.C. of Land Area Oc-cupied (6)	Rural Population		X 1931 as P.C. of 1921 (9)
	Z Actual (col. 4 ÷ col. 5) (1)	Cal-culated (2)	Difference (col. 2 − col. 1) (3)				1931 (7)	1921 (8)	
Chicoutimi	7·80	7·58	−0·22	13,073	1,676	2·9	18.333	14.182	129
Rimouski	7·53	6·92	−0·61	15,400	2,046	26·0	22.202	19,324	115
Saguenay	7·52	7·47	−0·05	3.240	431	-	20.641	16,348	126
Témiscouata	7·38	6·49	−0·89	26,708	3,617	52·9	36.066	33,756	107
Lac-St-Jean	7·34	6·96	−0·38	24,918	3,395	3·6	30.614	26,779	114
Charlevoix	7·28	6·49	−0·79	10,749	1,476	19·8	15,347	14,722	104
Montmorency	7·26	7·21	−0·05	7,493	1,032	12·9	13,891	11,507	121
Kamouraska	7·12	6·42	−0·70	14,017	1,970	37·6	21,737	20,912	104
Matane	6·90	6·48	−0·42	22,325	3,237	24·2	27,826	26,686	104
L'Islet	6·83	6·57	−0·26	11,880	1,740	53·7	18,669	17,090	109
Champlain	6·69	6·67	−0·02	17,951	2,684	6·4	29,243	27,407	107
Beauce	6·58	6·25	−0·33	28,698	4,362	82·8	33,366	31,959	104
Lévis	6·50	5·37	−1·13	7,071	1,088	87·7	12,915	15,471	83
Bellechasse	6·46	6·01	−0·45	14,852	2,300	81·4	20,714	21,108	98
Quebec	6·44	6·91	−0·47	9,586	1,489	7·4	20,680	18,280	113
Bonaventure	6·43	6·79	0·36	24,744	3,850	16·3	32,432	29,092	111
Frontenac	6·40	6·23	−0·17	16,342	2,555	45·4	20,345	20,374	100
Gaspé	6·37	6·77	0·40	34,256	5,375	10·5	41,818	37,855	110
Portneuf	6·37	6·05	−0·32	16,945	2,661	40·2	22,190	21,741	102
Maskinongé	6·33	5·95	−0·38	9,103	1,439	11·7	12,970	14,481	90
St-Maurice	6·30	6·47	0·17	10,007	1,588	15·9	15,582	15,122	103
Montmagny	6·25	5·85	−0·40	9,721	1,555	50·0	16,312	17,852	91
Arthabaska	6·23	5·91	−0·32	15,124	2,426	85·7	16,748	17,384	96
Dorchester	6·22	6·14	−0·08	20,768	3,337	79·8	26,782	26,388	101
Lothinière	6·17	6·01	−0·16	15,201	2,462	82·1	16,878	17,199	98
Verchères	6·13	5·87	0·26	6,714	1,095	96·0	8,026	8,393	96
Témiskaming	6·08	6·60	0·52	7,730	1,272	3·6	11,521	10,924	105
Wolfe	6·06	5·82	0·24	11,664	1,926	67·9	12,179	13,211	92
Labelle	6·05	6·39	0·34	11,650	1,926	22·9	14,783	14,560	102
Terrebonne	6·01	5·92	−0·09	12,875	2,143	62·3	18,058	19,196	94
Yamaska	6·01	5·83	−0·18	10,674	1,776	79·8	12,740	13,839	92
Mégantic	5·98	5·94	−0·04	14,911	2,492	78·3	17,191	17,897	96
Nicolet	5·97	5·64	−0·33	19,495	3,264	92·7	21,845	24,247	90
Richelieu	5·97	5·90	−0·07	6,620	1,108	89·4	8,081	8,440	96
Joliette	5·94	6·06	0·12	11,596	1,953	16·5	15,652	16,800	93
Papineau	5·92	-	-	14,228	2,405	39·3	17,147	18,033	95
Laprairie	5·92	6·27	0·35	5,647	954	88·2	10,002	9,485	105
Berthier	5·85	5·99	0·14	10,618	1,816	22·0	15,237	16,649	92
Deux-Montagnes	5·84	5·99	0·15	8,612	1,475	96·7	11,782	11,957	99
Hull	5·81	6·53	0·72	15,723	2,706	31·6	25,709	24,154	106
L'Assomption	5·66	5·70	0·04	7,598	1,343	88·6	9,945	11,032	90
Beauharnois	5·64	6·11	0·47	4,668	828	75·8	6,009	6,027	100
Vaudreuil	5·62	5·56	−0·06	4,966	884	91·3	6,576	7,509	88
Richmond	5·62	6·01	0·39	10,428	1,856	71·1	11,850	12,221	97
Drummond	5·62	5·80	0·18	11,033	1,962	81·9	14,826	15,967	93
Napierville	5·59	5·68	0·09	5,069	907	93·4	5,542	6,118	91
Shefford	5·52	5·55	0·03	11,910	2,158	95·9	13,094	14,960	88
Montcalm	5·48	6·26	0·78	8,642	1,576	7·1	10,780	11,090	97
Rouville	5·47	5·78	0·31	7,624	1,395	89·5	8,690	9,315	93
Bagot	5·46	5·66	0·20	11,133	2,039	98·9	11,965	13,210	91
Soulanges	5·44	5·49	0·05	4,392	808	90·6	5,873	6,797	86
Iberville	5·39	5·65	0·26	5,111	949	89·3	5,898	6,585	90
Compton	5·35	5·91	0·56	12,375	2,313	64·8	14,322	15,312	94
St-Hyacinthe	5·33	5·93	0·60	7,779	1,459	91·6	9,072	9,352	97
Chateauguay	5·20	5·81	0·61	7,949	1,530	91·4	9,548	10,198	94
St-Jean	5·14	5·92	0·78	4,605	896	83·0	5,700	5,930	96
Unweighted mean	6·17	-	-	-	-	55·9	-	-	99·6
Standard devia-tion	0·65	-	-	-	-	33·8	-	-	9·8

[1]Exclusive of non-resident farms.

Multiple regression equation: $Z = 2\cdot328 + 0\cdot041\,X - 0\cdot0039\,Y$;

Z —average size of rural farm families;

X —1931 population as percentage of 1921;

Y — Percentage of land area occupied;

Multiple correlation coefficient: $R^2 = \cdot58$, $R = \cdot76$;

Simple correlations: $r_{zx} = \cdot74$, $r_{zy} = -\cdot60$, $r_{xy} = -\cdot64$.

The 56 counties included in the above correlations were almost solidly French in the farming sections. Nevertheless, average size of household varies from 7·80 for Chicoutimi to 5·14 for St-Jean. The unweighted mean of the averages was 6·17 and the unweighted standard deviation about this mean 0·65. The simple correlation between size of household and the ratio of the 1931 rural population to the 1921 population, $R_{zx} = \cdot74$, is highly significant and indicates

that large farm households are closely associated with an increasing population.   That, counties in the province of Quebec which have increased their rural population are those where a large portion of the available land has not yet been colonized is illustrated by the negative correlation, $R_{xy} = -\cdot64$, between population increase as measured by the ratio of the 1931 rural population of each county to the 1921 and percentage of land area occupied.   The interesting correlation, $R_{zy} = -\cdot60$, between household size and percentage of land occupied brings out the fact that families are largest in the counties where there is still room for population growth.   *The less densely settled counties of Quebec, with the exception of Abitibi which has not been included in this study, are peculiar in that they often contain some very old settlements.   Not so closely affected by changing ideals and modes of life, this highly conservative population living in a territory with plenty of room for expansion has steadily maintained the vigour of its growth.*

The rural population of Quebec in 1931 contained only 6,432 families with immigrant male heads, of whom 3,992 had arrived before 1911.   It is doubtful if many of these families belong to those counties where population has been increasing.   The counties which have increased their population have done so almost entirely by natural increase.   This leads to the generalization that a population increasing by natural increase has large households.   It was seen in the case of Abitibi county that the average size of households in a population increasing by immigration may be small due to the presence of farmers living by themselves and a large proportion of incompleted families.   In fact, the case of Abitibi furnishes a marked contrast with the other growing counties since its families are small.   Although the fact that 87 p.c. of its rural population is of French racial origin indicates that its settlers are for the most part drawn from southern Quebec, they may be considered immigrants in the sense that they have been forced to travel a considerable distance to their new homes.

A high birth rate is found in most of the growing counties.   This is the major factor contributing towards large families and population increase.   The counties where rural population has remained stationary or has decreased have a smaller birth rate.   Although the lower birth rates in these counties are sufficiently high to maintain an excess of births over deaths, the increase leaves the farms of the county, emigrating to the United States or moving to the urban parts. No comprehensive statistics on the movement are available but it is unlikely that the surplus rural population in the densely settled counties moved to farms in the less-settled districts to any considerable extent.   It is much more probable that the latter counties increased in population due to the high birth rate of the native population and the fact that the children remained in the home county.   Such a hypothesis explains the large families in the growing counties. In the first place a high birth rate assures a large biological family and, in the second place, children are kept at home, there being sufficient land for them to work on and new land for them to settle when they wish to establish a farm of their own; at the same time the city is too far away to attract them in large numbers.

In Statement CXXIV the size of the farm household, calculated for each county from the multiple regression equation, has been given.   It would appear from an observation of the differences between the actual and expected sizes of families that the correlation is slightly non-linear.   Lévis has families much larger than the size to be expected from her decreasing population and intensive settlement, emphasizing again the fact that counties on the outskirts of Quebec city and Montreal have large farm households.   That the average size of the family for Hull county falls below the expected is not surprising in view of the fact that certain townships have a large non-French element.

Household Size and Type of-Farming.—Is the size of the farm household partially dependent on the type of farming practised or is it a factor in determining the type of farming which will be practised?   It has already been noticed that the farm household is larger than would be expected from the farm birth rate in the counties close to metropolitan districts.   It is quite possible that this can be accounted for by the types of farming practised, *viz.*, market gardening, dairying and poultry raising.   Quebec is a general-farming province throughout, but it is probable that the farm family is more self-sufficient in the Lower St. Lawrence Valley and in northeastern Quebec where a large average household is found than in the counties where the average household is small.   The increasing emphasis on farm production for the outside market has been suggested as largely responsible for the decrease in the size of Canadian farm family.   In Quebec, or at least in the eastern parts, the average size of the farm household has not experienced this decrease, perhaps because the farm families in these counties have remained more self-contained.   Two

classes of farm produce, stock sold alive and stock slaughtered, include all the annual revenue derived by the farmer from his live stock exclusive of animal products. Stock sold alive represent largely sales for export and the outside market, while stock slaughtered represent produce used at home or designed for local consumption. Consequently, the ratio of the value of stock slaughtered to stock sold alive will measure the extent to which the farmer is concerned with production for home consumption as compared with production for outside consumption. In the scatter diagram below the value of stock slaughtered expressed as a percentage of the value of stock sold alive for 56 counties has been cross-classified with average size of farm household.

CXXV.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF 56 COUNTIES IN QUEBEC, 1931, ACCORDING TO INTERVALS OF VALUE OF STOCK SLAUGHTERED AS PERCENTAGE OF VALUE OF STOCK SOLD ALIVE IN RELATION TO AVERAGE SIZE OF FARM HOUSEHOLD

Value of Stock Slaughtered as P.C. of Value of Stock Sold Alive	Counties						
	Average Persons per Farm Household						
	5·0 and less than 5·5	5·5 and less than 6·0	6·0 and less than 6·5	6·5 and less than 7·0	7·0 and less than 7·5	7·5 and less than 8·0	Total
20- 39..	2						2
40- 59..	3	1	2				6
60- 70..	1	7	1				9
80- 99..	2	3	1	1			7
100-119..		2	1		1		4
120-139..	1	2	1				4
140-159..		1	5			1	7
160-170..			4	1	1	1	7
180-199..					1		1
200-219..					1		1
220-230..			1	1			2
240-259..		-		1	1	1	3
260-279..							
280-299..				1			1
300 and over..................................			2				2
Total counties..................	9	16	18	5	5	3	56
Mean of percentages........................	66	91	163	205	186	184	

The ratio of stock slaughtered to stock sold alive is much higher in the counties with large average households than it is in those counties with small average households. Stock slaughtered exceeded stock sold alive in 32 out of 56 counties. In only one of the counties where stock sold alive exceeded stock slaughtered did the average size of the farm household exceed 6·5 persons.

CXXVI.—VALUE OF STOCK SLAUGHTERED AND STOCK SOLD ALIVE, QUEBEC, 1930

Item	Unit	All Counties	Counties Where Stock Slaughtered Exceeded Stock Sold Alive	Counties Where Stock Sold Alive Exceeded Stock Slaughtered
Number of counties..	No.	66	34	32
Value of stock slaughtered......................................1930	$	12,628,977	7,417,863	5,211,114
Value of stock sold alive..1930	$	13,061,033	4,463.470	8,597,563
Total value..1930	$	25,690,010	11,881,333	13,808,677
Number of occupied farms.......................................1931	No.	135,957	73,689	62,268
Rural population...1931	No.	1,060,649	647,634	413,015
Value of stock slaughtered per occupied farm........................	$	92·89	100·66	83·69
Value of stock sold alive per occupied farm..........................	$	96·07	60·57	138·07
Total value per occupied farm.......................................	$	188·96	161·23	221·76
Value of stock slaughtered per person of rural population.............	$	11·91	11·45	12·62

Value per farm of stock produce in counties where stock sold alive exceeded stock slaughtered exceeded that in counties where stock slaughtered exceeded stock sold alive by $60.53 or 38 p.c. In the former counties stock raising may be regarded as a specialized industry while in the latter counties it is not. The importance in the production picture of farms in the latter counties may be realized, however, from consideration of the fact that they supplied a rural population of 647,634 persons with slaughtered stock valued at $11.45 per person. This compares with $12.62 per person for a rural population of 413,015 supplied by farms in the former counties. That is, the farms in the counties where stock raising was a non-specialized industry produced nearly as much live stock per person for local consumption as did the farms in the counties where stock raising was specialized while the rural population of the former counties amounted to 61·1 p.c. of the rural population of the province.

Household Size and Farm Operation.—The data given in Statement CXXVII are descriptive of farm operation in each county. It will be observed that the number of farm workers per farm does not vary greatly. The large averages for Charlevoix, Champlain, Maskinongé, Laprairie, Hull, Beauharnois, Shefford and Chateauguay reflect large averages for temporary hired labourers and female family workers. The labour of these classes cannot be regarded as equivalent to that of the other classes.

CXXVII.—SUMMARY DATA DESCRIPTIVE OF FARM OPERATION, 56 COUNTIES, QUEBEC, 1930-1931

County	Average Size of Farm Household, 1931	Per Occupied Farm								
		Farm Workers, 1930					Acreage, 1931	Value of		
		Total	Family Workers		Hired Labourers			Products, 1930	Products per Acre, 1930	Implements, 1931
			Male	Female	Permanent	Temporary				
								$	$	$
Chicoutimi	7·80	2·39	2·13	0·05	0·04	0·17	195·1	1,826	9·36	1,110
Rimouski	7·53	2·17	1·81	0·08	0·03	0·25	151·8	1,473	9·70	939
Saguenay	7·52	2·44	1·85	0·44	0·01	0·14	127·0	970	7·64	654
Témiscouata	7·38	1·97	1·75	0·01	0·02	0·19	150·3	1,139	7·58	753
Lac-St-Jean	7·34	2·00	1·74	0·12	0·02	0·12	138·0	1,257	9·11	628
Charlevoix	7·28	3·01	2·12	0·70	0·03	0·16	194·7	1,346	6·91	653
Montmorency	7·26	2·48	1·91	0·23	0·10	0·24	170·9	1,527	8·94	860
Kamouraska	7·12	2·08	1·71	0·13	0·05	0·19	115·4	1,078	9·34	694
Matane	6·90	2·10	1·72	0·18	0·02	0·18	152·6	1,161	7·61	725
L'Islet	6·83	2·16	1·83	0·05	0·03	0·25	152·2	1,174	7·71	669
Champlain	6·69	2·77	1·92	0·45	0·02	0·38	130·4	1,549	11·88	974
Beauce	6·58	2·08	1·51	0·42	0·01	0·14	113·3	1,013	8·94	561
Lévis	6·50	2·14	1·52	0·35	0·05	0·22	122·1	1,473	12·03	729
Bellechasse	6·46	1·75	1·50	0·07	0·01	0·17	120·5	1,062	8·81	475
Quebec	6·44	2·20	1·71	0·07	0·13	0·29	86·3	1,642	19·02	879
Bonaventure	6·43	2·05	1·51	0·20	0·01	0·24	93·0	804	8·65	515
Frontenac	6·40	1·76	1·44	0·12	0·01	0·19	130·4	910	6·98	542
Gaspé	6·37	1·89	1·53	0·19	0·01	0·16	56·9	569	10·00	315
Portneuf	6·37	2·40	1·81	0·28	0·04	0·27	130·5	1,348	10·33	714
Maskinongé	6·33	2·90	1·79	0·54	0·04	0·53	119·6	1,441	12·05	809
St-Maurice	6·30	2·25	1·84	0·03	0·01	0·37	113·4	1,493	13·17	690
Montmagny	6·25	2·50	1·83	0·41	0·02	0·24	129·4	1,174	9·07	620
Arthabaska	6·23	2·28	1·79	0·18	0·02	0·29	149·8	1,502	10·03	709
Dorchester	6·22	2·11	1·72	0·24	-	0·15	123·3	1,079	8·75	557
Lotbinière	6·17	1·80	1·51	0·09	0·01	0·19	132·4	1,177	8·89	566
Verchères	6·13	2·33	1·78	0·05	0·09	0·41	106·9	1,821	17·03	981
Temiskaming	6·08	2·12	1·65	0·18	0·01	0·28	150·7	1,289	8·55	836
Wolfe	6·06	2·20	1·66	0·29	0·02	0·23	145·9	1,372	9·40	609
Labelle	6·05	2·21	1·65	0·11	0·03	0·42	169·2	1,064	6·29	653
Terrebonne	6·01	2·13	1·65	0·06	0·06	0·36	142·0	1,453	10·23	709
Yamaska	6·01	2·33	1·61	0·44	0·03	0·25	91·1	1,311	14·39	709
Mégantic	5·98	2·23	1·59	0·29	0·03	0·32	137·2	1,305	9·51	664
Nicolet	5·97	2·33	1·61	0·42	0·03	0·27	101·3	1,257	12·41	661
Richelieu	5·97	2·25	1·65	0·36	0·03	0·21	108·9	1,415	12·99	691
Joliette	5·94	2·03	1·55	0·07	0·04	0·37	127·3	1,480	11·63	717
Papineau	5·92	2·36	1·65	0·25	0·03	0·43	158·0	1,266	8·01	722
Laprairie	5·92	2·53	1·84	0·11	0·12	0·46	91·6	1,755	19·16	929
Berthier	5·85	2·24	1·64	0·16	0·03	0·41	134·5	1,467	10·91	745
Deux-Montagnes	5·84	2·37	1·79	0·06	0·10	0·42	112·7	1,960	17·39	976
Hull	5·81	2·79	1·76	0·37	0·10	0·56	180·1	1,582	8·78	810
L'Assomption	5·66	2·66	1·62	0·20	0·11	0·73	95·7	1,836	19·18	996
Beauharnois	5·64	2·88	1·75	0·68	0·04	0·41	85·8	1,887	21·99	1,116
Vaudreuil	5·62	2·41	1·63	0·26	0·09	0·43	121·1	1,801	14·87	1,010
Richmond	5·62	2·13	1·61	0·11	0·10	0·31	125·8	1,526	12·13	690
Drummond	5·62	2·37	1·68	0·20	0·05	0·44	136·0	1,359	9·99	675
Napierville	5·59	2·32	1·70	0·29	0·06	0·27	88·4	1,619	18·31	788
Shefford	5·52	2·60	1·62	0·54	0·07	0·37	154·2	1,669	10·82	748
Montcalm	5·48	2·41	1·66	0·31	0·04	0·40	107·6	1,225	11·38	612
Rouville	5·47	2·23	1·55	0·07	0·11	0·50	93·8	1,976	21·07	987
Bagot	5·46	2·02	1·46	0·25	0·02	0·29	93·8	1,389	14·81	696
Soulanges	5·44	2·15	1·64	0·11	0·07	0·33	91·0	1,504	16·53	1,038
Iberville	5·39	2·11	1·49	0·11	0·07	0·44	105·7	1,482	14·02	869
Compton	5·35	2·14	1·49	0·04	0·09	0·52	156·7	1,616	10·31	673
St-Hyacinthe	5·33	2·09	1·61	0·15	0·04	0·29	103·3	1,637	15·85	923
Chateauguay	5·20	2·91	1·58	0·43	0·11	0·79	94·0	1,911	20·33	929
St-Jean	5·14	2·19	1·58	0·04	0·13	0·44	111·5	1,758	15·77	966

CXXVIII.—SCATTER DIAGRAMS SHOWING FREQUENCY DISTRIBUTION OF 56 COUNTIES IN QUEBEC, 1931, ACCORDING TO AVERAGE NUMBER OF FARM LABOURERS PER OCCUPIED FARM, 1930, IN RELATION TO FAMILY SIZE, 1931

(A) PERMANENT HIRED WORKERS

Average Permanent Hired Labourers per Farm	Counties						
	Average Persons per Farm Household						
	5·0 and under 5·5	5·5 and under 6·0	6·0 and under 6·5	6·5 and under 7·0	7·0 and under 7·5	7·5 and under 8·0	Total
0·00			1				1
0·01			7	1		1	9
0·02	1		3	2	2		8
0·03		5	2	1	1	1	10
0·04	2	2	2			1	7
0·05		1		1	1		3
0·06		1	1				2
0·07	2	1					3
0·08							
0·09	1	1	1				3
0·10		3			1		4
0·11	2	1					3
0·12		1					1
0·13	1		1				2
Total	9	16	18	5	5	3	56
Unweighted mean[1]	0·08	0·06	0·03	0·03	0·04	0·03	

(B) TEMPORARY FARM WORKERS

Average Temporary Farm Workers per Farm	Counties						
	Average Persons per Farm Household						
	5·0 and under 5·5	5·5 and under 6·0	6·0 and under 6·5	6·5 and under 7·0	7·0 and under 7·5	7·5 and under 8·0	Total
0·10-0·14				1	1	1	3
0·15-0·19			5	1	3	1	10
0·20-0·24		1	3	1	1		6
0·25-0·29	2	2	5	1		1	11
0·30-0·34	1	2					3
0·35-0·39		2	2	1			5
0·40-0·44	3	6	2				11
0·45-0·49		1					1
0·50-0·54	2		1				3
0·55-0·59		1					1
0·60-0·64							
0·65-0·69							
0·70-0·74		1					1
0·75-0·79	1						1
Total	9	16	18	5	5	3	56
Unweighted mean[1]	0·44	0·40	0·28	0·23	0·18	0·19	

[1] The unweighted means are obtained by adding the averages given in Statement CXXVII for counties with families in each size interval and dividing the total so obtained by the number of counties.

CXXVIII.—SCATTER DIAGRAMS SHOWING FREQUENCY DISTRIBUTION OF 56 COUNTIES IN QUEBEC, 1931, ACCORDING TO AVERAGE NUMBER OF FARM LABOURERS PER OCCUPIED FARM, 1930, IN RELATION TO FAMILY SIZE, 1931—Con.

(C) MALE FAMILY WORKERS

Average Male Family Workers	Counties						
	Average Persons per Farm Household						
	5·0 and under 5·5	5·5 and under 6·0	6·0 and under 6·5	6·5 and under 7·0	7·0 and under 7·5	7·5 and under 8·0	Total
1·40–1·44			1				1
1·45–1·49	3						3
1·50–1·54			4	2			6
1·55–1·59	3	2					5
1·60–1·64	2	6	1				9
1·65–1·69	1	3	4				8
1·70–1·74		1	2	1	2		6
1·75–1·79		3	3		1		7
1·80–1·84		1	3	1		1	6
1·85–1·89						1	1
1·90–1·94				1	1		2
1·95–1·99							
2·00–2·04							
2·05–2·09							
2·10–2·14					1	1	2
Total	9	16	18	5	5	3	56
Unweighted mean[1]	1·56	1·67	1·67	1·70	1·85	1·93	

It is evident from Diagram A that there is a negative correlation between the number of permanent hired labourers per farm and the average size of household. Obviously, the presence of hired workers living with the farm family counteracts rather than contributes to the dispersion in average household size. Permanent hired labourers are more numerous in the counties where families are small and there is a lack of family workers. The same observation holds true of temporary farm labourers but the correlation is more marked. The head of a large family can use his family as a labour reserve, drawing on it when work is plentiful while the farmer with a small family must resort to hired labour. In contrast, it is evident from Diagram C that there is a positive correlation between male family workers per farm and household size. The high birth rate prevailing in the large-family counties assures a large number of children and evidently a good percentage of these stay at home after leaving school and work on the home farm. From the large average number of full-time family workers on farms in the large-family counties it might be inferred that children tend to stay at home after marriage and work on the home farm. If so, they greatly swell the average size of the household since, instead of breaking away from home and forming a small new household, they stay at home until they have a family of some size. There are many large households and few very small households.

The means at the bottoms of Diagrams A, B and C of Statement CXXVIII have been added in order to determine whether any relationship exists between average size of farm household and total number of permanent male workers per farm.

Persons per Farm Household	Mean of Average Male Workers per Farm
5·0 and less than 5·5	2·08
5·5 " " " 6·0	2·13
6·0 " " " 6·5	1·98
6·5 " " " 7·0	1·96
7·0 " " " 7·5	2·07
7·5 " " " 8·0	2·15

Apparently the number of farm workers has little bearing on the size of the farm household. Consequently, the fact that average farm workers per farm in Canada has tended to increase from census to census cannot be regarded as evidence that the size of the average farm household has not decreased.

CXXIX.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF 56 COUNTIES IN QUEBEC, 1931, ACCORDING TO AVERAGE ACREAGE PER OCCUPIED FARM IN RELATION TO AVERAGE SIZE OF FARM HOUSEHOLD

Average Acreage per Occupied Farm	Counties						
	Average Persons per Farm Household						
	5·0 and under 5·5	5·5 and under 6·0	6·0 and under 6·5	6·5 and under 7·0	7·0 and under 7·5	7·5 and under 8·0	Total
Less than 80			1				1
80 and less than 90		2	1				3
90 " " " 100	4	2	2				8
100 " " " 110	3	2	1				6
110 " " " 120	1	1	2	1	1		6
120 " " " 130		3	3	1		1	8
130 " " " 140		3	3	1	1		8
140 " " " 150			3				3
150 " " " 160	1	2	1	2	1	1	8
160 " " " 170			1				1
170 " " " 180					1		1
180 " " " 190		1			1		2
190 " " " 200						1	1
Total	9	16	18	5	5	3	56
Unweighted mean[1]	106·4	122·4	116·7	134·2	153·9	158·0	
Acres per person[2]	20·3	21·3	18·7	19·9	21·2	20·4	

[1]See footnote to Statement CXXVIII.
[2]Acres per person obtained by dividing unweighted mean acres by mid-point of household size interval.

The above scatter diagram reveals a positive correlation existing between average size of farm household and acres per farm so that acres per person remains more or less constant with increasing family size. Smaller farms support smaller families than the larger farms. In those counties where all the land has been appropriated and farms, as a result, are small, families are small. In the counties where plenty of land is available and farms are large, families are large. However, it will be seen later that the smaller farms have a higher percentage of improved land. Gaspé is an exception to the above generalization since, while the average household is relatively large, 6·37 persons, there are only 56·9 acres per farm, 84,892 of the 306,457 occupied farms consisting of less than 50 acres. The large farm household in Gaspé is explained by the high birth rate but according to Statement CXXII, page 147, Gaspé ranks considerably lower in household size than it does in birth rate. Evidently the Gaspé farms are unable to support the same population as those in the neighbouring counties and the family does not stay together as long. Children are forced to leave home and seek their living elsewhere. Many of the Gaspé farmers are only part-time farmers devoting their time to fishing, farming and the forest industries. Although they are a prolific race their families tend to disperse since fishing and lumbering do not provide work for the whole family to the same extent as does non-specialized farming. It will be seen later that in Nova Scotia many of the counties where the birth rate is high have a small average farm household due to the smallness of the family which the farm can support.

It will be observed from Statement CXXX below that there is little relationship between average household size and the value of farm implements and machinery per occupied farm. Evidently, the mechanization of the farm is not a factor in reducing the average size of the farm household nor do large farm families tend to avoid the use of machinery.

CXXX.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF 56 COUNTIES IN QUEBEC, 1931, ACCORDING TO AVERAGE VALUE PER OCCUPIED FARM OF (A) FARM IMPLEMENTS AND MACHINERY, (B) FARM PRODUCTS, IN RELATION TO AVERAGE SIZE OF FARM HOUSEHOLD

(A) FARM IMPLEMENTS AND MACHINERY

Average Value of Farm Implements and Machinery per Occupied Farm	Counties						
	Average Persons per Farm Household						
	5·0 and under 5·5	5·5 and under 6·0	6·0 and under 6·5	6·5 and under 7·0	7·0 and under 7·5	7·5 and under 8·0	Total
$ 300–$ 349			1				1
350– 399							
400– 449							
450– 499			1				1
500– 549			2				2
550– 599			2	1			3
600– 649	1		2		1		4
650– 699	2	5	2	1	2	1	13
700– 749		4	4	2		o	10
750– 799		1			1		2
800– 849		1	2				3
850– 899	1		1		1		3
900– 949	2	1				1	4
950– 999	2	2	1	1			6
1,000– 1,049	1	1					2
1,050– 1,099							
1,100– 1,149		1				1	2
Total	9	16	18	5	5	3	56
Unweighted mean[1]	855	809	660	732	718	901	

(B) FARM PRODUCTS

Average Value of Farm Products per Occupied Farm	Counties						
	Average Persons per Farm Household						
	5·0 and under 5·5	5·5 and under 6·0	6·0 and under 6·5	6·5 and under 7·0	7·0 and under 7·5	7·5 and under 8·0	Total
Less than $800			1				1
$ 800–$ 899			1				1
900– 999			1			1	2
1,000– 1,099			3	1	1		5
1,100– 1,199			2	2	1		5
1,200– 1,299	1	2	1		1		5
1,300– 1,399	1	2	3		1		7
1,400– 1,499	1	3	3	1		1	9
1,500– 1,599	1	2	1	1	1		6
1,600– 1,699	2	2	1				5
1,700– 1,799	1	1					2
1,800– 1,899		3	1			1	5
1,900– 1,999	2	1					3
Total	9	16	18	5	5	3	56
Unweighted mean[1]	1,611	1,574	1,251	1,274	1,269	1,423	

[1] See footnote to Statement CXXVIII, page 155.

Statement CXXX (B) relates household size and value of farm produce. There is not a very marked correlation between the two since, although the more productive farms are generally in the counties with the smaller average farm households, value of produce per farm is relatively high for Chicoutimi, the county with the largest average farm household. While the value of farm produce may be lower in the large-family counties, cash expenses may also be less. It has been pointed out that the farms with large families are more self-sufficient with regard to farm labour, and investigation will reveal that taxes and debt are lower. Value of farm produce alone does not measure the profitableness of the farm and the satisfactions afforded the operator and his family.

Size of Household in Ninety-One Sample Parishes.—The following scatter diagrams cross-classify average size of farm household with size of farm and density of population for 91 sample parishes or townships. In every township the rural population was at least 90 p.c. French in racial origin and at least 70 p.c. of the people were living on farms. The parishes of each county were arranged in alphabetical order and every seventh one was selected, subject to the conditions just enumerated. When the seventh did not fulfil these conditions, the one that did, closest to it in the alphabetical list, was selected. In addition, the farm population of each parish or township had to exceed 400 persons. No parishes were selected from those counties with a considerable non-French element and which were omitted in the study of household size by counties.

CXXXI.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF THE 91 SAMPLE TOWN-
SHIPS IN QUEBEC, 1931, ACCORDING TO (A) AVERAGE ACREAGE, (B) AVERAGE IMPROVED ACRE-
AGE PER OCCUPIED FARM, IN RELATION TO AVERAGE SIZE OF FARM HOUSEHOLD

(A) ACREAGE

Average Acreage per Occupied Farm	Townships									
	Average Persons per Farm Household									
	4·0 and under 4·5	4·5 and under 5·0	5·0 and under 5·5	5·5 and under 6·0	6·0 and under 6·5	6·5 and under 7·0	7·0 and under 7·5	7·5 and under 8·0	8·0 and under 8·5	Total
40– 49	1									1
50– 59										
60– 69	1		1							2
70– 79		1	1			1				3
80– 89	1	1		1			1			4
90– 99		1	1	3	1					6
100–109		1	1							2
110–119	1			1	2	2				6
120–129		1	3	3	6	5				18
130–139		1	1	4	6	2	1		1	16
140–149				2	1		3		1	7
150–159				2	2	1	1	1		7
160–169		1	1		1	1	1	1	1	7
170–179					1		1	2		4
180–189				1		1			1	3
190–199				1		1				2
200–209							2			2
210–219						1				1
220–229										
Total	4	7	9	18	20	17	8	4	4	91
Unweighted mean	80·0	85·9	88·7	92·4	121·5	147·9	143·9	165·3	155·8	
Acres per person	18·8	18·1	16·9	17·6	19·4	21·9	20·4	21·3	18·9	

CXXXI.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF THE 91 SAMPLE TOWN-SHIPS IN QUEBEC, 1931, ACCORDING TO (A) AVERAGE ACREAGE, (B) AVERAGE IMPROVED ACRE-AGE PER OCCUPIED FARM, IN RELATION TO AVERAGE SIZE OF FARM HOUSEHOLD.—Con.

(B) IMPROVED ACREAGE

Improved Average Acreage per Occupied Farm	Townships — Average Persons per Farm Household									
	4·0 and under 4·5	4·5 and under 5·0	5·0 and under 5·5	5·5 and under 6·0	6·0 and under 6·5	6·5 and under 7·0	7·0 and under 7·5	7·5 and under 8·0	8·0 and under 8·5	Total
30 and less than 35	1				1					2
35 " " " 40	~				1					1
40 " " " 45	1			1	1					3
45 " " " 50		1		2	3			1		7
50 " " " 55	1	1		1	2	2				7
55 " " " 60				2						2
60 " " " 65			1	3		1	2			7
65 " " " 70		1	3	1		2	1			8
70 " " " 75	1		2	2	2	3	2	1		13
75 " " " 80		1	2	2	1	2		1		9
80 " " " 85		1			1	1			2	5
85 " " " 90				1	3	1				5
90 " " " 95		1	1			2		1	1	6
95 " " " 100		1		1	1	1			1	5
100 " " " 105				2			2			4
105 " " " 115						2				2
110 " " " 115						1	1			2
115 " " " 120										
120 " " " 125						1				1
125 " " " 130				.		1				1
130 " " ." 135										
135 " " " 140							1			1
Total	4	7	9	18	20	17	8	4	4	91
Unweighted mean	67·1	74·0	72·8	69·4	74·0	81·1	81·1	71·2	88·9	
Improved acres per person	15·8	15·6	13·9	12·1	11·8	12·0	11·2	9·2	10·8	
Unimproved acres per person	3·0	2·5	3·0	5·5	7·6	9·9	9·2	12·1	8·1	

In the 4 parishes with the smallest average farm households the average farm household came in the interval 4·0 to 4·5 persons per household. In the 4 parishes with the largest average farm households the averages came in the interval 8·0 to 8·5 persons per household. The modal townships had from 6·0 to 6·5 persons per farm household. Cross-classifying average acres per farm and average persons per household in Statement CXXXI (A), a positive correlation is found so that acres per person remain fairly constant with increasing size of household. A similar observation was made in the cross-classification of the same average for the county as a whole in Statement CXXIX. It is evident, however, from Statement CXXXI (B), that the correlation is not so marked when improved acreage per farm is cross-classified with average size of household, with the result that improved acreage per person tends to decrease with increasing size of house-hold. The lack of improved land, however, is compensated for by a large acreage of unimproved land.

In Statement CXXXII the density of rural population per 100 acres has been cross-classified with averge size of farm household. It appears at first that there is little relationship between population density and family size. This is surprising in view of the negative correlation, men-tioned on page 152, between household size and percentage of land occupied for each county.

CXXXII.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF THE 91 SAMPLE TOWN
SHIPS IN QUEBEC, 1931, ACCORDING TO RURAL POPULATION DENSITY IN
RELATION TO AVERAGE SIZE OF FARM HOUSEHOLD

| Rural Population per 100 Acres | Townships | | | | | | | | | |
| | Average Persons per Farm Household | | | | | | | | | |
	4·0 and under 4·5	4·5 and under 5·0	5·0 and under 5·5	5·5 and under 6·0	6·0 and under 6·5	6·5 and under 7·0	7·0 and under_ 7·5	7·5 and under 8·0	8·0 and under 8·5	Total
0·50- 0·99					1					1
1·00- 1·49				1			·,			1
1·50- 1·99				· 1	3	1	·			5
2·00- 2·49	1				1		1			3
2·50- 2·99		2	1	3	2	2	1			11
3·00- 3·49		1	1	2	1	4	1	2		12
3·50- 3·99			1	1	1	1				4
4·00- 4·49		1	1	2		1	1			6
4·50- 4·99				2	1				1	4
5·00- 5·49	1	3		3	2	2	1	1	1	14
5·50- 5·99			2	1	3	2	2			10
6·00- 6·49				1	3	1	1	1		7
6·50- 6·99						1			2	3
7·00- 7·49			1	1	1					3
7·50- 7·99	1									1
8·00- 8·49					1	1				2
8·50- 8·99						1				1
9·00- 9·49										
9·50- 9·99			1							1
10·00-10·49			1							1
10·50-10·99										
11·00-11·49										
11·50-11·99										
12·00-12·49										
12·50-12·99										
13·00-13·49	1									1
Total	4	7	9	18	20	17	8	4	4	91
Mean density	7·10	4·14	5·91	4·40	4·35	4·75	4·48	4·58	5·78	
Density divided by family size	1·67	0·87	1·13	0·77	0·69	0·70	0·67	0·59	0·70	

From this correlation it was inferred that families were large in the counties where the land was not densely settled and there was room for population expansion. In Quebec, however, new districts are colonized one parish at a time so that it is quite possible that a new parish, even though it is surrounded by vast unsettled districts, will have a fairly high density of population. In such districts there will be no limit to the rate at which population can increase since the excess will spread out and found new parishes. This is the basis of the steady and uninterrupted population growth in North Eastern Quebec. A high birth rate ensures large families and a large natural increase in population and the home farm is big and self-contained so that children can stay at home until they are ready to assume family responsibilities and settle on a new farm

of their own. The fact that it is not necessary for young men to travel far to find a farm and that they will still be living under conditions familiar to them, although fraught with hardships, enables them to marry young and found a large family.

Summary.—The farm families of Eastern Quebec are large due to the high birth rate and the fact that the land is able to absorb the resulting natural increase in population. Although the families in those sections of Quebec which have for a long time been densely settled tend to be larger than the families in Ontario and other parts of Canada, they are much smaller than in Eastern Quebec. This is partly due to a lower birth rate concomitant with a higher density of population and partly to the continued emigration from the rural parts of these counties, many of which decreased in population from 1921-31. *Differential fertility from county to county in rural Quebec which cannot be explained on the basis of race, religion or culture appears to be the result of variation in the density of population.* The farm population in the small-family counties of Quebec seems to have reached the maximum which can be maintained under present methods of farming while that in the large-family counties will continue to increase. The increase in the farm population which can be absorbed by the counties of Eastern Quebec will, however, be provided by the large natural increase within the counties themselves. Immigration could probably be satisfactorily absorbed only by the counties in the extreme north, *viz.*, Abitibi and Temiskaming, but it is only the hardy immigrants who could endure the cold winters in these northern counties.

PRINCE EDWARD ISLAND

The rural population of Prince Edward Island has declined steadily for each decade since 1881 from a maximum of 95,693 to 67,653 in 1931 while there has been only a slight increase in the urban population. The decline has resulted from a large continuous emigration to other parts of Canada and to the United States. Since the emigrants are generally young persons, a high percentage of old persons is left in Prince Edward Island. Of the farm operators in Prince Edward Island, 30·7 p.c. were over 60 years of age in 1931 as compared with 20·5 p.c. in Canada as a whole. Since most of the children of operators over 60 have left home, they have small families so that the age distribution of Prince Edward Island farm operators tends to reduce the average size of the farm household.

CXXXIII.—AVERAGE SIZE OF FARM HOUSEHOLD AND BIRTH RATES, PRINCE EDWARD ISLAND
BY COUNTIES, 1930-1931

County	Persons per Farm Household	Birth Rate, 1930-32[1]	
		Crude	Standardized
Prince Edward Island	4·59	21·4	25·4
Prince	4·88	25·5	30·5
Queens	4·45	20·0	22·0
Kings	4·42	17·6	23·7

[1]Exclusive of towns of 5,000 population and over.

The average farm household is somewhat larger in Prince county than in Queens or Kings and the birth rate is higher, reflecting the fact that 26 p.c. of its rural population is of French racial origin. In Township 15 of Prince county where the population is 95 p.c. French, the average size of the farm household is 5·73 persons.

NOVA SCOTIA

Size of Farm Household.—The average size of the farm household according to Statement CXVII, page 144, was 4·67 persons, slightly above that for Prince Edward Island but below that for New Brunswick. By referring to Statement CXIX, page 144, it will be seen that there is an even higher percentage of farm operators 60 years of age and over than in Prince Edward Island, a result of continued emigration; the rural population has declined from a maximum of 377,030 in 1881 to 281,192 in 1931.

CXXXIV.—AVERAGE SIZE OF FARM HOUSEHOLD AND RELEVANT DATA, NOVA SCOTIA, BY COUNTIES, 1930-1931

County	Persons per Farm House-hold, 1931	Acres per Occupied Farm, 1931	Value of Products per Farm, 1930	Birth Rate, 1930-32[1]		Rural Population, 1931		
				Crude	Stan-dardized	As P.C. of 1921	P.C. of French Racial Origin	P.C. Roman Catholic
			$					
Nova Scotia.......................	4·67	109·1	826	22·5	24·8	95	6·4	14·67
Inverness.......................	5·15	111·8	702	19·3	28·5	86	26·4	71·7
Halifax.........................	4·94	106·4	616	23·5	27·6	103	8·5	23·8
Cape Breton....................	4·89	87·0	763	22·1	28·3	102	10·0	58·0
Hants..........................	4·84	139·7	616	24·9	29·2	101	1·5	5·1
Digby..........................	4·83	87·5	581	22·4	29·0	92	52·8	56·2
Yarmouth......................	4·81	66·8	537	20·4	26·9	91	43·7	45·8
Kings..........................	4·74	95·0	1,687	20·2	22·4	97	2·1	4·7
Colchester......:..............	4·70	141·6	1,122	23·6	29·1	97	2·7	3·2
Shelburne......................	4·68	100·1	388	22·7	27·8	89	2·5	1·3
Antigonish.....................	4·64	117·5	820	17·0	22·2	84	25·1	87·6
Lunenburg......................	4·59	80·9	597	18·9	21·2	92	7·0	1·7
Richmond......................	4·55	71·5	378	20·8	29·2	88	58·7	79·3
Cumberland....................	4·52	153·2	976	22·5	26·4	94	4·8	8·4
Victoria.......................	4·52	122·6	654	16·6	23·6	91	1·8	32·8
Guysborough...................	4·50	101·7	432	24·3	31·6	93	11·7	30·8
Queens........................	4·48	95·4	433	22·5	25·2	114	4·7	6·2
Annapolis......................	4·27	133·8	1,063	19·5	23·7	88	2·2	3·4
Pictou.........................	4·20	117·9	935	18·3	21·5	95	3·3	9·5

[1]Exclusive of towns of 5,000 and over.

On referring to Statement CXXI, page 146, it will be seen that the coefficient of dispersion in the average sizes of farm households for the Nova Scotian counties is less than for any of the other provinces with the exception of Prince Edward Island. The fact that the variations in the average sizes of the farm household from county to county in Nova Scotia are not marked causes them to be of less significance than in the other provinces, particularly since the counties are not homogeneous within themselves.

The Acadian Families.—An interesting feature of the racial composition of the population of rural Nova Scotia is the two *blocs* of Acadian French, one in Inverness county, and one in Digby and Yarmouth counties. The populations of the townships of Chéticamp, Margaree Harbour East and St. Joseph, in Inverness county, were well over 90 p.c. of French racial origin and the average size of the farm household in these townships was 6·16 persons. Their total population decreased by 3 p.c. during the decade 1921-31 so that the average size of the farm household compares closely with that in the French counties of Quebec which suffered the same decrease. The average size of the farm household for the 17 solid French townships in Digby and Yarmouth counties was 5·27 persons, larger than the average for Nova Scotia as a whole, but considerably below the prevailing household size in the French counties of Quebec. The 17 townships were Chéticamp, Church Point, Comeauville, Concession and Lower Concession, Grosses Coques, Meteghan N., Meteghan River, St. Bernard, St. Mary's, Salmon River and Saulnierville in Digby county, and Amirault Hill, Belleville, Eel Brook, Pubnico W. and The Islands in Yarmouth county. Their total population was 12,738 in 1921 and 11,069 in 1931 so that it decreased by 13 p.c. during the decade. Since the birth rate for these townships is not available, it is impossible to ascertain to what extent household size is determined by fertility. At the same time, the marked decrease in population explains the small size of the average household. Although there is a vast area of unoccupied land in Digby and Yarmouth counties, it is not suitable for farming, the smaller area of available farm land having been already occupied. The farms, according to Statement CXXXIV, were small, averaging 87·5 acres per farm in Digby county and 66·8 acres per farm in Yarmouth. Average value of farm produce in 1930 was $581 for Digby county and $537 for Yarmouth county. The small and unproductive farms of these counties cannot support large families so that, even though the birth rate be high, families must be small. It is true that fishing provides a complementary source of revenue but it would appear that the families of part-time fishermen and farmers are smaller than the families of full-time farmers, even though the former class be more prolific, if anything, than the latter. We have already observed that farm households are smaller in Gaspé than would be anticipated from the birth rate. The explanation would appear to be that children leave the small part-time farms sooner than they leave the larger full-time farms. Fishing is an occupation which requires training

and, what is more important, equipment. It is more difficult for a young member of the family to fit into the fishing industry than into farming; the result is that he must leave home to seek a living. Another hypothesis is that very large families leave the district since the small farms and limited revenue from fishing will not support them. The fisherman's income is largely determined by factors over which he has no control, *viz.*, the amount of fish caught and the market. He works hard in any event and to work harder would not improve his lot. It would appear, then, that *in counties where the produce of the farm and subsidiary occupations is limited, due to either lack of land and unfertile soil or the dependence on the cash income of a crop produced by specialized farming, the farm household tends to be small. In counties where farm produce can be augmented by the application of the labour resources of a large family, the farm household tends to be large.*

Continued emigration from a county reduces the size of the average household, first, since members of the family are leaving home and, secondly, because of its bearing on the age distribution of family heads. Emigrants are generally young or approaching middle age so that a country losing in population through emigration will have a low proportion of middle-aged persons. The family heads will be elderly people and their families will be small since the children have left home.

Household Size by Counties.—According to Statement CXXXIV, the farm household is largest in Inverness county, reflecting the fact that 26 p.c. of the population is of French racial origin. The large average household in Halifax and Cape Breton counties is in line with the observation made when studying household size in Quebec that farm households are comparatively large in counties surrounding large cities. The rural population of these counties increased somewhat between 1921 and 1931. It is interesting to observe that, although Richmond county contains the largest French element of any of the counties, it ranks well down in average size of households, family size being limited by the incapacity of the farms to support large families. The check on family size has probably resulted from a partial check on the birth rate and by emigration. The more productive racial strains in Nova Scotia would appear to be confined to these counties which can support only a small farm population with the result that there has been a continued emigration which has tended to reduce the natural increase in population due to its effect on the age distribution of the population. Kings, Colchester, Cumberland, Annapolis and Pictou counties which include the most fertile land in the province are inhabited largely by British races.

NEW BRUNSWICK

At the time of the 1931 Census the population of New Brunswick was 56·9 p.c. of British racial origin, 39·7 p.c. of French racial origin and 3·4 p.c. of other and unspecified origins. The British races were confined largely to the South and West and the French to the North and East.

CXXXV.—AVERAGE SIZE OF FARM HOUSEHOLD AND RELEVANT DATA, NEW BRUNSWICK, BY COUNTIES, 1930-1931

County	Persons per Farm House-hold, 1931	Acres per Occupied Farm, 1931	Value of Products per Farm, 1930	P.C. of Land Occupied[1], 1931	Birth Rate, 1930-32[1]		Rural Population, 1931	
					Crude	Stan-dardized	As P.C. of 1921	P.C. of French Racial Origin
			$					
New Brunswick..................	5·45	122·0	895	23·4	26·2	28·5	106	16·4
Madawaska.....................	6·40	135·3	946	30·2	36·6	45·4	119	96·1
Gloucester.....................	6·34	60·4	482	25·8	37·5	46·2	109	85·5
Restigouche....................	6·14	100·5	667	8·6	36·9	44·0	127	70·6
Kent..........................	6·06	100·1	725	27·6	31·0	41·3	103	77·3
Northumberland...............	5·65	88·2	587	9·9	27·0	32·2	103	27·7
Victoria.......................	5·60	132·5	1,155	14·3	29·2	35·1	124	28·2
Westmorland...................	5·41	114·7	1,047	46·2	21·3	24·9	107	44·7
Sunbury·.......................	4·98	177·0	943	18·9	24·4	28·1	114	10·1
York..........................	4·97	171·5	1,062	20·5	22·6	25·4	98	2·0
Carleton.......................	4·87	158·0	1,423	48·4	20·6	23·7	99	1·1
Albert.........................	4·84	155·2	917	38·1	21·6	25·8	89	1·1
Charlotte......................	4·58	129·5	872	25·0	20·5	22·4	100	1·7
Queens........................	4·58	172·9	910	31·7	19·5	24·4	99	3·1
Saint John.....................	4·53	132·5	1,341	16·8	16·0	16·7	106	5·9
Kings.........................	4·48	163·7	1,227	52·8	18·3	21·7	98	1·4

[1]Exclusive of towns of 5,000 and over.

New Brunswick ranks second only to Quebec among the provinces in average size of farm household. The average household was larger throughout New Brunswick than it was in Nova Scotia, indicating that the small average in Nova Scotia may have been the result of the pressure of population density. It ranges in size from 6·40 persons per farm household in Madawaska to 4·48 in Kings county. Seven counties, Madawaska, Gloucester, Restigouche, Kent, Northumberland, Victoria and Westmorland have large households while the remaining 8 have small households. The average size of the farm household appears to be closely connected with the percentage of the rural population of French racial origin. A feature of the population growth of rural New Brunswick has been a spread from the eastern counties of Quebec into New Brunswick. Of the 136,999 French living in New Brunswick in 1931, 7,991 were born in Quebec. A highly prolific race, these peoples have multiplied so that the French population of New Brunswick has increased from 79,979 in 1901 to 136,999 in 1931.

It has been found, in a study made at the Bureau of Statistics by Mr. René de Cotret, that most of the French of Madawaska county originated in Quebec while those of Gloucester, Kent and Westmorland counties are largely Acadians. In the townships of the two last-mentioned counties, where the population was over 85 p.c. French, we find the average size of the farm household to be 6·35 persons, *i.e.*, the Acadians of New Brunswick had larger households than the Acadians of Nova Scotia. Comparing the average sizes of the households of the Quebec and Acadian French in New Brunswick, we find them to be approximately the same. Consequently, it would appear that Acadian and Quebec French living in similar environments tend to have families of the same size.

ONTARIO

Farm Facilities.—Ontario has the smallest average farm household, 4·51 persons per household, of any of the Eastern Provinces due partly to the small French element in its population.

CXXXVI.—FARM ACREAGE, FARM PRODUCE AND FARM FACILITIES, CANADA AND PROVINCES, 1930-1931

Province	Per Occupied Farm			P.C. of Farms Reporting		
	Acreage, 1931	P.C. of Land Improved, 1931	Value of Products per Farm, 1930	Automobile	Telephone	Radio
CANADA	223·9	52·6	$ 1,322	41·6	32·1	16·4
Prince Edward Island	92·6	64·3	1,271	29·1	21·6	10·9
Nova Scotia	109·1	19·6	826	25·3	26·0	12·1
New Brunswick	122·0	32·0	895	29·4	20·9	7·8
Quebec	127·3	52·0	1,359	18·9	19·5	6·3
Ontario	118·9	58·1	1,715	60·3	54·1	21·5
Manitoba	279·2	56·3	1,290	45·1	24·2	18·1
Saskatchewan	407·9	60·3	1,081	45·8	34·3	20·2
Alberta	400·1	45·5	1,187	42·1	17·1	17·7
British Columbia	135·8	19·9	1,396	30·5	23·6	23·6

From Statement CXXXVI, it will be seen that value of farm produce per occupied farm in Ontario considerably exceeded that for any other province. Farms were not large as compared with those in other provinces, but a high percentage of the land was improved. Ontario had the highest percentages of its farms reporting automobiles and telephones and was second only to British Columbia in the percentage reporting radios. Evidently these facilities and large families do not go together, the Ontario farmer devoting his margin of profit to the accumulation of modern farm comforts and conveniences rather than to the raising of large families.

Birth Rate and Productivity of Farms.—It would appear from Statement CXXXVI that there is an inverse correlation between value of produce per farm and fertility. That is, biological families are larger in the less productive farming counties than in the more productive counties. Despite the apparent profitableness of farming in Ontario, the rural population has grown very slowly, increasing from 935,978 in 1901 to 1,335,691 in 1931 or by 7 p.c. During the same period the urban population increased from 1,246,969 to 2,095,992 or by 68 p.c. A large share of the latter increase must have been derived from the rural population, explaining the

CXXXVII.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF THE 55 COUNTIES IN ONTARIO, 1931, ACCORDING TO INTERVALS OF STANDARDIZED BIRTH RATE (1930-1932) IN RELATION TO VALUE OF FARM PRODUCE, 1930

| Standardized Birth Rate, 1930-32[1] | Counties — Value of Farm Produce per Farm, 1930 | | | | | | | | | | |
	$700 and less than 900	$900 and less than 1,100	$1,100 and less than 1,300	$1,300 and less than 1,500	$1,500 and less than 1,700	$1,700 and less than 1,900	$1,900 and less than 2,100	$2,100 and less than 2,300	$2,300 and less than 2,500	$2,500 and less than 2,700	Total
15 and under 16							1				1
16 " " 17							1				1
17 " " 18						1					1
18 " " 19					1	2	1			1	5
19 " " 20					2	1	2	1			6
20 " " 21					1	4	1	3	–		9
21 " " 22						1	2	2	1		6
22 " " 23			1			1	2		1		5
23 " " 24							1	1	1		3
24 " " 25							1				1
25 " " 26	2										2
26 " " 27			1		1	1					3
27 " " 28					1	1	1				3
28 " " 29											
29 " " 30			1	1							2
30 " " 31			1	1							2
31 " " 32						1					1
32 " " 33											
33 " " 34											
34 " " 35	1		1								2
35 " " 36						1					1
36 " " 37											
37 " " 38											
38 " " 39											
39 " " 40				1							1
Total	3	5	3	6	13	11	10	1	2	1	55
Mean of birth rates	28·5	28·7	33·2	22·0	23·3	21·9	19·8	23·5	22·0	18·5	

[1]Exclusive of towns of 5,000 and over.

slowness of its increase. The movement from farm to city has been a factor in reducing the size of the farm household in Ontario since families are broken up early and there is a large proportion of farm operators over 60 years of age, 25·9 p.c. according to Statement CXIX, page 144. Ontario has, however, a lower proportion of its farm operators over 60 years of age than Nova Scotia, Prince Edward Island or New Brunswick.

Household Size by Counties.—In Statement CXXXVIII the average size of the farm household is given for the 55 Ontario counties. According to Statement CXXI, page 146, Ontario ranked fifth among the provinces in the dispersion from county to county in average size of farm household. The average did not vary to the same extent from county to county as it did in Quebec, New Brunswick, Alberta or British Columbia but varied more than it did in Nova Scotia, Manitoba and Saskatchewan. The fact that the census divisions in Western Canada are larger than the counties of the East would tend to lower the dispersion in the averages in the Western Provinces.

Household Size in Northern Ontario.—Nipissing county has the largest farm household, 5·89 persons per household and Kenora the smallest, 3·74 persons per household, the latter being the only county in the Eastern Provinces where the average farm household consists of less than 4 persons. Since both of these counties are in Northern Ontario, the disparity in the sizes of their average farm households is extremely interesting. In Statement CXXXIX the average sizes of farm households for the Northern Ontario counties are given separately.

CXXXVIII.—AVERAGE SIZE OF FARM HOUSEHOLD AND RELEVANT DATA, ONTARIO, BY COUNTIES, 1930-1931

County	Persons per Farm House-hold, 1931	Acres per Occupied Farm, 1931	Value of Products per Farm, 1930	P.C. of Land Occupied, 1931	Birth Rate, 1930-32[1]		Rural Population, 1931	
					Crude	Stan-dardized	As P.C. of 1921	P.C. of French Racial Origin
			$					
Ontario	4·51	118·9	1,715	9·8	20·1	19·3	109	10·4
Nipissing	5·89	170·9	1,159	7·1	31·9	39·2	116	58·8
Russell	5·63	103·0	1,626	90·2	28·7	35·5	92	76·4
Sudbury	5·62	179·6	1,089	3·3	28·3	34·0	116	47·7
Prescott	5·54	108·8	1,612	87·2	26·4	31·5	93	78·9
Renfrew	5·30	199·8	1,572	46·5	22·7	26·9	95	10·0
Waterloo	5·21	97·2	2,456	91·7	20·4	22·6	107	1·6
Glengarry	5·02	115·4	1,704	91·8	22·0	27·4	90	47·7
Essex	4·88	67·5	1,918	83·1	21·9	23·1	119	28·0
Parry Sound	4·78	214·5	1,114	17·8	24·8	29·5	94	11·1
Carleton	4·77	120·0	2,044	86·4	19·1	21·3	100	1·6
Hastings	4·75	156·1	1,620	50·8	23·2	27·7	98	6·4
Stormont	4·69	103·3	1,855	89·8	22·2	24·6	121	39·3
Haliburton	4·68	191·2	910	17·1	25·8	30·5	97	2·3
Timiskaming	4·67	160·0	1,012	8·2	26·7	29·4	173	20·9
Manitoulin	4·67	214·5	1,392	26·9	24·3	26·6	101	2·8
York	4·63	76·9	2,048	80·5	20·6	18·4	172	1·2
Frontenac	4·63	187·9	1,735	53·0	19·2	23·0	96	4·7
Muskoka	4·60	196·5	1,030	32·2	21·0	22·5	101	6·1
Prince Edward	4·57	110·9	1,911	94·5	18·6	21·8	95	1·5
Peterborough	4·56	157·5	1,721	47·2	19·1	22·4	102	1·9
Lincoln	4·56	57·3	1,720	85·0	16·0	17·0	103	1·5
Algoma	4·54	141·0	1,229	2·3	24·4	30·5	97	13·6
Wentworth	4·52	73·7	1,987	86·6	14·5	15·0	82	1·5
Dundas	4·52	98·8	2,070	94·5	17·6	20·7	91	7·1
Welland	4·52	72·2	1,386	75·0	18·0	19·5	107	2·4
Kent	4·51	85·8	1,878	95·5	20·5	22·6	107	13·0
Simcoe	4·49	113·5	1,648	80·9	17·5	20·8	100	8·0
Halton	4·49	92·6	2,048	93·5	15·9	16·3	103	0·6
Brant	4·49	84·1	1,637	87·2	16·4	18·4	98	1·1
Addington	4·49	176·9	1,406	33·8	22·8	27·8	95	6·3
Peel	4·47	99·6	2,674	91·0	17·1	18·9	117	0·4
Norfolk	4·47	86·1	2,135	84·4	20·2	23·1	116	1·9
Leeds	4·45	140·3	1,884	81·7	18·1	21·0	103	3·8
Ontario	4·45	109·5	1,930	86·1	17·2	19·8	97	1·0
Cochrane	4·44	156·8	810	1·2	29·0	34·0	187	42·2
Perth	4·40	98·3	2,051	96·9	16·9	20·2	96	0·9
Northumberland	4·40	109·4	1,795	90·0	17·2	20·8	98	2·1
Oxford	4·39	93·0	2,337	95·9	18·3	21·1	97	0·6
Lanark	4·39	200·1	1,834	75·0	19·7	21·7	93	2·6
Lennox	4·34	114·2	1,573	90·4	17·2	20·2	97	1·1
Wellington	4·33	116·7	2,026	96·1	18·0	20·9	101	1·2
Haldimand	4·30	98·1	1,636	92·1	18·0	20·1	97	1·5
Durham	4·24	112·5	1,614	90·3	17·0	19·9	100	0·5
Victoria	4·23	170·4	1,653	63·0	16·6	20·1	91	1·1
Bruce	4·23	128·7	1,606	75·8	19·4	22·4	90	1·3
Thunder Bay	4·21	139·2	1,078	0·9	21·4	26·4	135	6·4
Grey	4·16	125·4	1,593	94·2	18·4	21·3	93	0·4
Elgin	4·15	94·5	1,687	92·9	15·1	18·2	97	2·5
Rainy River	4·15	179·4	745	6·7	20·7	25·7	117	7·7
Dufferin	4·09	132·4	1,884	98·2	17·5	19·9	92	0·3
Huron	4·09	108·3	1,767	96·3	16·3	19·4	97	3·0
Middlesex	4·05	95·0	1,494	95·9	15·6	18·3	103	0·9
Lambton	4·03	103·7	1,441	91·6	17·2	20·5	97	2·6
Grenville	4·02	117·8	1,401	88·1	16·8	19·0	92	5·0
Kenora	3·74	179·0	804	1·5	21·9	25·4	133	6·2

[1] Exclusive of towns of 5,000 and over.

In the second column of Statement CXXXIX the size of the farm household is given as predicted from the standardized birth rate for each county. The calculated sizes were obtained by fitting a third degree curve to the data relating average size of farm household to standardized birth rate for the 55 counties in the province. The equation of the curve was $Y = 3·843 + 0·0798 X - 0·00465 X^2 + 0·0001 X^3$. By comparing the actual averages and predicted

CXXXIX.—AVERAGE SIZE OF FARM HOUSEHOLD AND RELEVANT DATA, NORTHERN ONTARIO,
BY COUNTIES, 1930-1931

County	Persons per Farm Household, 1931			Rural Population, 1931		P.C. Increase in Occupied Farms, 1921-31. (6)
	Actual (1)	Calculated (2)	Difference (col. 1— col. 2) (3)	As P.C. of 1921 (4)	P.C. of French Racial Origin (5)	
Nipissing...........................	5·89	6·03	−0·14	116	58·8	2·2
Sudbury............................	5·62	5·23	0·39	116	47·7	− 5·5
Timiskaming........................	4·67	4·79	−0·12	173	20·9	35·3 [1]
Algoma.............................	4·54	4·87	−0·33	97	13·6	−17·9
Cochrane...........................	4·44	5·23	−0·79	187	42·2	35·3 [1]
Thunder Bay........................	4·21	4·00	−0·39	135	6·4	26·8
Rainy River........................	4·15	4·57	−0·42	117	7·7	4·9
Kenora.............................	3·74	4·56	−0·82	133	6·2	24·1

[1]Joint increase. Timiskaming and Cochrane counties.

averages and obtaining their differences we can tell whether a county has a larger or smaller average farm household than can be attributed to the fertility of its inhabitants. The disadvantages of the method will be briefly mentioned. First, the curve does not fit the data well at the ends of the distribution so that we find unduly large residues when dealing with the largest and smallest averages. Secondly, the standardized birth rate applies not to the farm population of each county but to the population exclusive of towns with a population of 5,000 and over. Since the birth rate may be somewhat lower in the small towns than on the farms, a county with a number of small towns would have a lower birth rate on this account. It is possible, however, that the differences in the crude birth rate of the farm population and the rural-non-farm and urban-under-5,000 population of each county result from the less favourable age distribution of the latter population to a high birth rate rather than from actual differential fertility. Obviously, the use of a birth rate standardized for age eliminates this difficulty.

It is apparent from Statement CXXXIX that the small average household size in Cochrane, Thunder Bay, Rainy River and Kenora counties is not a result of a low birth rate. These counties resemble Abitibi county in Quebec where, despite the fact that the birth rate was amazingly high the average farm household was small. All experienced large increases in rural population during the decade 1921-31. That the increases were not entirely due to development of the mining and lumbering industries is evident from the fact that there was a considerable percentage increase in the number of occupied farms. The farm population of these counties must have increased largely by immigration which would produce a large proportion of incompleted families and farms operated by unmarried men. The average farm household will undoubtedly increase in size during the next twenty years as families become completed since the birth rate is high, responsive to the possibilities for population growth. This prediction is confirmed by the fact that it is already large in Nipissing, Sudbury and Timiskaming, counties which have reached a more advanced stage of settlement. The moderate increase in rural population in these counties during the decade 1921-31 was probably the result of the absorption of natural increase rather than of an influx from outside the county, the present colonization resembling that taking place in the growing counties of Eastern Quebec.

In studying the colonization of Northern Ontario and Northern Quebec we have had an opportunity of observing the effects of settlement on average household size. During the first ten or twenty years of the history of a newly settled community the average size of the farm household is small due to the presence of a large proportion of incompleted families and unmarried farm operators. During the following ten or twenty years the young heads of families reach middle age and their small families grow to large ones, as the rate of reproduction is high for pioneers, so that the average size of the farm household, initially quite small, becomes quite large. After a peak has been reached, the average slowly commences to decrease since the middle-aged heads become old heads, their families breaking up to move to new farms or to emigrate.

This process has been going on in the component parts of Canada ever since the first French settlers arrived. Consequently, the average size of the household has continuously fluctuated in sympathy. Since at no time has the entire nation or even a considerable section passed through precisely the same stage, the effects of settlement on average household size from decade to decade are difficult to trace, but it must always be remembered that they will have a distinct bearing on the average size of the household at any period.

Economic Factors Affecting Average Household Size.—In Statement CXXXVII a negative correlation was observed between birth rate and value of produce per farm. Farmers in the more prosperous counties of Ontario evidently tend to have smaller biological families. The birth rate is relatively high in such counties as Nipissing, Subdury, Haliburton, Parry Sound, Timiskaming, Algoma and Cochrane where the value of farm produce is small. There are other factors which might, however, account for the high birth rate in these counties, *viz.*, the large French-Canadian element and the low density of population.

CXL.—AVERAGE SIZE OF FARM HOUSEHOLD AS COMPARED WITH SIZE PREDICTED FROM BIRTH RATE AND HIRED LABOUR PER FARM, ONTARIO, BY COUNTIES, 1931 AND 1921

| County | Persons per Farm Household, 1931 | | | Number of Hired Workers per Occupied Farm, 1930 | | Number of Occupied Farms | | |
	Actual (1)	Cal- culated (2)	Differ- ence (col. 1 - col. 2) (3)	Per- manent (4)	Tem- porary (5)	1931 (6)	1921 (7)	Increase, 1921-31 (8)
Nipissing	5·80	6·03	−0·14	0·03	0·31	2.001	1,937	64
Russell	5·63	5·42	0·21	0·07	0·52	2,282	2,459	−177
Sudbury	5·62	5·23	0·39	0·06	0·45	2,148	2,267	−119
Prescott	5·54	4·96	0·58	0·09	0·69	2,532	2.632	−100
Renfrew	5·30	4·63	0·67	0·07	0·41	4.481	4,794	−313
Waterloo	5·21	4·46	0·75	0·28	0·57	3,114	3,356	−242
Glengarry	5·02	4·66	0·36	0·11	0·58	2,434	2.542	−108
Essex	4·88	4·48	0·40	0·11	0·77	5,568	5.459	109
Parry Sound	4·78	4·79	−0·01	0·02	0·38	2,305	2.622	−317
Carleton	4·77	4·43	0·34	0·26	0·57	4,363	4,333	30
Hastings	4·75	4·67	0·08	0·12	0·41	4,840	5,597	−757
Stormont	4·69	4·53	0·16	0·09	0·63	2,294	2,477	−183
Haliburton	4·68	4·87	−0·19	0·01	0·32	853	1,031	−178
Timiskaming	4·67	4·79	−0·12	0·04	0·40	1,943	3,275 [1]	–
Manitoulin	4·67	4·62	0·05	0·03	0·47	1,274	1,394	−120
York	4·63	4·38	0·25	0·27	0·62	5,908	5.664	244
Frontenac	4·63	4·47	0·16	0·16	0·47	2,887	3.192	305
Muskoka	4·60	4·46	0·14	0·05	0·36	1,661	1.940	279
Prince Edward	4·57	4·44	0·13	0·18	0·78	2 126	2,608	−482
Peterborough	4·56	4·46	0·10	0·14	0·49	2,717	3,082	−365
Lincoln	4·56	4·36	0·18	0·21	0·13	3,152	3.184	− 32
Algoma	4·54	4·87	−0·33	0·03	0·54	2,056	2.424	−368
Wentworth	4·52	4·34	0·18	0·21	0·98	3,444	3,613	−169
Dundas	4·52	4·42	0·10	0·14	0·65	2,350	2,511	−161
Welland	4·52	4·40	0·12	0·12	0·61	2,572	2,846	−274
Kent	4·51	4·46	0·05	0·12	1·00	6.540	6,881	−341
Simcoe	4·49	4·42	0·07	0·13	0·57	7,591	7.914	−323
Halton	4·49	4·36	0·13	0·27	0·75	2,344	2,231	113
Brant	4·49	4·38	0·11	0·18	0·68	2,794	3,093	−299
Addington	4·49	4·68	−0·19	0·08	0·46	1,068	1,202	−134
Peel	4·47	4·39	0·08	0·41	0·77	2,743	2.753	− 10
Norfolk	4·47	4·48	−0·01	0·18	1·18	3,976	4,215	−239
Leeds	4·45	4·42	0·03	0·17	0·53	3,354	3,507	−153
Ontario	4·45	4·40	0·05	0·20	0·56	4,230	4,196	94
Cochrane	4·44	5·23	−0·79	0·04	0·35	2,489	–	–
Perth	4·40	4·41	−0·01	0·12	0·50	5.299	5,274	25
Northumberland	4·40	4·42	−0·02	0·16	0·83	3,865	4.136	−271
Oxford	4·39	4·43	−0·04	0·22	0·54	5,051	4,795	256
Lanark	4·39	4·44	−0·05	0·10	0·57	2,729	2.896	−167
Lennox	4·34	4·41	−0·07	0·14	0·54	1,605	1,722	−117
Wellington	4·33	4·42	−0·09	0·14	0·41	5,370	5,433	− 63
Haldimand	4·30	4·40	−0·10	0·12	0·49	2,932	3,035	−103
Durham	4·24	4·40	−0·16	0·20	0·56	3,230	3.130	100
Victoria	4·23	4·40	−0·17	0·12	0·43	3,191	3,389	−198
Bruce	4·23	4·46	−0·23	0·08	0·44	6,221	6,442	−221
Thunder Bay	4·21	4·60	−0·39	0·04	0·50	2,173	1,590	583
Grey	4·16	4·43	−0·27	0·07	0·40	8.212	8,427	−215
Elgin	4·15	4·38	−0·23	0·13	0·54	4,529	4,721	−192
Rainy River	4·15	4·57	−0·42	0·02	0·29	1,728	1,644	84
Dufferin	4·09	4·40	−0·31	0·13	0·46	2,645	2,649	− 4
Huron	4·09	4·39	−0·30	0·08	0·55	7,367	7.646	−279
Middlesex	4·05	4·38	−0·33	0·10	0·51	8.017	8,146	−129
Lambton	4·03	4·41	−0·38	0·06	0·42	6,351	6,775	−424
Grenville	4·02	4·39	−0·37	0·11	0·49	2,218	2.225	− 37
Kenora	3·74	4·56	−0·82	0·04	0·30	945	717	228

[1]Inclusive of territory forming Timiskaming and Cochrane counties in 1931.

In Statement CXXXIX the actual average persons per household is compared with the average which would be expected from the birth rate. It will be seen that in all of the above counties with the exception of Sudbury the actual average is less than the calculated. In Cochrane and Timiskaming counties this may be attributed to colonization and the entrance of small new families. In Parry Sound, Haliburton and Algoma, where rural population and occupied farms decreased during the period 1921-31, it appears that the large families are not

holding together, children are leaving home and the population is ageing. By comparing household size, standardized birth rate, percentage of land occupied and increase in rural population, 1921-31, in all the counties of Eastern Canada, the conclusion is reached that the birth rate is high in any county where the density of population is low but that the natural increase is retained only in those districts where the unoccupied land is suitable for colonization. Nipissing and Sudbury counties in Ontario and Chicoutimi, Rimouski, Saguenay, Temiscouata, Lac-St.-Jean and Montmorency counties in Quebec appear to be absorbing the greater part of a large natural increase while Parry Sound and Haliburton counties in Ontario with large natural increases are actually decreasing in rural population. Although inhabited by prolific people, counties, such as Digby, Richmond and Guysborough in Nova Scotia, experienced considerable decreases in rural population during the period 1921-31 (see Statement CXXXIV). The unoccupied land in these counties is sub-marginal and the excess population finds a ready outlet in emigration. At the same time, the continued emigration reduces the rate of natural increase due to its effect on the age distribution of the population.

Considering some of the best farming counties in Ontario, Waterloo, Essex, Carleton, York, Wentworth, Dundas, Halton and Peel, where the value of farm produce per farm in 1930 approximated $2,000, it is found that the actual average persons per farm is invariably larger than the calculated. Although the biological families in these counties may be small they do not break up as quickly as the larger families on the marginal farms. The size of the household is also augmented by the presence of permanent hired labourers. Since the above counties are close to large industrial centres, it appears that the movement from farm to city is not as large from the counties immediately surrounding the cities as from the more remote counties. Evidently, "far away hills look green" to the boy or girl raised on a farm in an outlying district.

CXLI.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF THE 55 COUNTIES IN ONTARIO ACCORDING TO INTERVALS OF DIFFERENCE BETWEEN ACTUAL AND CALCULATED AVERAGE SIZE OF FARM HOUSEHOLD, 1931, IN RELATION TO VALUE OF FARM PRODUCE PER FARM, 1930

Difference between Actual and Calculated Persons per Farm Household, 1931	Counties										
	Value of Farm Produce per Farm, 1930										
	$ 700 and less than 900	$ 900 and less than 1,100	$ 1,100 and less than 1,300	$ 1,300 and less than 1,500	$ 1,500 and less than 1,700	$ 1,700 and less than 1,900	$ 1,900 and less than 2,100	$ 2,100 and less than 2,300	$ 2,300 and less than 2,500	$ 2,500 and less than 2,700	Total
−0·90 and less than −0·80	1										1
−0·80 " " " −0·70	1										1
−0·70 " " " −0·60											
−0·60 " " " −0·50											
−0·50 " " " −0·40	1										1
−0·40 " " " −0·30		1	1	3		1					6
−0·30 " " " −0·20					3	1					4
−0·20 " " " −0·10		2	1	1	2						6
−0·10 " " " 0·00				1	2	2	2	1	1		9
0·00 " " " 0·10					1	2	2	1		1	7
0·10 " " " 0·20		1			1	1	4	4			11
0·20 " " " 0·30						1		1			2
0·30 " " " 0·40		1				1	1				3
0·40 " " " 0·50								1			1
0·50 " " " 0·60						1					1
0·60 " " " 0·70						1					1
0·70 " " " 0·80										1	1
Total	3	5	3	6	13	11	10	1	2	1	55
Mean of differences	−0·68	−0·03	−0·18	−0·17	−0·04	0·03	0·16	−0·05	0·35	0·05	

That the differences between the actual average number of persons per household and the average predicted from the birth rate is dependent to some extent on the productivity of the county's farms is clear from the above scatter diagram. The counties where the value of farm produce per farm is low are either those which have been recently colonized or long-settled counties from which there has been a large emigration. The more prosperous counties have been able to absorb a larger portion of their natural increase. While families are biologically larger in the less productive counties, economic factors tend to keep the family together longer in the more productive counties.

THE PRAIRIE PROVINCES

The average sizes of farm households in each of the Prairie Provinces in 1931 were as follows:—

Manitoba... 5·09
Saskatchewan... 4·70
Alberta... 4·26

The average household was larger in Manitoba than for Canada as a whole (4·90) but smaller in Saskatchewan and Alberta. Referring to Statement CXXI, page 146, the smallest average household for any of the Manitoba census divisions was 4·6 persons while 10 of the 18 Saskatchewan census divisions and 14 of the 17 Alberta census divisions had average households smaller than 4·6. The dispersion in the averages for the Manitoba and Saskatchewan census divisions was relatively small but larger for the Alberta census divisions. The large size of the average farm household in Manitoba is due to the fact that it has reached a more mature stage of settlement than Saskatchewan and Alberta. For example, the latter provinces had a higher proportion of 1-person households than Manitoba.

CXLII.—ONE-PERSON HOUSEHOLDS, PRAIRIE PROVINCES, 1931

Province	Farm Population	Farm Households	P.C. of Rural Households of 1 Person	Estimated No. 1-Person Farm Households		
				Assuming Same P.C. Farm as Rural (col. 3 × col. 2)	Applying Manitoba Percentage	Difference (col. 4 − col. 5)
	(1)	(2)	(3)	(4)	(5)	(6)
Manitoba......................................	256,305	50,326	7·56	3,805	3,805	-
Saskatchewan...............................	564,012	120,110	11·85	14,235	9,080	5.155
Alberta.......................................	375,097	88,119	16·36	14,418	6,662	7.756

In column 3 of Statement CXLII the percentages of rural households consisting of 1 person have been given for each of the Prairie Provinces. An estimate of the number of 1-person farm households in each province has been made by applying these percentages to the number of farm households. This method, of course, involves the assumption that the same percentages apply to both the farm and non-farm rural populations of each province. In column 5 the Manitoba percentage of 1-person households has been applied to the number of farm households in Alberta

CXLIII.—AVERAGE SIZE OF FARM HOUSEHOLD AS ADJUSTED FOR DISPROPORTIONATE NUMBERS OF ONE-PERSON HOUSEHOLDS, PRAIRIE PROVINCES, 1931

Province	Average Persons per Farm Household		Difference between Averages and Manitoba Averages		Differences in Adjusted as P.C. of Differences in Actual
	Actual	Adjusted for Excessive Proportion of 1-Person Households	Actual	Adjusted	
	(1)	(2)	(3)	(4)	(5)
Manitoba....................................	5·09	5·09	-	-	-
Saskatchewan.............................	4·70	4·86	−0·39	−0·23	59
Alberta.....................................	4·26	4·57	−0·83	−0·52	63

and Saskatchewan in order to obtain the number of farm households in these provinces which would consist of 1 person if the ratios of 1-person households to all households were the same as for Manitoba. The differences of the numbers appearing in column 4 and column 5 give the excess numbers of 1-person households in Saskatchewan and Alberta.

In Statement CXLIII the differences in the average sizes of farm households before and after allowing for the disproportionate numbers of 1-person households in Saskatchewan and Alberta have been compared. In the case of the difference between average household size in Saskatchewan and Manitoba the difference in the adjusted averages was only 59 p.c. of the difference in the actual averages, so that 41 p.c. of the difference in the actual averages was due to the greater proportion of 1-person households in Saskatchewan. Similarly, 37 p.c. of the difference in the average size of farm household in Alberta and Manitoba resulted from the higher proportion of 1-person households in Alberta. One-person households are common to newly settled districts, the homesteader often living alone. As well as the 1-person households in the outlying districts of Alberta and Saskatchewan there are, probably, many pioneer farms operated by 2 or 3 partners living together or recently married couples who have no children. That the large size of the household in Manitoba was not due to the fertility of its population may be seen by comparing the unweighted means of the standardized birth rates for each census division exclusive of towns with population 5,000 and over.

Manitoba.. 25·9
Saskatchewan.. 28·0
Alberta.. 29·8

The birth rate is actually considerably higher in Alberta than it is in Manitoba.

Population Movement in the Prairie Provinces, 1921-1931.—It is apparent from Statement CXLIV that rural Manitoba absorbed only a very small portion of its natural increase during the ten-year period 1921-31 since the increase per 1,000 in rural population scarcely exceeded the increase due to immigration. It would appear, then, that there was a considerable emigration from the farms of Manitoba during the decade. This exodus did not act to reduce household size as it did in the Maritime Provinces and in certain counties of Southern Ontario as it had been going on for a shorter period of time. It was not a large exodus and consisted in all probability of persons leaving the home farm at an age when they would normally leave under any conditions. The fact that they moved to Winnipeg or outside the province instead of to a new farm tended to raise the average size of the farm household since there were fewer small new families. However, the process will inevitably result in a decrease in the average size of farm household since, while it produces a high proportion of large families, it leaves a low proportion of potentially large families. In fact it will be seen later that the average size of the farm household in Manitoba commenced to decrease during the period 1931-36.

CXLIV.—INCREASE PER 1,000 IN RURAL POPULATION, OCCUPIED FARMS AND IMMIGRATION, PRAIRIE PROVINCES, 1921-1931

Province	Increase per 1,000 in 1921-31 in		Rural Foreign Born Arriving in Decade per 1,000 1921 Population
	Rural Population	Occupied Farms	
Manitoba...	100	20	90
Saskatchewan......................................	170	140	110
Alberta...	240	170	180

Saskatchewan and Alberta had larger proportionate increases in rural population during the period 1921-31 and also a larger immigration than Manitoba. It would appear from Statement CXLIV that their rural populations absorbed a larger natural increase than that of Manitoba, due to the possibilities either that the natural increase was larger than in Manitoba or that a larger portion of the natural increase remained in the rural parts of the provinces. While the increase in occupied farms in Manitoba was small, there was a marked increase in Saskatchewan

and Alberta indicating that settlement was still taking place in these provinces.   The percentages of farm operators in the three provinces who had been on their farms less than five years were as follows:—

Manitoba.. 32·7
Saskatchewan... 35·1
Alberta... 40·4

The majority of these operators must have had small families; many, as already pointed out, had no families at all.   Colonization in Saskatchewan and Alberta has had the effect of reducing the average size of the farm household.

Average Size of Farm Household by Census Divisions.—Of Manitoba farm operators, 26·2 p.c. were born in Manitoba as compared with 7·7 p.c. of Saskatchewan farm operators and 6·8 p.c. of Alberta farm operators born in their respective provinces of residence.   The farm population of Manitoba is, consequently, a much more indigenous population than that of the two latter provinces.   Moreover, it is probable that a high proportion of the Manitoba farm operators born outside the province have been in the province for a long period.   Fertility will be a much more important factor in determining average household size in Manitoba than in Saskatchewan and Alberta.

CXLV.—AVERAGE PERSONS PER FARM HOUSEHOLD, 1931, RURAL POPULATION, NUMBER OF OCCUPIED FARMS AND STANDARDIZED BIRTH RATE, PRAIRIE PROVINCES, BY CENSUS DIVISIONS, 1931 AND 1921

Census Division	Persons per Farm House-hold, 1931	Rural Population			Occupied Farms			Stan-dardized Birth Rate, 1930-32
		1931	1921	1931 as P.C. of 1921	1931	1921	1931 as P.C. of 1921	
Manitoba.........................	5·09	384,170	348,502	110	54,199	53,252	102	–
Division No. 1.................	5·53	22,817	20,009	114	3,328	3,172	105	39·7
Division No. 2.................	5·83	33,646	32,642	103	5,247	4,597	114	31·9
Division No. 3.................	4·91	24,576	22,070	111	4,153	3,713	112	23·8
Division No. 4.................	4·64	15,054	14,180	106	2,931	2,810	104	20·6
Division No. 5.................	5·31	38,898	28,390	137	4,152	3,472	120	24·9
Division No. 6.................	5·44	37,088	27,757	134	4,018	3,561	113	24·0
Division No. 7.................	4·64	18,582	19,251	97	3,314	3,118	106	19·5
Division No. 8.................	4·79	14,855	14,701	101	2,568	2,656	97	19·9
Division No. 9.................	4·83	38,889	34,476	113	2,769	2,533	109	18·7
Division No. 10.................	4·82	15,387	17,083	90	2,787	3,162	88	24·7
Division No. 11.................	4·92	23,782	22,864	104	4,289	4,070	105	23·4
Division No. 12.................	5·22	23,631	27,133	87	3,896	5,316	73	31·6
Division No. 13.................	5·10	18,977	21,306	89	3,446	4,103	84	26·9
Division No. 14.................	4·93	22,309	20,143	111	4,373	3,959	110	27·0
Division No. 15.................	4·81	9,040	7,953	114	1,476	1,438	103	27·9
Division No. 16.................	4·80	26,639	18,544	144	1,461	1,572	93	30·1
Saskatchewan....................	4·70	630,880	538,552	117	136,472	119,451	114	–
Division No. 1.................	4·78	31,096	26,851	116	6,461	5,679	114	24·2
Division No. 2.................	4·58	31,561	27,796	114	7,597	6,458	118	26·3
Division No. 3.................	4·55	37,936	32,671	116	8,939	8,547	105	26·9
Division No. 4.................	4·04	22,178	19,313	115	6,347	5,753	110	25·0
Division No. 5.................	5·05	38,418	36,582	105	8,040	7,238	111	25·7
Division No. 6.................	5·03	44,358	42,227	105	8,878	7,497	118	23·0
Division No. 7.................	4·59	35,441	35,559	97	8,556	8,939	96	25·7
Division No. 8.................	4·57	36,705	36,592	100	8,900	9,233	96	27·4
Division No. 9.................	5·29	47,454	44,561	106	9,070	8,168	111	28·6
Division No. 10.................	4·97	35,530	30,292	117	7,458	6,589	113	29·9
Division No. 11.................	4·90	34,101	32,599	105	7,440	7,397	101	23·5
Division No. 12.................	4·44	30,974	28,077	110	7,290	6,690	109	23·8
Division No. 13.................	4·67	33,237	28,583	116	7,416	6,738	110	29·2
Division No. 14.................	4·12	40,409	20,863	194	8,882	5,095	174	31·7
Division No. 15.................	5·17	63,643	49,626	128	11,890	10,011	119	33·3
Division No. 16.................	4·34	37,966	26,260	145	8,137	5,496	148	31·2
Division No. 17.................	4·15	23,534	15,655	150	4,946	3,886	127	31·9
Division No. 18.................	4·39	6,339	4,445	143	225	7	3,214	36·2
Alberta..........................	4·26	453,097	365,550	124	97,408	82,954	117	–
Division No. 1.................	4·27	15,909	17,663	90	3,709	4,411	84	30·9
Division No. 2.................	5·02	29,383	22,112	133	4,918	4,138	119	26·9
Division No. 3.................	4·19	11,804	13,915	85	2,754	3,921	70	26·4
Division No. 4.................	4·48	21,666	18,447	117	4,648	4,536	102	22·3
Division No. 5.................	3·82	23,065	27,496	84	5,975	8,102	74	23·7
Division No. 6.................	4·44	46,436	40,735	114	8,028	6,994	115	23·5
Division No. 7.................	4·25	30,556	30,262	101	7,740	7,749	100	26·4
Division No. 8.................	4·36	45,250	40,457	112	10,229	8,899	115	23·3
Division No. 9.................	3·98	22,184	16,085	138	4,239	3,444	123	22·2
Division No. 10.................	4·90	50,113	39,498	127	10,620	8,200	130	30·0
Division No. 11.................	4·65	41,641	31,407	133	8,690	6,331	137	30·7
Division No. 12.................	3·38	11,920	7,393	161	2,243	1,971	114	30·1
Division No. 13.................	4·41	23,368	15,419	152	4,711	3,366	140	40·4
Division No. 14.................	4·10	36,962	24,006	154	8,736	6,342	138	36·2
Division No. 15.................	3·18	12,286	5,003	246	2,880	937	307	36·8
Division No. 16.................	3·21	24,766	10,730	231	6,977	3,578	195	31·6
Division No. 17.................	3·85	5,788	4,922	118	311	35	889	45·4

Average household size and standardized birth rate as given in Statement XXXVIII are cross-classified in three scatter diagrams, one for each province, appearing below.

CXLVI.—SCATTER DIAGRAMS SHOWING FREQUENCY DISTRIBUTION OF THE CENSUS DIVISIONS OF THE PRAIRIE PROVINCES ACCORDING TO INTERVALS OF AVERAGE SIZE OF FARM HOUSEHOLD, 1931, IN RELATION TO STANDARDIZED BIRTH RATE, 1930-1932

Average Persons per Farm Household, 1931	Census Divisions														
	Standardized Birth Rate[1] per 1,000 Population, 1930-32														
	18 and less than 20	20 and less than 22	22 and less than 24	24 and less than 26	26 and less than 28	28 and less than 30	30 and less than 32	32 and less than 34	34 and less than 36	36 and less than 38	38 and less than 40	40 and less than 42	42 and less than 44	44 and less than 46	Total
(A) MANITOBA															
4·6 and less than 4·8	2	1											•		3
4·8 " " " 5·0	1		2	1	2		1								7
5·0 " " " 5·2					1										1
5·2 " " " 5·4				1			1								2
5·4 " " " 5·6				1							1				2
5·6 " " " 5·8															..
5·8 " " " 6·0							1								1
(B) SASKATCHEWAN															
4·0 and less than 4·2					1		2								3
4·2 " " " 4·4							1			1					2
4·4 " " " 4·6				1	1	3									5
4·6 " " " 4·8					1		1								2
4·8 " " " 5·0				1			1								2
5·0 " " " 5·2				1		1		1							3
5·2 " " " 5·4							1								1
(C) ALBERTA															
3·0 and less than 3·2											1				1
3·2 " " " 3·4							2								2
3·4 " " " 3·6															
3·6 " " " 3·8															
3·8 " " " 4·0			2										1		3
4·0 " " " 4·2					1						1				2
4·2 " " " 4·4			1		1		1								3
4·4 " " " 4·6			2									1			3
4·6 " " " 4·8							1								1
4·8 " " " 5·0							1								1
5·0 " " " 5·2					1										1
Total..........	3	1	10	6	10	3	11	1		3	1	1		1	51
Means of averages..	4·8	4·7	4·5	4·8	4·7	5·0	4·5	5·1		3·8	5·5	4·5		3·9	

[1]Exclusive of towns of 5,000 and over.

If the means of the average sizes of farm households for the census divisions in each birth-rate group given at the bottom of the above scatter diagrams are observed, it will be evident that there is no general trend relating average size of farm household to birth rate for the census divisions of the Prairie Provinces. From inspection of the individual diagrams for each province, however, a definite positive correlation between household size and birth rate will be seen in Manitoba while no correlations can be detected in Saskatchewan and Alberta. In Manitoba

where the population is relatively indigenous, average size of farm household reflects the fertility of the different racial stocks in each census division while in Saskatchewan and Alberta population movements are more potent in determining the averages than fertility.

Population Movements, 1931-1936. — Data are available for the farm population of the three Prairie Provinces from the 1936 Quinquennial Census enabling us to study population movements during the period and their bearing on average size of farm household.

CXLVII.—ACTUAL INCREASE AND ESTIMATED NATURAL INCREASE IN FARM POPULATION AND INCREASE IN NUMBER OF OCCUPIED FARMS, PRAIRIE PROVINCES, 1931-1936 ·

Province	Farm Population				Occupied Farms		
	1936	1931	Actual Increase	Estimated Natural Increase	1936	1931	Increase
Manitoba.....................	261,167	256,305	4,862	14,706	57,774	54,199	3,575
Saskatchewan.................	573,894	564,012	9,882	42,943	142,391	136,472	5,919
Alberta.......................	400,403	375,097	25,306	27,864	100,358	97,408	2,950

The estimate of the natural increase of the farm population of each province was made on the basis that the same rate of increase applied to the farm population as to the population of the province as a whole. Since the high birth rate for the farm population naturally results in a higher rate of natural increase than for the urban population, the natural increase will be under-estimated, particularly in Manitoba where the provincial rate is lowered by the city of Winnipeg. It will be abundantly clear, however, that the farm populations of Manitoba and Saskatchewan during the five-year period were unable to absorb their natural increase. The exodus from the farms of Manitoba and Saskatchewan far exceeded immigration. Alberta made a much better showing since the actual increase in population nearly equalled the natural increase.

CXLVIII.—IMMIGRANTS REPORTING FARMING AS INTENDED OCCUPATION, BY AGE AND SEX, PRAIRIE PROVINCES, 1931-1935

Province	Immigrants Reporting Farming as Intended Occupation					
	Total	Per 1,000 1931 Population	18 Years and over		Under 18	
			Males	Females	Males	Females
Manitoba.....................................	1,098	4·3	425	249	208	216
Saskatchewan.................................	1,224	2·2	598	262	245	119
Alberta.......................................	2,290	6·1	1,088	490	395	317

Immigration into the three Prairie Provinces accounted for little increase in population during the period 1931-35. It is significant that the total number of female immigrants and males under 18 exceeded for each province the number of male immigrants 18 years of age and over. Immigration during the period was, consequently, largely a matter of families uniting with previously established heads.

CXLIX.—MOVEMENT OF POPULATION BETWEEN FARM AND CITY, PRAIRIE PROVINCES, 1931-1936

Province	Both Sexes				Males			Females		
	Going to Farm	Leaving Farm	Difference	Difference per 1,000 1931 Population	Going to Farm	Leaving Farm	Difference	Going to Farm	Leaving Farm	Difference
Manitoba..........	3,077	7,356	−4,279	−16·5	1,599	3,041	−1,442	1,478	4,315	−2,837
Saskatchewan......	4,824	11,260	−6,436	−11·3	2,452	4,674	−2,222	2,372	6,586	−4,214
Alberta............	4,660	8,104	−3,444	− 8·9	2,457	3,578	−1,121	2,203	4,526	−2,323

Questions were inserted on the farm schedules of the 1936 Census asking for the numbers of persons of each sex who left the farm during the five-year period prior to June 1, 1936, to make their permanent residence in a city, town or village and the number of persons of each sex who left a city, town or village to make their permanent residence on the farm. The returns unfortunately do not completely cover the rural-urban movement since no data are available on the movement from vacant and abandoned farms. It is evident, however, that the movement from the farms considerably exceeded that to the farms. The number of males going to farms in each province slightly exceeded the number of females while the number of females leaving the farm considerably exceeded the number of males. This probably reflects the movement of young women to the city to seek employment there.

CL.—AVERAGE SIZE OF FARM HOUSEHOLD AND PERCENTAGE INCREASES IN FARM POPULATION AND NUMBER OF OCCUPIED FARMS, PRAIRIE PROVINCES, 1931 AND 1936

Province	Persons per Farm Household			Percentage Increase	
	1936	1931	Difference	Farm Population	Occupied Farms
Manitoba..	4·96	5·09	−0·13	1·88	6·60
Saskatchewan...	4·69	4·70	−0·01	1·74	4·34
Alberta...	4·42	4·26	0·16	6·52	3·03

The average size of the farm household decreased during the five-year inter-censal period in Manitoba, remained practically constant in Saskatchewan, and increased in Alberta. It was pointed out on page 172 that, since the population of Manitoba had reached a settled stage, the average size of the farm household was probably close to a peak in 1931 and would commence to decrease due to continued emigration from the farms and the ageing of family heads. Evidently, the decrease materialized during the period 1931-36. That it was universal throughout the province is evident from the fact that the average household decreased in size in fourteen of the sixteen census divisions. According to Statement CLI, the only divisions where the average size of the farm household increased were No. 2 and No. 16. The latter is in the extreme north and the average size of farm household is evidently increasing as the population matures. In Saskatchewan the average size of the farm household increased in eight census divisions and decreased in ten. The largest decrease was in Division No. 18 where there was a great deal of colonization during the period as indicated by an increase of 84 p.c. in the number of occupied farms. In Alberta the average increased in fifteen census divisions and decreased in only two. The largest increases were in Divisions No. 15 and No. 16 where the average households in 1931 were extremely small. The number of occupied farms in these divisions decreased while the population increased. There was evidently little new settlement during the five-year period and the families already there increased in size. On the other hand, in Division No. 17 where there was an increase of 70·42 p.c. in occupied farms the average household increased in size by only 0·03 persons.

CLI.—PERSONS PER FARM HOUSEHOLD, FARM POPULATION AND NUMBER OF OCCUPIED FARMS, PRAIRIE PROVINCES, 1931 AND 1936

Census Division	Persons per Farm Household			Farm Population				Occupied Farms			
						Increase				Increase	
	1936	1931	Increase	1936	1931	Absolute	P.C.	1936	1931	Absolute	P.C.
Manitoba................	4·96	5·09	−0·13	261,167	256,305	4,862	1·90	57,774	54,199	3,575	6·60
Division No. 1.......	5·41	5·53	−0·13	19,751	17,944	1,807	10·07	3,869	3,328	541	16·26
Division No. 2.......	5·88	5·83	0·05	27,201	27,261	−60	−0·22	5,274	5,247	27	0·51
Division No. 3.......	4·79	4·91	−0·12	17,584	18,534	−950	−5·13	4,086	4,153	−67	−1·61
Division No. 4.......	4·31	4·64	−0·33	10,569	12,606	−2,037	−16·16	2,745	2,931	−186	−6·35
Division No. 5.......	4·93	5·31	−0·38	22,381	21,626	755	3·49	4,827	4,152	675	16·26
Division No. 6.......	5·29	5·44	−0·15	21,320	19,632	1,688	8·60	4,593	4,018	575	14·31
Division No. 7.......	4·48	4·64	−0·16	13,663	14,004	−341	−2·44	3,437	3,314	123	3·71
Division No. 8.......	4·60	4·79	−0·19	10,734	11,718	−984	−8·40	2,729	2,568	161	6·27
Division No. 9.......	4·79	4·83	−0·14	13,203	12,924	279	2·16	2,896	2,760	136	4·93
Division No. 10.......	4·69	4·82	−0·13	12,729	12,063	666	5·52	2,990	2,787	203	7·28
Division No. 11.......	4·74	4·92	−0·18	18,514	18,845	−331	−1·76	4,384	4,289	95	2·21
Division No. 12.......	4·96	5·22	−0·26	19,980	19,509	471	2·41	4,204	3,896	308	7·91
Division No. 13.......	5·02	5·10	−0·08	16,948	16,193	755	4·66	3,589	3,446	143	4·15
Division No. 14.......	4·88	4·93	−0·05	20,803	19,673	1,130	5·74	4,728	4,373	355	8·12
Division No. 15.......	4·77	4·81	−0·04	8,322	6,822	1,500	21·99	1,852	1,476	376	25·47
Division No. 16.......	4·83	4·80	0·03	7,465	6,951	514	7·39	1,571	1,461	110	7·53

CLI.—PERSONS PER FARM HOUSEHOLD, FARM POPULATION AND NUMBER OF OCCUPIED FARMS, PRAIRIE PROVINCES, 1931 AND 1936—Con.

Census Division	Persons per Farm Household			Farm Population				Occupied Farms			
						Increase				Increase	
	1936	1931	Increase	1936	1931	Absolute	P.C.	1936	1931	Absolute	P.C.
Saskatchewan	4·69	4·70	−0·01	573,894	564,012	9,882	1·75	142,391	136,472	5,919	4·34
Division No. 1	4·48	4·78	−0·30	24,993	27,722	−2,729	−9·84	6,651	6,461	190	2·94
Division No. 2	4·55	4·58	−0·03	26,240	29,017	−2,777	−9·57	6,897	7,597	−700	−9·21
Division No. 3	4·57	4·55	0·02	30,846	34,598	−3,752	−10·84	8,101	8,939	−838	−9·37
Division No. 4	4·09	4·04	0·05	18,935	20,858	−1,923	−9·22	5,538	6,347	−809	−12·75
Division No. 5	4·92	5·05	−0·13	35,655	35,920	−265	−0·74	8,295	8,040	255	3·17
Division No. 6	4·88	5·03	−0·15	37,257	38,353	−1,096	−2·86	8,885	8,878	7	0·08
Division No. 7	4·50	4·59	−0·09	28,766	32,859	−4,093	−12·46	7,747	8,556	−809	−9·46
Division No. 8	4·47	4·57	−0·10	31,070	33,619	−2,549	−7·58	8,608	8,900	−292	−3·28
Division No. 9	5·16	5·29	−0·13	46,219	43,881	2,338	5·33	9,970	9,070	900	9·92
Division No. 10	5·01	4·97	0·04	34,822	32,647	2,175	6·66	8,017	7,458	559	7·50
Division No. 11	4·86	4·90	−0·04	28,523	31,691	−3,168	−10·00	7,073	7,440	−367	−4·93
Division No. 12	4·41	4·44	−0·03	27,265	28,085	−820	−2·92	7,294	7,290	4	0·05
Division No. 13	4·73	4·67	0·06	29,283	30,400	−1,117	−3·67	7,522	7,416	106	1·43
Division No. 14	4·41	4·12	0·29	44,762	34,568	10,194	29·49	11,176	8,882	2,294	25·83
Division No. 15	5·20	5·17	0·03	60,753	56,510	4,243	7·51	13,283	11,890	1,393	11·72
Division No. 16	4·56	4·34	0·22	40,560	32,976	7,584	23·00	10,024	8,137	1,887	23·19
Division No. 17	4·23	4·15	0·08	26,357	19,330	7,027	36·35	6,896	4,946	1,950	39·43
Division No. 18	4·01	4·39	−0·38	1,588	978	610	62·37	414	225	189	84·00
Alberta	4·42	4·26	0·16	400,403	375,097	25,306	6·75	200,358	197,408	2,950	3·03
Division No. 1	4·41	4·27	0·14	14,782	13,555	1,227	9·05	3,899	3,709	190	5·12
Division No. 2	4·99	5·02	−0·03	22,082	22,205	−123	−0·55	5,044	4,918	126	2·56
Division No. 3	4·38	4·19	0·19	10,189	10,134	55	0·54	2,575	2,754	−179	−6·50
Division No. 4	4·44	4·48	−0·04	17,289	18,164	−875	−4·82	4,511	4,648	−137	−2·95
Division No. 5	3·87	3·82	0·05	14,806	19,881	−5,075	−25·53	4,317	5,975	−1,658	−27·75
Division No. 6	4·57	4·44	0·13	34,168	32,041	2,127	6·64	8,247	8,028	219	2·73
Division No. 7	4·32	4·25	0·07	28,224	28,407	−183	−0·64	7,575	7,740	−165	−2·13
Division No. 8	4·48	4·36	0·12	43,099	40,327	2,772	6·87	10,712	10,229	483	4·72
Division No. 9	4·06	3·98	0·08	19,905	15,715	4,190	26·66	5,284	4,239	1,045	24·65
Division No. 10	4·93	4·90	0·03	48,922	46,809	2,113	4·51	11,257	10,620	637	6·00
Division No. 11	4·68	4·65	0·03	41,330	37,290	4,040	10·83	9,615	8,690	925	10·64
Division No. 12	3·63	3·38	0·25	9,333	7,127	2,206	30·95	2,703	2,243	460	20·51
Division No. 13	4·64	4·41	0·23	23,995	19,512	4,483	22·98	5,535	4,711	824	17·49
Division No. 14	4·33	4·10	0·23	37,881	33,181	4,700	14·16	9,426	8,736	690	7·90
Division No. 15	3·80	3·18	0·62	9,223	8,669	554	6·39	2,606	2,880	−274	−9·51
Division No. 16	3·85	3·21	0·64	23,194	20,884	2,310	11·06	6,522	6,977	−455	−6·52
Division No. 17	3·88	3·85	0·03	1,981	1,196	785	65·64	530	311	219	70·42

CLII.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF THE 51 CENSUS DIVISIONS IN THE PRAIRIE PROVINCES ACCORDING TO CHANGE IN AVERAGE SIZE OF FARM HOUSEHOLD, 1931-1936, IN RELATION TO AVERAGE SIZE OF FARM HOUSEHOLD, 1931

Increase in Average Size of Farm Household, 1931-36	Census Divisions							Mean of Averages
	Persons per Farm Household, 1931							
	3·0 and less than 3·5	3·5 and less than 4·0	4·0 and less than 4·5	4·5 and less than 5·0	5·0 and less than 5·5	5·5 and less than 6·0	Total	
−0·4 and less than −0·3			1	1	1		3	4·78
−0·3 " " " −0·2				1	1		2	5·00
−0·2 " " " −0·1				6	4	1	11	5·02
−0·1 " " " 0·0			2	6	2		10	4·74
0·0 " " " 0·1		3	3	6	1	1	14	4·55
0·1 " " " 0·2			4				4	4·32
0·2 " " " 0·3	1		4				5	4·07
0·3 " " " 0·4								
0·4 " " " 0·5								
0·5 " " " 0·6								
0·6 " " " 0·7	2						2	3·20
Total	3	3	14	20	9	2	51	
Mean of differences	0·50	0·05	0·09	−0·08	−0·14	−0·04		

Statement CLII reveals the interesting tendency of the average farm household to decrease in size during the period 1931-36 where it was large in 1931 and to increase where it was small. Apparently, in the Western Provinces the average is fluctuating about a general average in response to various conditions, sometimes being below the typical, after which it commences to increase, and sometimes being above, after which it commences to decrease.

Average Household Size in Drought Areas.—The large percentage decrease in the number of occupied farms in Census Divisions Nos. 2, 3, 4, 7 and 8 in Saskatchewan and 3 and 5 in Alberta represents farms abandoned due to drought conditions.

CLIII.—HOUSEHOLD SIZE IN CENSUS DIVISIONS SUFFERING FROM DROUGHT, 1931 AND 1936

Census Division	Persons per Farm Household			P.C. Increase	
	1936	1931	Difference	Rural Population	Occupied Farms
Saskatchewan—					
Division No. 2	4·55	4·58	−0·03	− 9·57	− 9·21
Division No. 3	4·57	4·55	0·02	−10·84	− 9·37
Division No. 4	4·09	4·04	0·05	− 9·22	−12·75
Division No. 7	4·50	4·59	−0·09	−12·46	− 9·46
Division No. 8	4·47	4·57	−0·10	− 7·58	− 3·28
Alberta—					
Division No. 3	4·38	4·19	0·19	0·54	− 6·50
Division No. 5	3·87	3·82	0·05	−25·53	−27·75

It is significant that in only three of the seven census divisions given above did the average size of the farm household decrease during the period 1931-36. The drought has not broken up families to any marked extent and the movement out of the area has evidently been a movement of families and not of individual members of families.

Household Size and Type of Farming.—The 1936 Census of Agriculture classifies farms according to type on the basis of value of produce in 1935. For example, if over 50 p.c. of the produce of a farm in 1935 was wheat the farm is classed as a wheat farm.

CLIV.—FARM POPULATION, NUMBER OF FARMS REPORTING MALE POPULATION AND PERSONS PER FARM HOUSEHOLD, BY TYPE OF FARM, PRAIRIE PROVINCES, 1936

Type of Farm	Manitoba			Saskatchewan			Alberta		
	Farm Population	Farms Reporting Male Population	Persons per Farm Household	Farm Population	Farms Reporting Male Population	Persons per Farm Household	Farm Population	Farms Reporting Male Population	Persons per Farm Household
Wheat	28,150	5,625	5·0	233,852	50,466	4·6	107,871	24,722	4·4
Other grains	15,277	3,489	4·4	17,921	4,485	4·0	15,259	3,901	3·9
Horse	831	229	3·6	2,327	650	3·6	2,979	875	3·4
Cattle	4,881	1,130	4·3	7,489	1,782	4·2	11,830	2,795	4·2
Sheep	582	144	4·0	652	144	4·5	1,333	329	4·1
Swine	2,926	528	5·5	4,990	1,044	4·8	31,962	6,755	4·7
Mixed live stock	1,851	383	4·8	1,742	355	4·9	3,409	685	5·0
Animal products	12,706	2,486	5·1	5,514	1,124	4·9	7,067	1,515	4·7
Forest products	1,169	316	3·7	1,321	439	3·0	657	211	3·1
Consuming 50 p.c. of its products	71,028	13,601	5·2	121,989	23,804	5·1	188,432	19,790	4·5
General products	118,242	22,350	5·3	169,615	32,468	5·2	123,567	24,581	5·0
Not reporting	3,524	955	3·7	6,394	2,050	3·1	6,014	2,042	2·9

In Statement CLIV the average size of the farm household is given by type of farm for the three provinces. It will be seen that households are generally larger on farms falling under the following types: swine, mixed, live stock, animal products, products consumed and general products. In Statement CLV the data for the three provinces are combined.

CLV.—AGGREGATE FARM POPULATION, NUMBER OF FARMS REPORTING MALE POPULATION AND AVERAGE PERSONS PER FARM HOUSEHOLD, BY TYPE OF FARM, PRAIRIE PROVINCES, 1936

Type of Farm	Farm Population	Farms Reporting Male Population	Persons per Farm Household
Wheat	369,873	80,813	4·6
Other grains	48,457	11,875	4·1
Horse	6,137	1,754	3·5
Cattle	24,200	5,707	4·2
Sheep	2,567	617	4·2
Swine	39,878	8,327	4·8
Mixed live stock	7,002	1,423	4·9
Animal products	25,287	5,125	4·9
Forest products	3,147	966	3·3
Consuming 50 p.c. of its products	281,449	57,195	4·9
General products	411,424	79,399	5·2
Not reporting	15,932	5,047	3·2

Evidently there are five types of farms which may be termed large-family types. If average size of farm household in each census division is affected by the type of farms therein, we should expect a positive correlation between the average for each division and the percentage of farms of large-family types.

CLVI.—SCATTER DIAGRAM SHOWING FREQUENCY DISTRIBUTION OF THE 51 CENSUS DIVISIONS IN THE PRAIRIE PROVINCES, 1936, ACCORDING TO AVERAGE SIZE OF FARM HOUSEHOLD IN RELATION TO PERCENTAGES OF FARMS OF LARGE-FAMILY TYPES

Persons per Farm Household	Census Divisions									
	P.C. of Farms of Large-Family Types									Mean of Percentages
	20-29	30-39	40-49	50-59	60-69	70-79	80-89	90-99	Total	
3·6 and less than 3·8							1		1	80
3·8 " " " 4·0		1		2		1			4	50
4·0 " " " 4·2	1			1			1		3	53
4·2 " " " 4·4				1					1	50
4·4 " " " 4·6	4	1	1	2	1	2	1		12	44
4·6 " " " 4·8	2	1	1	1		1	3		9	52
4·8 " " " 5·0	1		2		1	4			9	59
5·0 " " " 5·2		1		1	1	2	1	1	7	64
5·2 " " " 5·4			1	1		1		1	3	53
5·4 " " " 5·6							1		1	80
5·6 " " " 5·8										
5·8 " " " 6·0				1					1	50
Total	8	4	5	9	4	11	8	2	51	
Mean of averages	4·5	4·5	4·8	3·9	4·5	4·7	4·5	4·9		

It is obvious on examination of Statement CLVI that no such correlation exists. Evidently type of farming is not an important cause of the variation from census division to census division in average size of farm household.*

BRITISH COLUMBIA

In Statement CXVII, page 144, the average size of the British Columbia rural household was given as 3·50 persons per household and the average size of the farm household as 4·00. That British Columbia has much the smallest average rural household of any of the provinces is partly due to the small proportion, 32 p.c., of rural households living on farms. The average farm household, however, is also smaller in British Columbia than in any other province. It seems, therefore, that the small size of the British Columbia rural household is due also to the small size of the farm households.

*In a study of types of farms now in progress at the Dominion Bureau of Statistics, the incidence of type of farm on farm population and size of farm household will be thoroughly analysed.

CLVII.—AVERAGE SIZE OF FARM HOUSEHOLD AND RELEVANT DATA, BRITISH COLUMBIA, BY
CENSUS DIVISIONS, 1931

Census Division	Persons per Farm Household	Farm Population	Farm Households	Value of Products per Farm, 1930	Rural Population as P.C. of 1921
				$	
British Columbia	4·00	102,367	25,575	1,396	108
Division No. 1	3·80	3,067	808	1,144	139
Division No. 2	5·18	10,951	2,116	950	114
Division No. 3	4·13	16,340	3,955	1,443	112
Division No. 4	3·94	33,524	8,512	1,721	89
Division No. 5	3·71	14,877	4,012	1,237	126
Division No. 6	4·07	10,963	2,695	1,626	123
Division No. 7	3·79	971	256	755	124
Division No. 8	3·83	7,692	2,009	935	107
Division No. 9	3·11	497	160	971	90
Division No. 10	3·31	1,052	1,052	831	327

Division No. 2 is the only census division in British Columbia which has a larger farm household than the all-Canada average, 4·90. In every other census division the average is well below 4·90. In Divisions No. 9 and No. 10 in the northern parts of the province, the average household is extremely small but, since the population of these two divisions is small, they do not have much weight in determining the provincial average. The smallness of the average farm household arises from its smallness throughout the provinces, particularly in Divisions No. 4 (surrounding Vancouver) and No. 5 (Vancouver Island), which contain nearly half the households in the province.

Summary.—In this chapter we have traced the effects of population growth on the average size of the farm household in 218 counties and census divisions. It was found that, during the first years of colonization in a new district, the average farm household was small due to the presence of a high proportion of unmarried or newly married farm operators. In such a district, however, the birth rate is always high responding to the low density of population so that its small families are potential large families. Consequently, as the families become completed the average size of the household steadily increases until it reaches a peak. After the peak has been reached the average generally decreases as the large families are breaking up, emigrating to the cities or settling on farms of their own. Continued emigration acts to steadily reduce the average persons per household since it represents a drain on the supply of family heads at the ages of maximum family responsibilities. As a result of the importance of population movements in determining average household size, the latter can be used as a measure of fertility only in regions where there is little immigration or emigration. Decrease in average size of household does not necessarily imply that the birth rate has decreased nor an increase that it has increased. The interpretation of the significance of average household size is a complex problem and requires careful analysis.

CHAPTER XI

REGIONAL DIFFERENCES IN FAMILY SIZE

How does average family size vary geographically? Census compilations are generally available for individual provinces and, although the provinces do not necessarily represent distinct and homogeneous economic units, they are the fundamental divisions into which Canada has been divided. In Statement CLVIII the number of children per normal family is given for rural and urban parts of the nine provinces.

CLVIII.—CHILDREN PER NORMAL FAMILY AND RANK OF PROVINCES IN DECREASING ORDER OF MAGNITUDE OF FAMILY SIZE, RURAL AND URBAN BY SIZE GROUPS, CANADA AND PROVINCES, 1931

Province	Total		Rural		Urban 30,000 and over		Urban 1,000–30,000		Urban under 1,000	
	Children per Family	Rank	Children per Family	Rank	Children per Family	Rank	Children per Family	Rank	Children per Family	Rank
CANADA......................	2·32	-	2·62	-	1·95	-	2·22	--	2·19	-
Prince Edward Island.........	2·39	5	2·44	6	-	5	2·25	4	2·15	4
Nova Scotia...................	2·40	4	2·43	7	2·10	2	2·50	2	2·11	5
New Brunswick................	2·66	2	2·88	3	2·05	3	2·34	3	2·18	3
Quebec.......................	2·91	1	3·55	1	2·39	1	2·86	1	2·66	1
Ontario......................	1·90	8	2·10	8	1·71	8	1·86	8	1·67	9
Manitoba.....................	2·35	6	2·71	4	1·85	6	2·21	5	2·07	7
Saskatchewan.................	2·62	3	2·90	2	1·91	4	2·13	6	2·22	2
Alberta......................	2·30	7	2·57	5	1·79	7	2·08	7	2·10	6
British Columbia.............	1·72	9	1·83	9	1·57	9	1·82	9	1·79	8

The provinces have been ranked according to family size in the above statement and it will be seen at once that Quebec has the largest average family in each rural and urban division. British Columbia has the smallest average family except in the case of the urban-under-1,000 group where the average size of the British Columbia family is somewhat larger than that of the Ontario family.

Taking the provinces as a whole, New Brunswick and Saskatchewan rank second and third, respectively, in average family size. Nova Scotia and Prince Edward Island come next in line, ranking fourth and fifth, respectively, followed by Manitoba, Alberta, Ontario and British Columbia. The most striking observation is the small size of the average family in Ontario and British Columbia as compared with that in the other provinces. This low ranking in family size is peculiar to each rural and urban division so that it cannot be attributed to the rural and urban distribution.

There is generally a considerable difference in family size between the rural and urban divisions within each province. On examination of Statement CLVIII, it will be seen that the average *rural* family is largest in eight of the nine provinces, the exception being Nova Scotia where the urban-1,000-30,000 family is the largest. On the other hand, the average urban-30,000-and-over family is smallest in every province except Ontario. For Canada as a whole the urban-1,000-30,000 family is slightly larger than the urban-under-1,000 family and .this applies to all of the provinces with the exception of Saskatchewan and Alberta. This might appear to be a discontinuity in the trend of decreasing family size with increasing degree of urbanization. The discontinuity is apparent rather than real, however, and this may be explained by the fact that the age distribution of family heads is more favourable to large average family size in the urban-1,000-30,000 group than in the urban-under-1,000 group. This will be evident on examining Statement LII, page 83, Chapter VI, and more attention will be paid to it later. In passing it is interesting to note that the positive differences in average size between the urban-1,000-30,000 family and the urban-under-1,000 family are largest in Nova Scotia, Quebec and

Ontario, the most highly industrialized provinces. It was observed in Chapter VI, page 187, that children leave home earlier in the urban-under-1,000 localities than in the urban-1,000-30,000 localities, particularly in Ontario and Quebec. This will partly account for the smaller size of the family in the former.

Distribution of Normal Families According to Number of Children.—In Chapter IX the distribution of normal families according to the number of children living at home was com-

CLIX.—PERCENTAGE DISTRIBUTION OF NORMAL FAMILIES ACCORDING TO NUMBER OF CHILDREN, RURAL AND URBAN BY SIZE GROUPS, CANADA AND PROVINCES, 1931

Locality	All Sizes	P.C. of Normal Families with Given No. of Children								
		0	1	2	3	4	5	6	7-9	10 or more
CANADA	100·00	23·96	21·06	18·11	12·67	8·55	5·68	3·80	5·12	1·05
Rural	100·00	21·70	18·97	16·99	12·90	9·42	6·70	4·76	6·98	1·58
Urban 30,000 and over	100·00	26·46	23·67	19·59	12·47	7·45	4·39	2·61	2·91	0·45
Urban 1,000-30,000	100·00	24·40	21·84	18·47	12·60	8·36	5·44	3·53	4·53	0·83
Urban under 1,000	100·00	27·49	20·03	17·14	12·21	8·34	5·56	3·72	4·65	0·86
Prince Edward Island	100·00	24·29	20·12	16·59	12·45	8·99	6·61	4·39	5·63	0·93
Rural	100·00	23·66	19·79	16·64	12·75	9·07	6·72	4·53	5·91	0·93
Urban 30,000 and over	-	-	-	-	-	-	-	-	-	-
Urban 1,000-30,000	100·00	25·73	21·62	16·45	11·67	8·65	6·18	3·94	4·99	0·77
Urban under 1,000	100·00	29·91	19·46	16·22	10·27	9·01	6·67	3·96	3·24	1·26
Nova Scotia	100·00	23·51	20·38	17·00	12·50	9·26	6·37	4·39	5·66	0·93
Rural	100·00	24·56	19·60	16·42	12·26	9·09	6·52	4·49	5·97	1·09
Urban 30,000 and over	100·00	24·79	22·72	18·76	12·43	8·91	5·36	3·15	3·54	0·34
Urban 1,000-30,000	100·00	21·01	20·88	17·28	12·96	9·77	6·53	4·73	5·96	0·88
Urban under 1,000	100·00	27·19	20·51	18·24	12·59	8·11	5·45	3·18	4·28	0·45
New Brunswick	100·00	21·85	19·00	16·31	12·10	9·43	7·04	5·21	7·65	1·41
Rural	100·00	20·73	17·42	15·24	12·17	9·95	7·65	5·96	9·13	1·75
Urban 30,000 and over	100·00	25·08	23·18	19·58	12·37	7·64	5·12	3·00	3·51	0·52
Urban 1,000-30,000	100·00	23·43	21·62	17·88	11·72	8·85	6·02	4·16	5·31	0·83
Urban under 1,000	100·00	27·82	21·30	16·04	12·03	7·77	6·52	2·01	5·51	1·00
Quebec	100·00	21·81	16·98	15·03	12·00	9·42	7·33	5·67	9·24	2·52
Rural	100·00	18·83	13·38	12·49	11·17	9·91	8·61	7·29	13·87	4·45
Urban 30,000 and over	100·00	24·46	19·91	16·92	12·54	8·92	6·25	4·28	5·62	1·10
Urban 1,000-30,000	100·00	20·57	17·52	15·92	12·60	9·65	7·41	5·59	8·61	2·13
Urban under 1,000	100·00	27·53	16·49	13·70	10·74	8·83	6·66	5·61	8·39	2·05
Ontario	100·00	26·98	23·90	19·51	12·42	7·44	4·32	2·48	2·63	0·32
Rural	100·00	25·17	22·24	18·85	12·98	8·35	5·14	3·15	3·61	0·51
Urban 30,000 and over	100·00	27·99	25·71	20·57	12·13	6·61	3·45	1·78	1·62	0·14
Urban 1,000-30,000	100·00	27·59	24·09	19·42	12·16	7·27	4·26	2·40	2·53	0·28
Urban under 1,000	100·00	34·74	23·07	16·32	10·56	6·31	4·08	2·33	2·37	0·22
Manitoba	100·00	21·24	20·98	19·35	14·04	9·18	6·12	3·79	4·58	0·72
Rural	100·00	18·31	18·51	18·00	14·51	10·28	7·48	5·07	6·65	1·19
Urban 30,000 and over	100·00	25·17	24·47	21·29	13·45	7·53	4·09	2·06	1·80	0·14
Urban 1,000-30,000	100·00	21·73	22·22	20·05	13·71	9·13	6·02	3·11	3·64	0·39
Urban under 1,000	100·00	26·22	20·61	18·85	13·59	8·72	5·34	3·16	3·21	0·30
Saskatchewan	100·00	19·12	19·27	18·29	14·04	10·27	6·89	4·72	6·26	1·14
Rural	100·00	16·93	17·58	17·35	14·08	11·03	7·80	5·66	7·95	1·54
Urban 30,000 and over	100·00	24·06	24·87	21·00	13·65	7·76	4·10	2·23	2·06	0·27
Urban 1,000-30,000	100·00	22·09	22·89	19·99	14·39	9·26	5·01	2·94	3·08	0·35
Urban under 1,000	100·00	23·85	19·93	19·34	13·85	9·41	5·79	3·52	3·79	0·52
Alberta	100·00	21·13	21·50	19·71	14·07	9·29	5·81	3·63	4·25	0·61
Rural	100·00	19·17	19·48	18·43	14·18	10·41	6·99	4·65	5·78	0·91
Urban 30,000 and over	100·00	25·09	25·58	21·91	13·50	6·99	3·49	1·72	1·58	0·14
Urban 1,000-30,000	100·00	22·14	22·82	21·13	14·41	8·90	4·88	2·80	2·67	0·25
Urban under 1,000	100·00	22·30	22·52	20·82	14·71	8·50	5·22	2·87	2·80	0·26
British Columbia	100·00	28·73	24·41	20·67	12·45	6·74	3·50	1·81	1·54	0·15
Rural	100·00	28·50	23·07	19·60	12·72	7·36	4·19	2·22	2·13	0·21
Urban 30,000 and over	100·00	29·94	25·97	21·41	11·82	5·84	2·64	1·34	0·96	0·08
Urban 1,000-30,000	100·00	25·81	23·91	21·73	13·54	7·47	3·87	1·99	1·55	0·13
Urban under 1,000	100·00	28·72	22·58	20·38	12·22	7·94	4·67	1·75	1·46	0·28

pared with the estimated size distribution of completed biological families. The manner in which the percentage distribution of normal families according to number of children living at home varies from region to region may be seen from Statement CLIX. In order that the frequency of a family of given size in any region may be readily compared with the frequency throughout Canada, the percentages of families of each size in every region have been indexed with the percentages of the families of the same size for Canada as a base in Statement CLX.

CLX.—FREQUENCIES OF FAMILIES OF EACH SIZE INDEXED ON CANADA BASE, RURAL AND URBAN BY SIZE GROUPS, CANADA AND PROVINCES, 1931

Locality	Average Children per Family	Index of Frequency for Families with Given No. of Children								
		0	1	2	3	4	5	6	7-9	10 or more
CANADA	2·32	100	100	100	100	100	100	100	100	100
Rural	2·62	91	90	94	102	110	118	125	136	150
Urban 30,000 and over	1·95	110	112	108	98	87	77	69	57	43
Urban 1,000-30,000	2·22	102	104	102	99	98	96	93	88	79
Urban under 1,000	2·19	115	95	95	96	98	98	98	91	82
Prince Edward Island	2·39	101	96	92	98	105	116	116	110	89
Rural	2·44	99	94	92	101	106	118	119	115	89
Urban 30,000 and over	-	-	-	-	-	-	-	-	-	-
Urban 1,000-30,000	2·25	107	103	91	92	101	109	104	97	73
Urban under 1,000	2·15	125	92	90	81	105	117	104	63	120
Nova Scotia	2·40	98	97	94	99	108	112	116	111	89
Rural	2·43	103	93	91	97	106	115	118	117	104
Urban 30,000 and over	2·10	103	108	104	98	104	94	83	69	32
Urban 1,000-30,000	2·50	88	99	95	102	114	115	124	116	84
Urban under 1,000	2·11	113	97	101	99	95	96	84	84	43
New Brunswick	2·66	91	90	90	96	110	124	137	149	134
Rural	2·88	87	83	84	96	116	135	157	178	167
Urban 30,000 and over	2·05	105	110	108	98	89	90	79	69	50
Urban 1,000-30,000	2·34	98	103	99	93	104	109	109	104	79
Urban under 1,000	2·18	116	101	89	95	91	115	53	108	95
Quebec	2·91	91	81	83	95	110	129	149	180	240
Rural	3·55	79	64	69	88	116	152	191	271	424
Urban 30,000 and over	2·39	102	95	93	99	104	110	113	110	105
Urban 1,000-30,000	2·86	86	83	88	99	113	130	147	168	203
Urban under 1,000	2·66	115	78	76	85	103	117	148	164	195
Ontario	1·90	113	113	108	98	87	76	65	51	30
Rural	2·10	105	106	104	102	98	90	83	71	49
Urban 30,000 and over	1·71	117	122	114	96	77	61	47	32	13
Urban 1,000-30,000	1·86	115	114	107	96	85	75	63	49	27
Urban under 1,000	1·67	145	110	90	83	74	72	61	46	21
Manitoba	2·35	89	100	107	111	107	108	100	89	69
Rural	2·71	76	88	99	115	120	132	133	130	113
Urban 30,000 and over	1·85	105	116	118	106	88	72	54	35	13
Urban 1,000-30,000	2·21	91	106	111	108	107	106	82	71	37
Urban under 1,000	2·07	109	98	104	107	102	94	83	63	29
Saskatchewan	2·62	80	92	101	111	120	121	124	122	109
Rural	2·90	71	83	96	111	129	137	149	155	147
Urban 30,000 and over	1·91	100	118	116	108	91	72	59	40	26
Urban 1,000-30,000	2·13	92	109	110	114	108	88	77	60	33
Urban under 1,000	2·22	100	95	107	109	110	102	93	74	50
Alberta	2·30	88	102	109	111	109	102	96	83	58
Rural	2·57	80	92	102	112	122	123	122	113	87
Urban 30,000 and over	1·79	105	121	121	107	82	61	45	31	13
Urban 1,000-30,000	2·08	92	108	117	114	104	86	74	52	24
Urban under 1,000	2·10	93	107	115	116	99	92	76	55	25
British Columbia	1·72	120	116	114	98	79	62	48	30	14
Rural	1·83	119	110	108	100	86	74	58	42	20
Urban 30,000 and over	1·57	125	123	118	93	68	46	35	19	7
Urban 1,000-30,000	1·82	108	114	120	107	87	68	52	30	12
Urban under 1,000	1·79	120	107	113	96	93	82	46	29	27

It is evident from Statement CLX that there is a large variability from region to region in in the proportions of families of each size.   The range in the indices for each family size may be compared as follows:—

Item	For Families with Given No. of Children								
	0	1	2	3	4	5	6	7–9	10 or more
High index.......................:...........	145	123	120	115	129	152	191	271	424
Low index.................................	71	64	69	81	68	61	35	19	7
Range............................	74	59	51	34	61	91	156	252	417

The range decreases with increasing family size until we reach the family of 3 after which it commences to increase rapidly being very large in the case of families with 10 or more children. Since the average children per family ranges from 1·57 to 3·55, it is apparent that the proportions of families of those sizes which lie close to the mean remain relatively constant from region to region while there is a marked variability in the proportion of families of extreme sizes, particularly the very large families.   The variability in the percentage of childless families partly results from the fact that aged couples whose children have all left home are much more numerous in some regions than in others.   Consequently, a high proportion of childless families is not necessarily indicative of sterile marriages.

Since the number of children per family for Canada is 2·32, it is obvious that a frequency greater than that for Canada of families of any size above 3 has the effect of raising the regional average while a greater frequency of families of 0, 1 or 2 children lowers the regional average. For the sake of convenience, we may refer to families without children as childless, those with 1 or 2 children as small, those with 3, 4 or 5 children as large, and those with 6 or more children as very large.   Considering the rural and urban divisions of Canada, the average rural family is larger than that for Canada, while each of the average urban families is smaller than the Canada average.   Rural families of all sizes above 2 have frequency indices greater than 100, while families of 0, 1 or 2 children have indices less than 100.   It will be noted that the frequency of very large families is extremely high in the rural parts, which principally accounts for the large average size of the family there.

In the case of families in the urban-30,000-and-over group the frequencies of childless and small families exceed 100 while the indices for large families are all less than 100.   It is not, however, so much the high frequency of small families as the low proportions of very large families which reduces the average size of the family to 1·95.   Although the urban-1,000-30,000 average is somewhat less than the Canada average, the size distribution of families in this group most closely resembles the all-Canada distribution.   The difference in the averages is due to a frequency of small and childless families slightly above 100 and lower frequencies of large families.   There is a noticeable drop in the frequencies of very large families.   The interesting feature of the distribution of urban-under-1,000 families is the high frequency of childless families.   Very large families are more frequent in the urban-under-1,000 group than in any other urban group but not nearly so frequent as in the rural parts.   The high frequency of childless families reflects the presence in small villages of retired farmers and other aged couples whose children have left home.   If we regard families with 2 or 3 children to be of a standard size, it will be seen that standard families are least numerous in the urban-under-1,000 parts and most frequent in the cities of 30,000 and over.   *There is a tendency for the city families to be of a standard or typical size and for village and country families to range in size.*   This is easily seen by comparing standard deviations in family size:—

	Standard Deviation in Children per Family
CANADA..	2·28
Rural...	2·48
Urban 30,000 and over............................	1·95
Urban 1,000-30,000..............................	2·19
Urban under 1,000............................	2·24

Why is this tendency for families to spread in size more marked in the rural districts and small villages than in the large cities? While the age distribution of the family heads in the urban-under-1,000 group accounts for the small families, it counteracts rather than favours the presence of very large families. It was suggested in Chapter V that the difficulty in obtaining housing accommodation for large families was a serious check to population growth since very large families make such an important contribution to natural increase. There are no data available with regard to housing accommodation for large families in the country but overcrowding does not seem to entail the same hardships there as in the large cities. For instance, the family of 10 living in a 2-room house on a western farm is, in general, not nearly so badly off as a family of the same size with similar accommodation in a large city. Inability to secure adequate housing accommodation is only one of the economic checks on large families in the cities. The provision of clothing and food for a family of 10 where everything must be paid for in cash is a difficult task even for the prosperous father, while on the farm much of the food is produced at home and clothing needs are fewer. The country children in addition have plenty of room for play and recreation and the facilities to provide their own amusement while in the city it is difficult to meet such needs, less elemental than food and clothing, but very real. It is, consequently, not difficult to comprehend why the extreme density of population in the large cities tends to reduce family size. It must also be borne in mind that the child on the farm is not entirely a charge but can assist in the work on the farm by doing light but necessary work. In the countries of Eastern Europe where farming is done almost entirely without the use of machinery and children are valuable for the work they do, large families are still very popular.

CLXI.—FREQUENCIES OF FAMILIES OF EACH SIZE, CANADA AND PROVINCES, 1931

Province	Average Children per Family	Index of Frequency of Families with Given No. of Children								
		0	1	2	3	4	5	6	7–9	10 or more
CANADA....................	2·32	100	100	100	100	100	100	100	100	100
Quebec.........................	2·91	91	81	83	95	110	129	149	180	240
New Brunswick..............	2·66	91	90	90	96	110	124	137	149	134
Saskatchewan................	2·62	80	92	101	111	120	121	124	122	109
Nova Scotia..................	2·40	98	97	94	99	108	112	116	111	89
Prince Edward Island........	2·39	101	96	92	98	105	116	116	110	89
Manitoba.....................	2·35	89	100	107	111	107	108	100	89	69
Alberta.......................	2·30	88	102	109	111	109	102	96	83	58
Ontario.......................	1·90	113	113	108	98	87	76	65	51	30
British Columbia............	1·72	120	116	114	98	79	62	48	30	14

In Statement CLXI the provinces are ranked in order of decreasing average family size. It is interesting to note that they would have the same ranking based on the frequencies of families with 6, 7-9 or 10 or more children which indicates the weight of the very large families in determining average family size. Although Quebec has a higher frequency of childless families than Saskatchewan, Manitoba or Alberta, the extremely high percentage of families with 6 or more children (17·43) makes the average size of the family very large. This is also true of New Brunswick which ranks second to Quebec but in the case of Saskatchewan the large average size of the family results not so much from the frequency of very large families as from the high proportion of moderately large families and the fewness of childless families.

The size distributions of families in Nova Scotia and Prince Edward Island are similar, the latter province having a slightly higher percentage of childless families. Referring to Statement CLX, page 183, an interesting feature of family size in Nova Scotia will be noted; 'the average size of the family in localities with population 1,000-30,000 is greater than the rural average and considerably exceeds the urban 1,000-30,000 average in any of the other provinces with the exception of Quebec. This can be explained partly on a religious and partly on an occupational basis but not on a racial basis since 86·2 p.c. of the heads of families of two or more persons are British. A large percentage of the urban-1,000-30,000 population of Nova Scotia is confined to coal mining towns—Sydney, Glace Bay, New Glasgow, North Sydney, Stellarton, Sydney Mines, etc.,—and since coal miners, as a class, tend to have large families they

probably raise the average size of the family in this region. In addition, a large percentage of the British population is Roman Catholic. Comparing the size distribution of families in rural Nova Scotia with that for the urban-1,000-30,000 part, it will be seen that, while very large families are scarcely more frequent in the former region, the latter has a high proportion of large families and a much lower proportion of childless families. It might be inferred that the difficulty of supporting a large family on the small Nova Scotian farms motivates men with families to seek employment in the coal mines. The average sizes of families in Manitoba and Alberta do not differ greatly from that for Canada but it is apparent that there is less dispersion in family size than for Canada. This is most clearly brought out by comparing the standard deviations in the number of children per family which were as follows:—

CANADA.. 2·28

Manitoba.. 2·16

Alberta... 2·11

The high proportions of families of medium size will be noted in each Prairie Province. Saskatchewan has a higher frequency of very large families and fewer childless families than its two neighbouring provinces with the result that its average family is larger. This may be noted in Statement CLX.

Ontario and British Columbia are distinctive for the small average sizes of their families, the average being particularly small in the latter province. This is largely due to the scarcity of very large families in both provinces. Families of 10 or more children in Quebec are eight times as numerous as in Ontario and seventeen times as numerous as in British Columbia. It will be seen from Statement CLX that the paucity of very large families is typical of the rural and urban divisions of each province; also, that the frequencies of childless and small families are higher than in the other provinces. Childless families are either (1) broken families where the parents are aged and the children have all left home, (2) families of young married couples who have not yet had any children, (3) families which will never produce any children. The frequency of childless families in the rural and urban-under-1,000 parts of Ontario may be explained by the presence of many families of the first type. Recently married couples are probably more numerous in the cities than in the towns and villages but it would seem probable that the percentage of sterile marriages is higher in British Columbia than in the other provinces. This may be because many of the heads of families marry late in life.

Incidence of Age Distribution of Family Heads on Family Size.—In Statement CLXII the crude averages for children per family are compared with averages adjusted for the age distribution of family heads in the following manner. In Table 8, Part II, page 206, the average number of children per family is given by age groups of heads of families for each region. For example, the averages for rural Ontario were as follows:—

Age Group	Children per Family	Number of Heads in Age Group for Canada	Product
Under 25.................	0·82	67,889	53,000
25–34.....................	1·68	431,384	656,000
35–44.....................	2·73	567,599	1,379,000
45–54.....................	2·70	509,411	1,233,000
55 and over...............	1·40	572,765	739,000
		2,149,048	4,060,000
Mean.....................	–	–	2·10

The average for children per family for each age group was multiplied by the number of family heads in the age group for Canada, the products added and divided by the total number of heads at all ages. It will be noted that the averages apply to families of two or more persons since no data were available with regard to the ages of heads of normal families.

CLXII.—AVERAGE NUMBER OF CHILDREN PER FAMILY OF TWO OR MORE PERSONS, CRUDE AND
ADJUSTED FOR AGE DISTRIBUTION OF HEADS, AND RANK OF PROVINCES IN
DECREASING ORDER OF FAMILY SIZE, RURAL AND URBAN BY SIZE
GROUPS, CANADA AND PROVINCES, 1931

Province	Total		Rural		Urban 30,000 and over		Urban 1,000–30,000		Urban under 1,000	
	Crude	Adjusted	Crude	Adjusted	Crude	Adjusted	Crude	Adjusted	Crude	Adjusted
CHILDREN PER FAMILY OF TWO OR MORE PERSONS										
CANADA............	2·27	2·27	2·55	2·58	1·95	1·92	2·19	2·19	2·16	2·20
Prince Edward Island	2·28	2·40	2·32	2·45	–	–	2·19	2·29	2·06	2·15
Nova Scotia.........	2·32	2·41	2·32	2·48	2·07	2·09	2·42	2·45	2·04	2·18
New Brunswick......	2·56	2·64	2·76	2·88	2·01	2·02	2·28	2·30	2·13	2·17
Quebec..............	2·83	2·87	3·43	3·57	2·37	2·37	2·80	2·83	2·57	2·75
Ontario.............	1·88	1·89	2·05	2·10	1·72	1·70	1·85	1·87	1·65	1·83
Manitoba............	2·32	2·27	2·65	2·62	1·87	1·81	2·19	2·12	2·07	2·10
Saskatchewan........	2·58	2·50	2·84	2·77	1·93	1·86	2·13	2·02	2·21	2·12
Alberta.............	2·28	2·22	2·53	2·49	1·81	1·74	2·08	2·00	2·09	1·98
British Columbia....	1·73	1·69	1·83	1·80	1·60	1·55	1·83	1·77	1·80	1·78
RANK OF PROVINCE ACCORDING TO AVERAGES										
Prince Edward Island	5	5	6	7	5	5	4	4	4	4
Nova Scotia.........	4	4	7	6	2	2	2	2	5	2
New Brunswick......	2	2	3	2	3	3	3	3	3	3
Quebec..............	1	1	1	1	1	1	1	1	1	1
Ontario.............	8	8	8	8	8	8	8	8	9	8
Manitoba............	6	6	4	4	6	6	5	5	7	6
Saskatchewan........	3	3	2	3	4	4	6	6	2	5
Alberta.............	7	7	5	5	7	7	7	7	6	7
British Columbia....	9	9	9	9	9	9	9	9	8	9

The first two columns of Statement CLXII apply to the provinces as a whole. The adjusted averages are larger than the crude averages in each of the Eastern Provinces and smaller in each of the Western Provinces, indicating that the age distribution of heads decreased crude average family size in the East and increased it in the West. Since the average size of the Quebec family is increased by adjusting for age and that of the British Columbia family is decreased, the operation widens rather than narrows the range in the averages between provinces. It is interesting to note that the provinces have the same ranking after adjustment as before. The largest difference between the crude and adjusted averages was for Prince Edward Island, 0·12. It is apparent that the differential age distribution of family heads does little to account for the dispersion in family size from region to region.

Examining the effect of adjustment on the averages for the rural and urban divisions of Canada it will be seen that family size is increased for the rural and "urban-under-1,000" parts and is decreased for the "urban-30,000-and-over" group. No change was registered in the "urban-1,000-30,000" group. It will also be noticed that the "urban-under-1,000" average is now slightly arger than the "urban-1,000-30,000" average, the averages in each part comparing as follows:—

Locality	Adjusted Average Children per Family
Rural...............................	2·58
Urban under 1,000......................	2·20
Urban 1,000-30,000.....................	2·19
Urban 30,000 and over..................	1·92

Incidence of Race on Family Size.—The averages given in Statement CLXIII provide material for a consideration of the incidence of racial origin of head on family size. Since no data were available with regard to racial origins of heads of normal families, the averages apply to all families of 2 or more persons. Only three groups are given, British, French and other. Family size does not vary greatly among the races constituting the British group, *viz.*, English, Irish, Scottish and other British. It was not possible to separate French Canadians from French born in France. "Other" races naturally comprise an extremely heterogeneous lot but these have not been subdivided due to the difficulty of obtaining really homogeneous groups. The first

column of Statement CLXIII gives the crude average number of children per family for each region. The second column gives averages adjusted for the racial content of the population, the adjustment having been affected in the same way as that for age in Statement CLXII. The last three columns give the contributions to the adjusted averages by race while the three preceding columns give the contributions to the crude average.

CLXIII.—CRUDE AND ADJUSTED AVERAGE NUMBER OF CHILDREN PER FAMILY OF TWO OR MORE PERSONS SHOWING CONTRIBUTION BY EACH RACIAL GROUP, RURAL AND URBAN BY SIZE GROUPS, CANADA AND PROVINCES, 1931

Region	Children per Family				Contribution to Crude Average by Racial Groups			Adjusted Average (all races)	Contribution to Adjusted Average by Racial Groups		
	All Races	Crude Average			British	French	Other		British	French	Other
		British	French	Other							
CANADA	2·27	1·88	3·07	2·43	1·08	0·75	0·44	–	–	–	–
Rural	2·55	2·07	3·46	2·69	1·09	0·84	0·62	2·52	1·18	0·85	0·49
Urban 30,000 and over	1·95	1·68	2·58	2·07	1·03	0·59	0·33	1·97	0·96	0·63	0·38
Urban 1,000-30,000	2·19	1·84	3·01	2·15	1·12	0·79	0·28	2·18	1·05	0·74	0·39
Urban under 1,000	2·16	1·81	2·73	2·28	0·99	0·79	0·38	2·13	1·04	0·67	0·42
Prince Edward Island	2·28	2·22	2·72	1·98	1·89	0·38	0·03	2·30	1·27	0·67	0·36
Rural	2·32	2·27	2·68	1·92	1·94	0·35	0·03	2·31	1·30	0·66	0·35
Urban 1,000-30,000	2·19	2·07	2·91	2·14	1·73	0·42	0·04	2·28	1·18	0·71	0·39
Urban under 1,000	2·06	2·02	2·43	1·89	1·78	0·23	0·05	2·10	1·16	0·59	0·35
Nova Scotia	2·32	2·27	2·73	2·28	1·76	0·27	0·28	2·39	1·30	0·67	0·42
Rural	2·32	2·26	2·72	2·28	1·65	0·35	0·32	2·38	1·29	0·67	0·42
Urban 30,000 and over	2·07	2·04	2·44	2·10	1·76	0·13	0·18	2·15	1·17	0·60	0·38
Urban 1,000-30,000	2·42	2·39	2·86	2·36	1·94	0·21	0·27	2·50	1·37	0·70	0·43
Urban under 1,000	2·04	2·04	1·85	2·21	1·81	0·07	0·16	2·02	1·17	0·45	0·40
New Brunswick	2·56	2·21	3·46	2·27	1·49	0·98	0·09	2·54	1·27	0·85	0·42
Rural	2·76	2·36	3·54	2·28	1·46	1·22	0·08	2·64	1·35	0·87	0·42
Urban 30,000 and over	2·01	1·94	2·96	2·31	1·74	0·13	0·14	2·25	1·11	0·72	0·42
Urban 1,000-30,000	2·28	2·01	3·13	2·19	1·46	0·74	0·08	2·32	1·15	0·77	0·40
Urban under 1,000	2·13	1·91	3·55	2·19	1·56	0·45	0·12	2·36	1·09	0·87	0·40
Quebec	2·83	1·91	3·11	2·20	0·34	2·35	0·14	2·25	1·09	0·76	0·40
Rural	3·43	2·29	3·59	2·51	0·24	3·13	0·06	2·65	1·31	0·88	0·46
Urban 30,000 and over	2·37	1·82	2·62	2·15	0·44	1·68	0·25	2·07	1·04	0·64	0·39
Urban 1,000-30,000	2·80	1·83	3·07	2·20	0·35	2·36	0·09	2·20	1·05	0·75	0·40
Urban under 1,000	2·57	1·65	2·76	1·85	0·25	2·30	0·02	1·96	0·94	0·68	0·34
Ontario	1·88	1·75	2·81	2·05	1·35	0·20	0·33	2·07	1·00	0·69	0·38
Rural	2·05	1·91	3·12	2·14	1·44	0·26	0·35	2·24	1·09	0·76	0·39
Urban 30,000 and over	1·72	1·63	2·33	2·00	1·29	0·11	0·32	1·87	0·93	0·57	0·37
Urban 1,000-30,000	1·85	1·71	2·74	2·02	1·31	0·23	0·31	2·02	0·98	0·67	0·37
Urban under 1,000	1·65	1·55	2·56	1·72	1·27	0·20	0·18	1·83	0·89	0·63	0·31
Manitoba	2·32	1·97	3·09	2·73	1·13	0·18	1·01	2·39	1·13	0·76	0·50
Rural	2·65	2·21	3·34	3·04	1·10	0·25	1·30	2·65	1·27	0·82	0·56
Urban 30,000 and over	1·87	1·70	1·94	2·19	1·11	0·04	0·72	1·84	0·97	0·47	0·40
Urban 1,000-30,000	2·19	1·96	2·96	2·48	1·27	0·28	0·64	2·29	1·12	0·72	0·45
Urban under 1,000	2·07	1·93	2·43	2·45	1·40	0·08	0·59	2·14	1·10	0·59	0·45
Saskatchewan	2·58	2·19	3·05	3·00	1·14	0·15	1·29	2·55	1·25	0·75	0·55
Rural	2·84	2·39	3·24	3·17	1·04	0·18	1·62	2·74	1·37	0·79	0·58
Urban 30,000 and over	1·93	1·83	2·24	2·21	1·35	0·05	0·53	2·00	1·05	0·55	0·40
Urban 1,000-30,000	2·13	2·01	2·60	2·42	1·43	0·10	0·60	2·23	1·15	0·64	0·44
Urban under 1,000	2·21	2·04	2·63	2·47	1·25	0·14	0·82	2·26	1·17	0·64	0·45
Alberta	2·28	2·03	2·75	2·59	1·16	0·13	0·99	2·30	1·16	0·67	0·47
Rural	2·53	2·25	2·98	2·75	1·02	0·16	1·35	2·52	1·29	0·73	0·50
Urban 30,000 and over	1·81	1·76	2·02	1·97	1·38	0·06	0·37	1·86	1·01	0·49	0·36
Urban 1,000-30,000	2·08	2·00	2·28	2·30	1·42	0·06	0·60	2·12	1·14	0·56	0·42
Urban under 1,000	2·09	1·96	2·61	2·22	1·21	0·19	0·69	2·17	1·12	0·64	0·41
British Columbia	1·73	1·63	1·88	2·07	1·26	0·04	0·43	1·77	0·93	0·46	0·38
Rural	1·83	1·70	2·07	2·09	1·16	0·05	0·62	1·86	0·97	0·51	0·38
Urban 30,000 and over	1·60	1·54	1·58	1·97	1·31	0·03	0·26	1·63	0·88	0·39	0·36
Urban 1,000-30,000	1·83	1·75	1·91	2·19	1·38	0·04	0·41	1·87	1·00	0·47	0·40
Urban under 1,000	1·80	1·70	2·53	2·15	1·38	0·08	0·34	1·98	0·97	0·62	0·39

Comparing crude and adjusted averages for the rural and urban parts of Canada it will be seen that the size of the rural family has been slightly decreased by the adjustment. There are not sufficient data available to adjust for age and race simultaneously but it is interesting to note that *wherever adjustment for race tends to lower family size, adjustment for age tends to raise it and vice versa* so that the effects of the two factors tend to cancel.

Locality	Children per Family		
	Actual	Adjusted for	
		Race	Age
·Rural..	2·55	2·52	2·58
Urban 30,000 and over.......................................	1·95	1·97	1·92
Urban 1,000–30,000..	2·19	2·18	2·19
Urban under 1,000...	2·16	2·13	2·20

Is the large rural family and the small city family typical of each racial group? If the rural and urban groups are ranked in order of decreasing family size, it will be seen that they follow approximately the same order for each race.

Locality	Rank of Family Size			
	All Races	British	French	Others
Rural..	1	1	1	1
Urban 30,000 and over............................	4	4	4	4
Urban 1,000–30,000..............................	2	2	2	3
Urban under 1,000...............................	3	3	3	2

In every case the rural family is largest and the urban-over-30,000 family smallest. The ranges in the averages between these two groups are as follows:—

Range in Average Children per Family

British.. 0·39

French.. 0·98

Other races... 0·62

Too much significance should not be attached to differences in the absolute magnitudes of the ranges since the small range for the British is partly due to the fact that the averages were approaching a lower limit.

Adjusting for race considerably alters the provincial averages. The rankings of the provinces in order of average family size before and after adjustment are given below:—

CLXIV.—RANK OF PROVINCES IN DECREASING ORDER OF FAMILY SIZE ACCORDING TO CRUDE AND ADJUSTED AVERAGES AND FOR THE THREE RACIAL GROUPS, CANADA. 1931

Province	Rank according to			Racial Group		
	Crude Average (all races) (1)	Adjusted Average (2)	Difference (col. 1– col. 2) (3)	British (4)	French (5)	Other (6)
Quebec.......................................	1	7	–6	7	2	6
New Brunswick.............................	2	2	–	3	1	5
Saskatchewan...............................	3	1	2	4	4	1
Nova Scotia.................................	4	3	1	1	5	4
Prince Edward Island.......................	5	5	–	2	6	9
Manitoba....................................	6	4	2	6	3	2
Alberta......................................	7	6	1	5	8	3
Ontario......................................	8	8	–	8	7	8
British Columbia............................	9	9	–	9	9	7

Quebec which formerly ranked a high first in average family size now ranks seventh, clearly indicating that the large average size of its families results from the high proportion of the population French-Canadian.

The rankings given in Statement CLXIV are quite different for each racial group. Ontario and British Columbia have consistently low ranks for each race but in the case of the other provinces the rankings vary considerably. British families are largest in Nova Scotia, French in New Brunswick, and families with heads of other racial origins in Saskatchewan. That the French family is larger in New Brunswick than in Quebec can be traced to the weight of small

families in the cities of Montreal and Quebec and the fact that the French population of New Brunswick is mostly rural. That French families tend to be large throughout Canada may be seen from Statement CLXV.

CLXV.—RANKINGS OF RACIAL GROUPS IN DESCENDING ORDER OF FAMILY SIZE IN THE 35 RURAL-URBAN GROUPS, CANADA AND PROVINCES, 1931

Rank	No. of Localities with Heads of Families in Racial Group		
	British	French	Other
1	–	28	7
2	5	6	24
3	30	1	4

French families are largest in 28 regions and smallest in only 1, which is urban under 1,000 in Nova Scotia. In this region the families of heads belonging to other races rank first, British families second and French families third. It will be seen from Statement CLXIII, page 188, that it is the only locality where the British family is larger than the French. The explanation would appear to be that the French and British villages are in different sections of the province and that there is a high saturation in population in relation to the productiveness of the surrounding district in the French villages. Emigration has, consequently, been heavy and has left a large proportion of broken families. Other races have larger families than the French in all parts of British Columbia.

Incidence of Religion on Family Size.—Since racial composition does not account for the small size of the British Columbia family, the reason can perhaps be found in other attributes of the population. The census does not provide a break-down of family data by religion of head but it is probable that religion does have an important bearing on family size.

CLXVI.—AVERAGE NUMBER OF CHILDREN PER FAMILY, BY RACIAL ORIGIN OF HEAD, AND PER-CENTAGE OF THE POPULATION ROMAN CATHOLIC, BY RACIAL ORIGIN, CITIES WITH 30,000 POPULATION AND OVER, 1931

City	Racial Origin of Head					
	British		French		Other	
	No. Children per Family	P.C. of Population Roman Catholic	No. Children per Family	P.C. of Population Roman Catholic	No. Children per Family	P.C. of Population Roman Catholic
Brantford	1·67	8·0	1·79	42·4	2·08	47·6
Calgary	1·69	7·7	1·83	64·5	1·93	26·3
Edmonton	1·84	8·9	2·12	76·9	2·01	34·9
Halifax	2·04	39·3	2·44	79·5	2·10	27·0
Hamilton	1·68	10·2	1·99	54·5	2·01	50·2
Kitchener	1·83	16·0	2·11	59·7	1·86	32·5
London	1·57	8·8	2·02	46·5	1·96	34·1
Montreal	1·80	32·3	2·52	99·2	2·16	40·9
Ottawa	1·81	28·3	2·56	95·9	2·30	28·2
Quebec	2·13	61·7	2·97	99·7	2·29	47·5
Regina	1·80	7·1	2·15	69·1	2·28	43·6
Saint John	1·94	28·5	2·96	85·6	2·31	22·3
Saskatoon	1·86	7·1	2·31	68·7	2·09	32·3
Toronto	1·59	10·1	1·82	58·7	2·00	29·7
Trois-Rivières	1·97	40·2	3·05	99·6	2·37	56·6
Vancouver	1·55	6·6	1·54	60·0	1·96	16·0
Verdun	1·83	22·0	2·58	97·7	1·73	32·5
Victoria	1·48	5·3	1·93	52·0	2·12	6·6
Windsor	1·66	15·5	2·24	89·8	1·94	48·9
Winnipeg	1·70	6·9	1·94	76·6	2·19	41·8

The following correlations were obtained between family size and percentage of population Roman Catholic for the twenty cities given in Statement CLXVI.

Correlation

British families .... ·81

French families .... ·95

Other families .... ·16

The first two correlations are very high and clearly indicate that Roman Catholic families are above the average in size. Average family size in each city would seem to be determined largely by the proportion of the population adhering to the Roman Catholic religion.

. **Standardization of Average Family Size for Provinces.**—An attempt has been made to standardize family size in each province simultaneously for the following attributes: (1) rural and urban distribution, (2) percentage Roman Catholic, (3) percentage indigenous to province, (4) racial content. The method may be followed in Statement CLXVII. Column 1 gives the crude average number of children per family and column 2 the averages adjusted for the rural and urban distribution of the population. Column 3 gives the percentage of the male population of the Roman Catholic religion and column 4 the percentage of males indigenous to the province. The regression equations relating the average number of children per family (after adjusting for rural and urban distribution) to these two factors are given beneath the data for each racial group. It is only for the British families that the percentage of the population indigenous to the province appears to have a significant weight in determining average family size, and then it is not nearly as important as the percentage Roman Catholic.

CLXVII.—STANDARDIZATION OF FAMILY SIZE OF FAMILIES HAVING HEADS (A) BRITISH, (B) FRENCH, (C) OF OTHER RACIAL ORIGINS, CANADA AND PROVINCES, 1931

Province	Children per Family		P.C. of Males		Deviations about Unweighted Mean for Canada			Standardized Children per Family
	Crude (1)	Adjusted for Urbanization Z (2)	Roman Catholic X (3)	Born in Province Y (4)	Actual (5)	Expected (6)	Difference (7)	(8)
(A) BRITISH								
CANADA	–	2·01[1]	16·4[1]	62·6[1]	–	–	–	2·01[1]
Prince Edward Island	2·22	2·19	35·5	94·4	+0·18	+0·17	+0·01	2·02
Nova Scotia	2·27	2·21	26·0	88·8	+0·20	+0·10	+0·10	2·11
New Brunswick	2·21	2·12	19·4	88·3	+0·11	+0·06	+0·05	2·06
Quebec	1·91	2·01	30·5	62·2	–	+0·08	−0·08	1·93
Ontario	1·75	1·76	10·7	74·0	−0·25	−0·01	−0·24	1·77
Manitoba	1·97	1·97	5·2	48·0	−0·04	−0·10	+0·06	2·07
Saskatchewan	2·19	2·11	6·1	40·9	+0·10	−0·11	+0·21	2·22
Alberta	2·03	2·02	7·9	35·2	+0·01	−0·11	+0·12	2·13
British Columbia	1·63	1·66	6·7	31·3	−0·35	−0·12	−0·23	1·78

Regression equation: Z = 1·787 + 0·0058X + 0·0020Y.   Multiple correlation: R = ·59.

(B) FRENCH								
CANADA	–	2·73[1]	80·4[1]	64·7[1]	–	–	–	2·73[1]
Prince Edward Island	2·72	2·73	98·4	96·0	–	+0·33	−0·33	2·40
Nova Scotia	2·73	2·63	85·3	91·9	−0·10	−0·17	+0·07	2·80
New Brunswick	3·46	3·28	98·2	90·1	+0·55	+0·33	+0·22	2·95
Quebec	3·11	3·15	99·4	97·0	+0·42	+0·37	+0·05	2·78
Ontario	2·81	2·78	89·4	75·8	+0·05	–	+0·05	2·78
Manitoba	3·09	2·81	92·6	71·2	+0·08	+0·13	−0·05	2·68
Saskatchewan	3·05	2·78	88·8	50·4	+0·05	–	+0·05	2·78
Alberta	2·75	2·53	84·7	44·9	−0·20	−0·16	−0·04	2·69
British Columbia	1·88	1·91	67·6	30·1	−0·82	−0·80	−0·02	2·71

Regression equation: Z = − 0·637 + 0·0383X − 0·0007Y.   Multiple correlation: R = ·93.

(C) OTHER								
CANADA	–	2·32[1]	34·2[1]	53·3[1]	–	–	–	2·32[1]
Prince Edward Island	1·98	1·96	37·5	60·4	−0·36	+0·05	−0·41	1·91
Nova Scotia	2·28	2·24	20·4	83·2	−0·08	−0·17	+0·09	2·41
New Brunswick	2·27	2·27	26·0	70·7	−0·05	−0·10	+0·05	2·37
Quebec	2·20	2·34	45·7	40·0	+0·02	+0·15	−0·13	2·19
Ontario	2·05	2·07	36·4	55·0	−0·25	+0·03	−0·28	2·04
Manitoba	2·73	2·71	45·5	52·3	+0·39	+0·15	+0·24	2·56
Saskatchewan	3·00	2·78	37·4	48·3	+0·46	+0·04	+0·42	2·74
Alberta	2·59	2·45	35·0	40·5	+0·13	+0·01	+0·12	2·44
British Columbia	2·07	2·08	23·9	29·6	−0·24	−0·15	−0·09	2·23

Regression equation: Z = 1·832 + 0·0134X + 0·0006Y.   Multiple correlation: R = ·11.
[1]Unweighted mean of provincial figures.

Column 5 gives the actual deviations about the unweighted Canada mean of the averages given in column 2, and column 6 the expected deviations obtained from the regression equation. The differences between these two deviations given in column 7 are the deviations after elimination of the effects of religion and floating population. Standardized averages are obtained by adding to the Canada mean.

It is interesting to compare the crude averages in column 1 with the standardized averages. Considering the British group first, it will be observed that standardization lowers the averages in Prince Edward Island, Nova Scotia and New Brunswick and raises them in all the remaining provinces.

Three population attributes evidently combined to raise the crude averages for children per family in the Maritime Provinces, viz., (1) high rural content, (2) large Roman Catholic element, (3) indigenous nature. Standardization did not appreciably alter the averages for Ontario and Quebec but the averages of the Western Provinces were considerably raised, particularly for British Columbia. It will be noted that the standardized average for British Columbia is slightly larger than that for Ontario.

The French averages were closely affected by the percentage of the population Roman Catholic. It will be observed that the proportion French Roman Catholic in British Columbia is much smaller than in the other provinces and this would appear to account for the small average size of the family there since, after adjustment, the British Columbia family was not far below average.

CLXVIII.—COMPARISON OF STANDARDIZED AND CRUDE AVERAGE NUMBER OF CHILDREN PER FAMILY OF TWO OR MORE PERSONS, WITH RANK OF THE PROVINCES IN DECREAS-ING ORDER OF MAGNITUDE OF FAMILY SIZE, CANADA, BY PROVINCES, 1931

Province	Children per Family				Difference in Averages
	Stan-dardized	Rank	Crude	Rank	
Prince Edward Island	2·09	7	2·28	6	+0·19
Nova Scotia	2·33	3	2·32	4	−0·01
New Brunswick	2·33	2	2·56	3	+0·23
Quebec	2·19	6	2·83	1	+0·64
Ontario	2·07	9	1·88	8	−0·19
Manitoba	2·31	5	2·32	5	+0·01
Saskatchewan	2·45	1	2·58	2	+0·13
Alberta	2·32	4	2·28	7	−0·04
British Columbia	2·09	8	1·73	9	−0·36

The standardized averages for all races given in Statement CLXVIII were obtained by weighting the standardized averages for each race by the number of families of the same race in Canada. This eliminates dispersion in the averages between provinces due to differential racial content. It will be observed that the provinces, except Quebec and Alberta, have similar rankings after standardization as before. The range between the high and low average has been reduced from 0·90 to 0·38 children per family or by 58 p.c. The differences between the crude and standardized averages will indicate whether the four factors for which standardization has been effected combined to raise or lower average family size in each province.

Summary.—There are two population attributes which are so important in determining provincial average family size that they obscure the influence of less potent factors, viz., (1) rural and urban distribution and (2) religious and racial composition. After standardizing for these factors, however, it appears that average family size is somewhat larger in Nova Scotia, New Brunswick, Manitoba, Saskatchewan and Alberta than in Prince Edward Island, Quebec, Ontario and British Columbia. The large average family in the first two provinces may have an occupational basis since a high proportion of family heads are engaged in fishing, coal mining and general farming. The vast distances of the Prairie Provinces tend to segregate the rural and village populations into isolated communities while the population of Prince Edward Island, Ontario and Quebec is more closely knit due to the absence of geographical barriers and the provision of good transportation facilities. It would appear that man does not reproduce so well when he is a member of a highly integrated society. In British Columbia it is possible that the equable climate has some bearing on average family size since it attracts a comfort-loving population who will not readily assume the burden of supporting a large family.

CHAPTER XII

CONCLUSION

This monograph has treated many attributes of the Canadian family but average size has been dealt with most thoroughly. A purely quantitative property, it is most liable to statistical treatment. Average persons per household for Canada declined from a peak of 6·29 in 1861 to a low of 4·55 in 1931. There can be little doubt that the drop points to a decrease in the average number of children per normal family, *i.e.*, to a declining birth rate.

Major Causes of Our Declining Birth Rate.—The early Canadian settlers were great individualists—they built their own homes, made much of their own furniture, produced all their own food, manufactured their clothing at home and made their own soap. Even illumination was afforded by home-made tallow candles. Very little was sold and very little was bought. In this society large families were common and children were generally regarded as an asset and a blessing.

During the last seventy years, production has been centralized and activity of the individual producers has been narrowed to a specific job. Consequently, the family has become much less self-sufficient. Several concomitants of this movement are responsible for much of the decline in our birth rate.

(1) There has been a remarkable citywards trek due to the development of large-scale industries and commercial institutions in the cities. The following figures dealing with the distribution of the Canadian population indicate the trend during the past thirty years:—

Census Year	Percentage of Population Living in			
	Cities	Towns	Villages	Rural Districts
1901	21·99	10·38	5·13	62·50
1911	28·87	12·04	4·51	54·58
1921	34·05	10·89	4·58	50·48
1931	38·36	10·37	4·97	46·30

The percentage of the population living in cities has increased steadily at the expense of the percentage living in rural districts. A large proportion of the population has been removed from the environment most favourable to natural increase to that least so. At all ages the natural increase of the town population has been less than that of the rural. It will be recalled that the barbaric tribes of Northern Europe increased much more rapidly than the population of the Roman Empire, much of which was confined to towns, with the result that the former eventually overwhelmed the latter by sheer force of numbers.

A variety of causes account for the small natural increase of town populations and it would appear that as soon as one cause is removed others come into play. In previous ages, town families were probably small due to the small numbers of their members surviving from numerous plagues and epidemics. Advances in medical science and the improvement of sanitary conditions have practically wiped out this cause. The small size of the modern city family is due largely to social and economic factors. The rural family is usually somewhat isolated and the lack of human companionship makes additional children desirable. On the other hand, city children keep the housewife at home and thereby narrow her social contacts. It is generally conceded

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that the country is the most suitable environment for the child. There he enjoys comparative isolation from disease and has plenty of fresh air. The whole countryside is at his disposal for a playground. The economist would regard these as free goods. The provision of similar benefits for the city child, however, is an expensive undertaking. Much of the cost is borne by governments when they provide playgrounds, school gymnasiums and swimming pools to meet the recreational needs of children and free isolational hospitals and clinics to prevent the spread of diseases. It is obvious, however, that the expense is borne in the end by the family head in the payment of taxes. In addition, there is much out-of-pocket expense which he must meet if he is to provide his child with a happy and healthful environment. The result is that he is reluctant to assume responsibility for the support of a large family.

(2) There has undoubtedly been a very rapid increase in the proportion of heads of families dependent on wages for their living. In 1931, 56 p.c. of the heads of normal families were wage-earners. Averages for children per family according to occupational class of head were as follows:—

Industrial Status of Head	Children per Family
Employer	3·23
Own account	2·31
Wage-earner	2·17

The small average family for wage-earners probably reflects the small proportion who have large families. The wage-earner tends to restrict his family to a standard size since there is no flexibility of income with the number of his dependents. If he has a large family he must necessarily lower his standard of living and he may even suffer acute misery. In addition, he is always striving for economic independence but seldom attaining it. The insecurity complex militates against his readiness to assume the responsibility of supporting a large family.

(3) During the past seventy years there has been a marked change in farming methods and the mode of farm life. As a result, the farm family has become more like the city family in both outlook and environment and some of the factors responsible for small families in the cities have also acted to decrease the size of the farm family. The self-sufficiency of the pioneer farm family has already been pointed out. Due to the increasing emphasis placed on production for sale, the farmer has become increasingly dependent on outside sources for his general well-being. Much of the old security has, consequently, been lost and fear and pessimism have often replaced courage and optimism. In Western Canada where the farmer devotes so much attention to the production of grain, a high degree of uncertainty has been introduced by crop failures and fluctuating prices. Though it is difficult to establish direct causal relationship, one cannot help but feel that these circumstances have done much to decrease the average size of the farm household.

It has been suggested that the pioneer farmer regarded children as an asset. From an early age male children were engaged in the work of the farm while there was always plenty of work for the girls to do at home. To-day there is less work on the farm for which the boy is needed and much less work at home for the girl. Children do, moreover, represent a greater liability to the farmer. Clothes which formerly were produced at home, possibly by the children themselves, are now purchased and must be paid for in cash. A considerable proportion of the food for the farm family is to-day purchased and additional children represent additional expenditure. Even food produced at home has come to have a cash value due to the increasing emphasis placed on production for sale. The modern farmer must, consequently, regard children as a luxury.

Changing modes of production are here submitted as the most important cause of our declining birth rate. No reference has been made to the increasing use of contraceptive methods. It may often be suggested that this is entirely responsible for the decline in the birth rate. The census, of course, cannot provide statistics dealing specifically with this question but the use of contraceptive methods should be regarded as a *means* of family limitation, not as a *cause*. It is reasonable to believe, however, that the operation of the causes has been greatly facilitated by the means available.

The Maintenance of Natural Increase.—It is generally conceded that population increase is to be desired in Canada both to ensure continued development of our resources and for the purposes of self-defence. The fact that any movement reduces natural rate of population increase must, consequently, be regarded as an undesirable feature of that movement. Are we, therefore, to suggest that industrialization and the specialization of our primary industries is a bad thing and that every one should be placed on a farm, there to live in comparative isolation? Such a plan would probably be very difficult to put into practice. It is necessary, however, to stress that a declining rate of natural increase is the unfortunate concomitant of the division of labour. It seems paradoxical that the very process by which production is so greatly increased is instrumental in lessening the increase of population. As life becomes more comfortable and human hardships are banished, an increasing emphasis is placed on the sacrifices which women must make to bear children. Regardless of other factors, an improvement in living conditions for the human race *per se* makes women more reluctant to undergo the travail and inconvenience of bearing child after child.

If the present downward trend in natural increase of population continues, there is a real possibility that actual stability or retrogression will be reached. In 1931 it appeared that Canadian women were doing slightly better than reproducing themselves, their husbands and their unmarried contemporaries. That they did so, however, was due largely to the contribution of a small proportion who had extremely large families. The disappearance of these large families can only result in cessation of natural increase. At present they are largely confined to the rural parts of certain provinces where changing social outlook may eventually result in their disappearance. Much has been written concerning the difficulty of procuring immigrants of suitable calibre. If Canada can depend neither on the prolificness of a section of her people nor on immigration for the desired increments in population, the responsibility for providing this increase must be assumed by the average Canadian woman. The reproductiveness of wage-earners, since they form so large a proportion of the gainfully occupied, is of particular importance.

It is not the purpose of this monograph to urge the adoption, either by governmental action or by individuals of their own free will, of schemes whereby the rate of population growth may be maintained or increased. It is necessary, however, to point out those developments which, on the basis of this study, it is believed would be favourable to a higher rate of natural increase.

There can be little doubt that persons moving from the city to the farm will tend to have larger families than if they remained in the city. The question may be raised as to whether there will be back-to-the-land movements of proportions large enough to appreciably raise the birth rate.

Wage-earners living in towns have larger families than those living in large cities. This is probably because living conditions for the worker are better in the town. There he does not need to live in crowded tenements. Besides, he may have a garden or even a small farm where he can raise much of his own food affording him a greater sense of security. This enhanced position of security may partly explain why his family is larger than that of his city cousin. *If industries were to locate in small towns rather than in large cities the families of their workers would tend to be larger.*

Lack of security amongst wage-earners must undoubtedly act as a check on the birth rate both by delaying the age of marriage and by encouraging family limitation. If the worker could feel reasonably sure of being able to support them at all times he might be willing to have more children. *It is quite possible that a national plan of unemployment insurance may tend to stimulate the birth rate.*

On several occasions in this monograph attention has been drawn to the penalties imposed on large families in cities, particularly those of wage-earners because of their fixed income. As a result, the large family is practically non-existent in the city. In European countries, such as Belgium, France and Italy, family allowances have been introduced. Professor Carr Saunders

in his book *World Population* defines family allowances as "payments in cash, apart from and in addition to wages to employees in proportion to the number of their dependent children." Propagandists advance the following arguments in their favour:—

(1) The principle of services rendered as a basis for remuneration is partly replaced by the needs principle.

(2) The total income of workers is more fairly distributed.

(3) The birth rate is increased.

(4) The more effective protection of children is ensured.

(5) A closer link is forged between employers and workers.

Family allowances were first introduced in France by employers of their own free will. They were made compulsory by legislation in Belgium in 1930 and in France in 1932. In both countries employers are required to pay into equalization funds out of which payments are made to workers. Though not set up by law, family allowances are general in Italy due to an agreement between the Fascist Confederation of Industry and the Fascist Confederation of Industrial Workers. The Italian scheme provides for the sharing of expense equally between employers and workers. Much is to be said in favour of family allowances from the point of view of social justice. Conclusive evidence as to their effect on the birth rate is not yet available. They were probably more badly needed in European countries than in Canada. Nevertheless we should carefully study their development and give serious consideration to their practicability here.

PART II
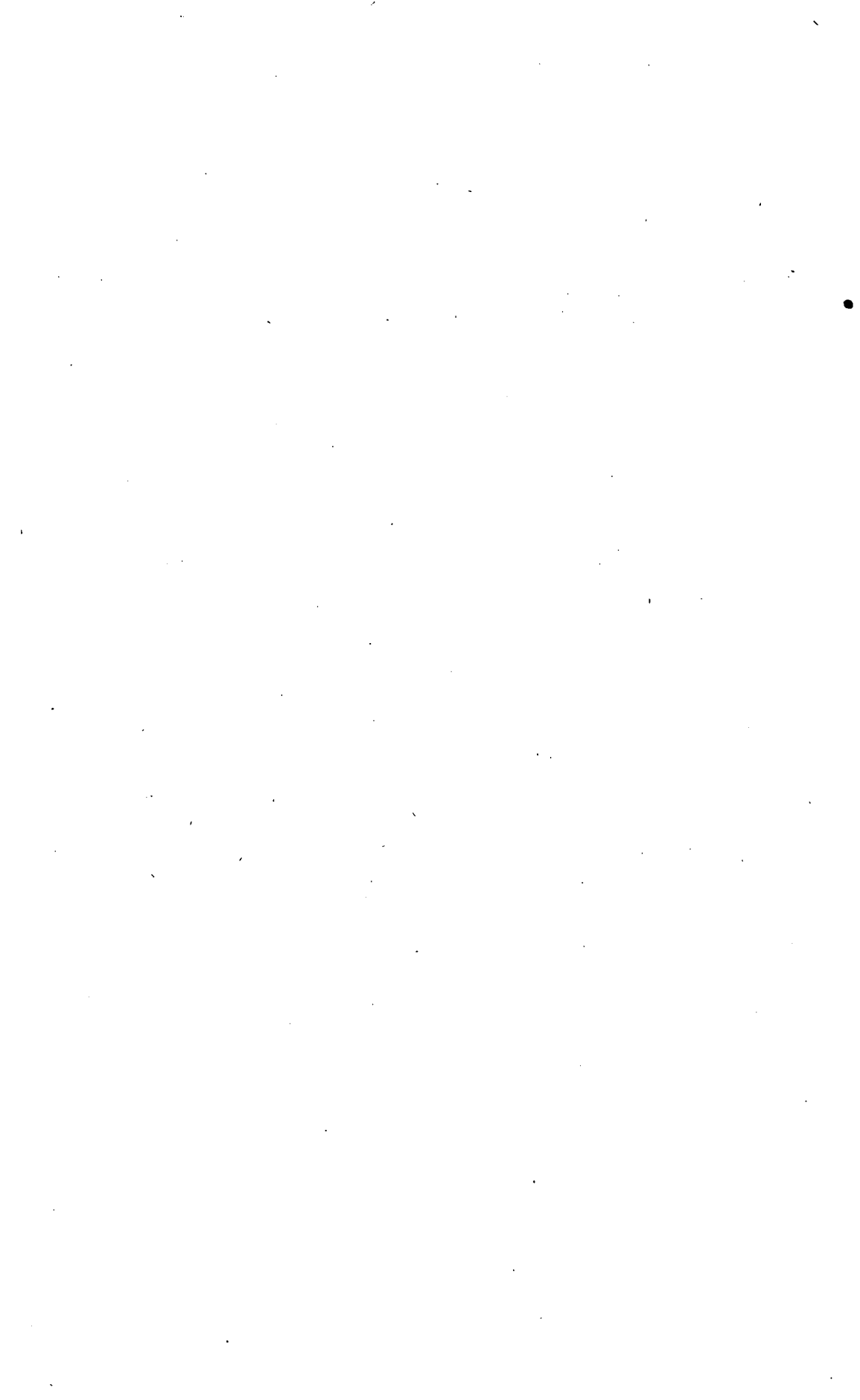
TABLE 1. Rural population, households and number of persons per household, Quebec, by counties, 1901 and 1921

County	Rural Population		Households		Persons per Rural Household		Variations in Size of Rural Household, 1901-21	
	1901	1921	1901	1921	1901	1921	Decrease	Increase
QUEBEC.....................	996,011	1,038,096	181,572	180,882	5·49	5·74	-	0·25
Abitibi and Temiskaming.......	6,183	23,139	1,490	4,120	4·15	5·62	-	1·47
Argenteuil.....................	13,657	13,007	2,493	2,463	5·48	5·28	0·20	-
Arthabaska....................	18,738	17,384	3,393	2,911	5·52	5·97	-	0·45
Bagot.........................	16,335	13,210	3,292	2,403	4·96	5·50	-	0·54
Beauce........................	31,701	31,959	5,540	5,241	5·72	6·10	-	0·38
Beauharnois...................	8,701	6,027	1,591	1,047	5·47	5·76	-	0·29
Bellechasse....................	18,706	21,108	3,436	3,784	5·44	5·58	-	0·14
Berthier......................	18,147	16,649	3,418	3,038	5·31	5·48	-	0·17
Bonaventure..................	24,495	29,092	3,946	4,911	6·21	5·92	0·29	-
Brome........................	11,316	10,360	2,412	2,190	4·69	4·73	-	0·04
Chambly-Verchères............	16,600	16,762	3,077	2,988	5·39	5·61	-	0·22
Champlain....................	28,074	27,407	4,991	4,355	5·62	6·29	-	0·67
Charlevoix....................	16,563	14,722	2,848	2,278	5·82	6·46	-	0·64
Chateauguay..................	12,742	10,198	2,487	2,012	5·12	5·07	0·05	-
Chicoutimi....................	12,023	14,182	1,829	2,117	6·57	6·70	-	0·13
Compton......................	16,287	15,312	3,268	2,903	4·98	5·27	-	0·29
Deux-Montagnes...............	12,133	11,957	2,288	2,104	5·30	5·68	-	0·38
Dorchester....................	20,697	26,388	3,906	4,464	5·30	5·91	-	0·61
Drummond....................	14,591	15,967	2,779	2,938	5·25	5·43	-	0·18
Frontenac....................	15,187	20,374	2,736	3,462	5·55	5·89	-	0·34
Gaspé........................	30,229	37,855	5,124	6,293	5·90	6·02	-	0·12
Hull.........................	24,963	24,154	4,155	4,070	6·01	5·93	0·08	-
Huntingdon...................	12,519	11,428	2,489	2,515	5·03	4·54	0·49	-
Iberville.....................	8,161	6,585	1,622	1,239	5·03	5·31	-	0·28
Joliette......................	18,035	16,800	3,473	3,074	5·19	5·47	-	0·28
Kamouraska...................	18,521	20,912	3,104	3,493	5·97	5·99	-	0·02
Labelle and Papineau..........	26,861	32,593	4,807	5,698	5·59	5·72	-	0·13
Lac-St-Jean..................	17,873	26,779	3,034	4,103	5·89	6·53	-	0·64
Laprairie....................	9,606	9,485	1,694	1,839	5·67	5·16	0·51	-
L'Assomption.................	11,456	11,032	2,272	2,192	5·04	5·03	0·01	-
Lévis........................	14,160	15,471	2,568	2,754	5·51	5·62	-	0·11
L'Islet.......................	14,439	17,090	2,635	2,904	5·48	5·88	-	0·40
Lotbinière....................	18,301	17,199	3,306	2,894	5·54	5·94	-	0·40
Maskinongé..................	13,518	14,481	2,550	2,479	5·30	5·84	-	0·54
Matane.......................	18,986	26,686	3,300	4,255	5·75	6·27	-	0·52
Mégantic.....................	18,315	17,897	3,426	3,169	5·35	5·65	-	0·30
Missisquoi....................	11,185	10,117	2,371	2,079	4·72	4·87	-	0·15
Montcalm....................	13,001	11,090	2,589	2,125	5·02	5·22	-	0·20
Montmagny...................	12,838	17,852	2,375	3,223	5·41	5·54	-	0·13
Montmorency.................	12,091	11,507	2,143	1,965	5·64	5·86	-	0·22
Montreal and Jesus Islands......	22,875	18,852	3,830	2,662	5·97	7·08	-	1·11
Napierville...................	6,722	6,118	1,232	1,132	5·46	5·40	0·06	-
Nicolet.......................	24,014	24,247	4,308	4,319	5·57	5·61	-	0·04
Pontiac......................	18,443	16,223	3,115	3,043	5·92	5·33	0·59	-
Portneuf.....................	25,591	21,741	4,672	3,685	5·48	5·90	-	0·42
Quebec.......................	20,546	18,280	3,659	2,898	5·62	6·31	-	0·69
Richelieu.....................	11,205	8,440	2,111	1,530	5·31	5·52	-	0·21
Richmond....................	11,215	12,221	2,253	2,231	4·98	5·48	-	0·50
Rimouski.....................	17,075	19,324	2,798	2,981	6·10	6·48	-	0·38
Rouville.....................	10,594	9,315	2,130	1,804	4·97	5·16	-	0·19
Saguenay....................	10,752	16,348	1,926	2,433	5·58	6·72	-	1·14
Shefford.....................	16,550	14,960	3,218	2,964	5·14	5·05	0·09	-
Sherbrooke...................	5,541	5,309	1,076	1,078	5·15	4·92	0·23	-
Soulanges....................	7,796	6,797	1,422	1,211	5·48	5·61	-	0·13
Stanstead....................	10,201	9,789	2,233	2,025	4·57	4·83	-	0·26
St-Hyacinthe.................	11,162	9,352	2,254	1,907	4·95	4·90	0·05	-
St-Jean......................	6,976	5,930	1,366	1,149	5·11	5·16	-	0·05
St-Maurice...................	18,230	15,122	3,264	2,694	5·59	5·61	-	0·02
Témiscouata.................	24,027	33,756	3,829	5,502	6·28	6·14	0·14	-
Terrebonne..................	18,628	19,196	3,485	3,569	5·35	5·38	-	0·03
Vaudreuil....................	8,114	7,509	1,412	1,283	5·75	5·85	-	0·10
Wolfe........................	13,126	13,211	2,388	2,328	5·50	5·67	-	0·17
Yamaska.....................	18,694	13,839	3,334	2,362	5·61	5·86	-	0·25

TABLE 2.   Average number of persons per rural household, and number and percentage of rural population of French racial origin, Quebec, by counties, 1901 and 1921

County	Rural Households						Rural Population of French Origin			
	1901		1921		Variation		1901		1921	
	Size	Rank	Size	Rank	Increase	Decrease	No.	P.C.	No.	P.C.
QUEBEC.....................	5·49	–	5·74	–	–	–	845,996	84·9	919,933	88·6
Chicoutimi.................	6·57	1	6·70	3	0·13	–	11,897	99·0	13,973	98·5
Témiscouata...............	6·28	2	6·14	10	–	0·14	23,545	98·0	33,144	98·2
Bonaventure...............	6·21	3	5·92	17	–	0·29	17,056	69·6	21,256	73·1
Rimouski..................	6·10	4	6·48	5	0·38	–	16,769	98·2	19,228	99·5
Hull.......................	6·01	5	5·93	16	–	0·08	13,021	52·2	14,446	59·8
Kamouraska................	5·97	6	5·99	13	0·02	–	18,461	99·7	20,785	99·4
Montreal and Jesus Islands.	5·97	7	7·08	1	1·11	–	20,671	90·4	16,638	88·3
Pontiac....................	5·92	8	5·33	47	–	0·59	5,585	30·3	5,806	35·8
Gaspé......................	5·90	9	6·02	12	0·12	–	22,640	74·9	29,399	77·7
Lac-St-Jean...............	5·89	10	6·53	4	0·64	–	17,664	98·8	26,661	99·6
Charlevoix.................	5·82	11	6·46	6	0·64	–	16,348	98·7	14,611	99·2
Matane....................	5·75	12	6·27	9	0·52	–	17,973	94·7	26,411	99·0
Vaudreuil..................	5·75	13	5·85	24	0·10	–	7,506	92·5	6,958	92·7
Beauce....................	5·72	14	6·10	11	0·38	–	31,091	98·1	31,655	99·0
Laprairie..................	5·67	15	5·16	53	–	0·51	7,359	76·6	7,019	74·0
Montmorency..............	5·64	16	5·86	22	0·22	–	11,904	98·5	11,365	98·8
Champlain.................	5·62	17	6·29	8	0·67	–	27,062	96·4	26,601	97·1
Quebec....................	5·62	18	6·31	7	0·69	–	17,534	85·3	15,802	86·4
Yamaska...................	5·61	19	5·86	23	0·25	–	18,274	97·8	13,580	98·1
Labelle and Papineau.......	5·59	20	5·72	27	0·13	–	21,291	79·3	28,615	87·8
St-Maurice................	5·59	21	5·61	34	0·02	–	17,719	97·2	14,908	98·6
Saguenay..................	5·58	22	6·72	2	1·14	–	8,530	79·3	11,028	67·5
Nicolet....................	5·57	23	5·61	35	0·04	–	23,583	98·2	23,946	98·8
Frontenac.................	5·55	24	5·89	20	0·34	–	13,463	88·6	19,471	95·6
Lotbinière.................	5·54	25	5·94	15	0·40	–	17,080	93·3	16,504	96·0
Arthabaska...............	5·52	26	5·97	14	0·45	–	18,106	96·6	17,042	98·0
Lévis......................	5·51	27	5·62	32	0·11	–	13,640	96·3	15,088	97·5
Wolfe.....................	5·50	28	5·67	29	0·17	–	12,010	91·5	12,681	96·0
Argenteuil.................	5·48	29	5·28	49	–	0·20	5,920	43·3	6,521	50·1
L'Islet....................	5·48	30	5·88	21	0·40	–	14,413	99·8	16,924	99·0
Portneuf...................	5·48	31	5·90	19	0·42	–	24,131	94·3	20,786	95·6
Soulanges.................	5·48	32	5·61	36	0·13	–	7,333	94·1	6,263	92·1
Beauharnois...............	5·47	33	5·76	26	0·29	–	8,113	93·2	5,739	95·2
Napierville................	5·46	34	5·40	45	–	0·06	6,377	94·9	5,979	97·7
Bellechasse................	5·44	35	5·58	37	0·14	–	18,640	99·6	21,077	99·9
Montmagny................	5·41	36	5·54	38	0·13	–	12,776	99·5	17,730	99·3
Chambly-Verchères........	5·39	37	5·61	33	0·22	–	15,933	96·0	14,754	88·0
Mégantic..................	5·35	38	5·65	30	0·30	–	13,722	74·9	15,294	85·5
Terrebonne................	5·35	39	5·38	46	0·03	–	17,676	94·9	17,690	92·2
Berthier...................	5·31	40	5·48	41	0·17	–	17,938	98·8	16,475	99·0
Richelieu..................	5·31	41	5·52	39	0·21	–	11,147	99·5	8,316	98·5
Deux-Montagnes............	5·30	42	5·68	28	0·38	–	9,120	75·2	11,119	93·0
Dorchester.................	5·30	43	5·91	18	0·61	–	17,821	86·1	25,124	95·2
Maskinongé...............	5·30	44	5·84	25	0·54	–	13,297	98·4	14,426	99·6
Drummond................	5·25	45	5·43	44	0·18	–	12,073	82·7	14,895	93·3
Joliette....................	5·19	46	5·27	43	0·28	–	17,590	97·5	16,435	97·8
Sherbrooke................	5·15	47	4·92	58	–	0·23	2,860	51·6	3,294	62·0
Shefford...................	5·14	48	5·05	56	–	0·09	12,969	78·4	13,248	88·6
Chateauguay...............	5·12	49	5·07	55	–	0·05	8,701	68·3	8,017	78·6
St-Jean....................	5·11	50	5·16	54	0·05	–	5,942	85·2	5,313	89·6
L'Assomption..............	5·04	51	5·03	57	–	0·01	11,140	97·2	10,598	96·1
Huntingdon................	5·03	52	4·54	63	–	0·49	4,628	37·0	5,155	45·1
Iberville..................	5·03	53	5·31	48	0·28	–	7,794	95·5	6,390	97·0
Montcalm..................	5·02	54	5·22	51	0·20	–	12,020	92·5	10,417	93·9
Compton..................	4·98	55	5·27	50	0·29	–	8,165	50·1	10,158	66·3
Richmond.................	4·98	56	5·48	42	0·50	–	7,158	63·8	9,469	77·5
Rouville..................	4·97	57	5·16	52	0·19	–	10,183	96·1	8,889	95·4
Bagot.....................	4·96	58	5·50	40	0·54	–	16,162	98·9	13,097	99·1
St-Hyacinthe..............	4·95	59	4·90	59	–	0·05	11,125	99·7	9,347	99·9
Missisquoi.................	4·72	60	4·87	60	0·15	–	5,412	48·4	6,708	66·3
Brome....................	4·69	61	4·73	62	0·04	–	3,831	33·9	4,776	46·1
Stanstead.................	4·57	62	4·83	61	0·26	–	3,748	36·7	5,467	55·8
Abitibi and Temiskaming..	4·15	63	5·62	31	1·47	–	2,356	38·1	19,422	83·9

TABLE 3. Ordinary households occupying stated number of rooms, by number of persons in household, City of Montreal, 1931

Persons in Household	Households Occupying the Following Number of Rooms															
	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 and over
TOTAL...	170,694	3,321	4,352	12,844	33,436	39,176	34,433	24,435	11,183	3,589	1,740	535	634	195	257	564
1..........	6,933	1,764	1,164	1,203	1,259	838	347	165	96	37	24	9	11	2	5	9
2..........	28,958	1,064	1,678	4,243	8,281	7,270	3,696	1,731	646	158	84	23	39	8	14	23
3..........	31,160	300	811	3,099	7,642	8,480	5,843	3,155	1,135	327	173	60	60	11	25	39
4..........	28,678	106	380	1,878	5,803	7,290	6,509	4,228	1,604	455	198	61	62	22	26	56
5..........	23,450	46	170	1,151	3,984	5,448	5,740	4,170	1,705	525	240	62	85	20	31	73
6..........	17,284	18	76	605	2,697	3,703	4,117	3,435	1,636	505	234	66	79	22	22	69
7..........	12,431	9	44	331	1,673	2,508	3,070	2,609	1,314	421	214	59	68	20	26	65
8..........	8,426	6	15	158	1,027	1,569	2,061	1,831	1,016	347	157	61	65	21	30	62
9..........	5,516	3	7	98	550	967	1,340	1,254	748	275	109	36	43	18	16	52
10..........	3,549	1	4	43	292	558	795	878	533	199	111	36	25	17	15	42
11..........	2,019	4	2	20	131	300	485	455	324	133	65	29	32	7	16	16
12..........	1,130	-	1	8	55	143	227	267	239	80	47	14	12	11	10	16
13..........	605	-	-	5	29	49	123	148	104	50	41	8	16	7	8	17
14..........	302	-	-	1	7	31	50	75	44	37	21	3	17	4	3	9
15..........	142	-	-	1	5	12	20	23	27	23	9	5	8	2	3	4
16..........	73	-	-	-	1	8	7	10	8	13	9	2	8	1	2	4
17..........	25	-	-	-	-	2	1	1	1	3	3	-	3	2	4	5
18..........	11	-	-	-	-	-	2	-	3	1	1	-	1	-	1	2
19 and over	2	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1

TABLE 4. Ordinary households occupying stated number of rooms, by number of persons in household, City of Toronto, 1931

Persons in Household	Households Occupying the Following Number of Rooms															
	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 and over
TOTAL...	149,367	2,093	7,020	15,642	14,686	18,444	48,022	15,313	14,727	6,297	3,623	1,231	1,133	331	341	464
1..........	5,704	947	1,020	1,248	668	505	634	208	238	102	71	19	21	6	6	11
2..........	28,703	719	2,902	5,774	4,156	4,088	6,408	1,926	1,575	603	318	89	75	19	23	28
3..........	32,711	329	1,880	4,498	3,833	4,646	10,036	2,956	2,489	1,053	522	190	155	38	48	38
4..........	29,550	66	773	2,354	2,900	3,913	10,968	3,385	2,908	1,153	614	185	186	50	44	51
5..........	21,600	16	285	1,039	1,618	2,556	8,560	2,684	2,566	1,114	625	214	165	51	50	57
6..........	13,538	15	81	459	802	1,346	5,352	1,813	1,919	832	478	146	135	45	50	65
7..........	7,954	1	45	150	407	744	2,960	1,073	1,279	588	322	119	141	34	34	57
8..........	4,358	-	15	55	176	352	1,581	593	778	337	232	74	73	24	25	43
9..........	2,399	-	15	31	68	167	812	317	431	214	167	61	45	17	17	37
10..........	1,296	-	2	20	33	73	388	174	249	120	108	38	40	16	11	24
11..........	733	-	2	12	11	35	183	96	157	78	69	25	28	7	14	16
12..........	380	-	-	2	8	15	80	38	84	42	39	23	24	4	3	13
13..........	188	-	-	-	4	2	30	31	24	31	18	15	13	7	5	8
14..........	105	-	-	-	2	1	17	12	19	13	12	11	10	3	3	2
15..........	62	-	-	-	-	1	7	4	6	8	10	13	5	1	3	4
16..........	35	-	-	-	-	-	2	2	5	2	10	2	8		1	3
17..........	18	-	-	-	-	-	3	-	-	2	1	2	5	1	-	4
18..........	11	-	-	-	-	-	1	1	-	2	2	3	1	1	-	-
19 and over	22	-	-	-	-	-	-	-	-	3	5	2	3	2	4	3

TABLE 5. Ordinary households occupying stated number of rooms, by number of persons in household, City of Winnipeg, 1931

Persons in Household	Households Occupying the Following Number of Rooms															
	Total	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 and over
TOTAL...	48,210	1,818	3,334	6,126	6,667	9,786	8,887	5,211	2,848	1,551	1,025	387	327	79	68	96
1..........	1,882	765	417	318	152	101	64	27	13	9	6	5	4	-	-	1
2..........	8,036	580	1,237	1,850	1,510	1,333	871	358	142	68	44	17	19	-	1	6
3..........	9,511	309	926	1,718	1,692	2,073	1,465	669	328	176	93	35	17	5	3	5
4..........	9,365	95	455	1,131	1,485	2,310	2,021	964	447	220	127	44	38	11	8	9
5..........	7,285	42	193	574	898	1,767	1,675	1,043	548	271	147	63	37	13	8	6
6..........	4,903	12	67	291	475	1,031	1,189	785	467	274	166	57	59	8	10	12
7..........	2,983	6	26	130	241	579	721	561	314	171	130	41	38	9	8	8
8..........	1,765	2	7	64	119	312	425	329	220	119	90	25	26	9	5	13
9..........	1,003	1	3	26	48	144	224	220	128	81	62	29	18	4	3	12
10..........	623	3	1	14	24	75	117	112	109	59	55	19	25	1	6	3
11..........	365	2	1	6	13	37	65	65	52	42	37	14	13	5	9	4
12..........	200	1	-	2	8	15	27	42	35	24	21	10	10	2	1	2
13..........	114	-	-	2	1	4	15	16	19	13	18	10	6	3	2	5
14..........	68	-	-	-	-	4	4	12	10	6	16	8	1	5	1	1
15..........	41	-	1	-	1	1	3	8	6	6	4	1	5	2	2	1
16..........	20	-	-	-	-	-	-	2	7	3	2	2	2	-	1	1
17..........	17	-	-	-	-	-	-	1	1	5	3	4	2	-	-	1
18..........	12	-	-	-	-	-	-	-	2	2	2	1	3	1	-	1
19 and over	17	-	-	-	-	-	1	-	-	2	2	2	4	1	-	5

TABLE 6.   Ordinary households classified according to average number of rooms per person and number of persons, City of Toronto, 1931

Rooms per Person	Households with Given Accommodation		Households with Given Accommodation or less		Rooms per Person	Households with Given Accommodation		Households with Given Accommodation or less	
	Number	Persons	Number	Persons		Number	Persons	Number	Persons
0·14	1	7	1	7	1·36	3	33	67,459	356,845
0·17	15	90	16	97	1·38	74	592	67,533	357,437
0·18	2	22	18	119	1·40	2,695	13,530	70,228	370,967
0·20	18	100	36	219	1·42	1	12	70,229	370,979
0·22	15	135	51	354	1·43	322	2,254	70,551	373,233
0·25	83	408	134	762	1·44	17	153	70,568	373,386
0·27	12	132	146	894	1·45	3	33	70,571	373,419
0·29	47	343	193	1,237	1·50	17,654	61,078	88,225	434,497
0·30	20	200	213	1,437	1·54	1	13	88,226	434,510
0·31	4	52	217	1,489	1·55	3	33	88,229	434,543
0·33	451	1,881	668	3,370	1·56	17	153	88,246	434,696
0·35	3	51	671	3,421	1·57	119	833	88,365	435,529
0·36	12	135	683	3,556	1·60	2,570	12,870	90,935	448,399
0·38	59	498	742	4,054	1·63	24	192	90,959	448,591
0·39	1	18	743	4,072	1·64	1	11	90,960	448,602
0·40	325	1,860	1,068	5,932	1·67	5,135	16,911	96,095	465,513
0·41	1	22	1,069	5,954	1·70	4	40	96,099	465,553
0·42	15	180	1,084	6,134	1·71	141	987	96,240	466,540
0·43	168	1,309	1,252	7,443	1·73	2	26	96,242	466,566
0·44	70	644	1,322	8,087	1·75	3,410	13,740	99,652	480,306
0·45	35	385	1,357	8,472	1·77	1	13	99,653	480,319
0·46	30	390	1,387	8,862	1·78	9	81	99,662	480,400
0·47	5	79	1,392	8,941	1·80	1,117	5,600	100,779	486,000
0·50	2,302	10,726	3,694	19,667	1·82	3	33	100,782	486,033
0·52	1	21	3,695	19,688	1·83	146	876	100,928	486,909
0·53	10	162	3,705	19,850	1·85	1	13	100,929	486,922
0·54	31	403	3,736	20,253	1·86	34	238	100,963	487,160
0·55	183	2,013	3,919	22,266	1·88	14	112	100,977	487,272
0·56	171	1,571	4,090	23,837	1·89	3	27	100,980	487,299
0·57	428	3,157	4,518	26,994	1·90	2	20	100,982	487,319
0·58	39	475	4,557	27,469	2·00	18,933	55,407	119,915	542,726
0·59	2	39	4,559	27,508	2·13	6	56	119,921	542,782
0·60	1,436	9,215	5,995	36,723	2·14	19	133	119,940	542,915
0·61	4	77	5,999	36,800	2·17	46	282	119,986	543,197
0·62	24	312	6,023	37,112	2·18	1	11	119,987	543,208
0·63	362	2,976	6,385	40,088	2·20	215	1,080	120,202	544,288
0·64	109	1,238	6,494	41,326	2·22	1	9	120,203	544,297
0·65	2	34	6,496	41,360	2·23	1	13	120,204	544,310
0·67	3,589	18,936	10,085	60,296	2·25	1,157	4,644	121,361	548,954
0·68	1	19	10,086	60,315	2·29	11	77	121,372	549,031
0·69	33	435	10,119	60,750	2·33	3,008	9,186	124,380	558,217
0·70	175	1,760	10,294	62,510	2·38	2	16	124,382	558,233
0·71	761	5,461	11,055	67,971	2·40	166	835	124,548	559,068
0·72	2	47	11,057	68,018	2·43	5	35	124,553	559,103
0·73	170	1,922	11,227	69,940	2·44	2	18	124,555	559,121
0·74	2	38	11,229	69,978	2·45	1	11	124,556	559,132
0·75	3,985	22,696	15,214	92,674	2·50	4,732	10,816	129,288	569,948
0·76	1	17	15,215	92,691	2·57	7	49	129,295	569,997
0·77	18	234	15,233	92,925	2·60	51	255	129,346	570,252
0·78	317	2,853	15,550	95,778	2·63	1	8	129,347	570,260
0·79	12	173	15,562	95,951	2·67	2,498	7,521	131,845	577,781
0·80	1,872	10,655	17,434	106,606	2·70	1	10	131,846	577,791
0·82	78	858	17,512	107,464	2·71	2	14	131,848	577,805
0·83	1,385	8,544	18,897	116,008	2·75	186	748	132,034	578,553
0·85	15	195	18,912	116,203	2·78	2	18	132,036	578,571
0·86	2,970	20,860	21,882	137,063	2·80	50	250	132,086	578,821
0·87	1	15	21,883	137,078	2·83	3	18	132,089	578,839
0·88	594	4,760	22,477	141,838	2·86	5	35	132,094	578,874
0·89	431	3,879	22,908	145,717	2·88	1	8	132,095	578,882
0·90	120	1,200	23,028	146,917	2·89	2	18	132,097	578,900
0·91	69	759	23,097	147,676	3·00	8,922	18,117	141,019	597,017
0·92	36	445	23,133	148,121	3·14	1	7	141,020	597,024
0·93	6	87	23,139	148,208	3·17	3	18	141,023	597,042
0·94	3	51	23,142	148,259	3·20	15	75	141,038	597,117
1·00	21,387	94,174	44,529	242,433	3·25	50	200	141,088	597,317
1·06	1	17	44,530	242,450	3·33	528	1,602	141,616	598,919
1·07	2	29	44,532	242,479	3·38	1	8	141,617	598,927
1·08	14	173	44,546	242,652	3·40	10	50	141,627	598,977
1·09	28	308	44,574	242,960	3·43	3	21	141,630	598,998
1·10	38	380	44,612	243,340	3·50	1,971	4,034	143,601	603,032
1·11	167	1,503	44,779	244,843	3·57	1	7	143,602	603,039
1·13	338	2,712	45,117	247,555	3·60	9	45	143,611	603,084
1·14	1,279	8,953	46,396	256,508	3·67	191	576	143,802	603,660
1·15	1	13	46,397	256,521	3·75	18	72	143,820	603,732
1·17	1,816	10,914	48,213	267,435	3·80	2	10	143,822	603,742
1·18	7	77	48,220	267,512	3·83	1	6	143,823	603,748
1·20	8,602	43,230	56,822	310,742	3·86	1	7	143,824	603,755
1·22	61	549	56,883	311,291	4·00	2,416	4,364	146,240	608,119
1·23	3	39	56,886	311,330	4·15	603	1,206	146,843	609,325
1·25	4,148	17,544	61,034	328,874	4·17	1	6	146,844	609,331
1·27	14	154	61,048	329,028	4·25	4	16	146,848	609,347
1·29	589	4,130	61,637	333,158	4·33	40	126	146,888	609,473
1·30	16	160	61,653	333,318	4·40	2	10	146,890	609,483
1·31	1	16	61,654	333,334	4·44	1	9	146,891	609,492
1·33	5,802	23,478	67,456	356,812	4·50	6	26	146,897	609,518

TABLE 6.   Ordinary households classified according to average number of rooms per person and number of persons, City of Toronto, 1931—Con.

Rooms per Person	Households with Given Accommodation		Households with Given Accommodation or less		Rooms per Person	Households with Given Accommodation		Households with Given Accommodation or less	
	Number	Persons	Number	Persons		Number	Persons	Number	Persons
4·67	48	144	146,945	609,662	8·50	2	4	149,122	612,491
4·75	1	4	146,946	609,666	9·00	104	107	149,226	612,598
5·00	846	1,217	147,792	610,883	9·33	1	3	149,227	612,601
5·33	10	30	147,802	610,913	9·50	1	2	149,228	612,603
5·50	90	182	147,892	611,095	10·00	73	75	149,301	612,678
5·67	2	6	147,894	611,101	11·00	22	25	149,323	612,703
6·00	710	787	148,604	611,888	12·00	21	21	149,344	612,724
6·25	2	8	148,606	611,896	13·00	6	6	149,350	612,730
6·33	1	3	148,607	611,899	14·00	6	6	149,356	612,736
6·50	20	42	148,627	611,941	15·00	7	7	149,363	612,743
6·67	2	6	148,629	611,947	16·00	1	1	149,364	612,744
7·00	232	257	148,861	612,204	20·00	2	2	149,366	612,746
7·50	15	32	148,876	612,236	21·00	1	1	149,367	612,747
8·00	244	251	149,120	612,487					

TABLE 7.   Data used in the correlation between average number of lodgers per household and related factors for urban households of one family, with wage-earner heads, consisting of husband and wife or more persons living in rented homes, by rental groups, cities of 30,000 population and over and urban by size groups, Canada, by provinces, 1931

Monthly Rental	X_1 Average No. of Lodgers per Household	X_2 Average Monthly Rent per Room in Cents	X_3 Average No. of Children per Household	X_4 Average No. of Persons per Room[1]	X_5 Monthly Earnings per Person[2]
		c.			$
Prince Edward Island—					
Urban 1,000-30,000—					
$10-$15	0·30	220	2·8	0·83	17
16- 24	0·30	290	2·7	0·68	25
25- 39	0·50	410	2·2	0·56	36
40- 59	0·24	700	1·2	0·49	60
Urban under 1,000—					
$10-$15	0·27	190	2·4	0·04	21
Nova Scotia—					
Halifax—					
$10-$15	0·15	380	2·4	1·30	15
16- 24	0·21	490	2·5	1·10	19
25- 39	0·25	610	2·4	0·85	27
40- 59	0·38	810	1·8	0·64	47
Urban 1,000-30,000—					
$10-$15	0·18	240	2·9	0·93	16
16- 24	0·22	350	2·6	0·79	23
25- 39	0·29	470	2·3	0·64	33
40- 59	0·28	660	1·9	0·55	54
Urban under 1,000—					
$10-$15	0·13	200	2·1	0·66	18
16- 24	0·20	270	1·7	0·50	33
25- 39	0·19	390	1·9	0·49	43
New Brunswick—					
Saint John—					
$10-$15	0·14	260	2·5	0·92	15
16- 24	0·16	350	2·3	0·75	24
25- 39	0·22	500	2·0	0·64	37
40- 59	0·33	770	1·3	0·54	61
Urban 1,000-30,000—					
$10-$15	0·14	240	2·6	0·86	17
16- 24	0·21	340	2·7	0·79	22
25- 39	0·27	470	2·4	0·66	33
40- 59	0·47	660	1·8	0·54	51
Urban under 1,000—					
$10-$15	0·16	170	2·0	0·55	19
16- 24	0·23	240	1·5	0·40	38
Quebec—					
Montreal—					
$10-$15	0·18	330	2·1	1·07	17
16- 24	0·06	430	2·5	1·02	23
25- 39	0·30	540	2·8	0·80	31
40- 59	0·31	860	1·7	0·67	47

[1]Lodgers not included in calculating average persons per room.
[2]Does not include lodgers or their earnings.

TABLE 7.   Data used in the correlation between average number of lodgers per household and related factors for urban households of one family, with wage-earner heads, consisting of husband and wife or more persons living in rented homes, by rental groups, cities of 30,000 population and over and urban by size groups, Canada, by provinces, 1931—Con.

Monthly Rental	X_1 Average No. of Lodgers per Household	X_2 Average Monthly Rent per Room in Cents	X_3 Average No. of Children per Household	X_4 Average No. of Persons per Room[1]	X_5 Monthly Earnings per Person[2]
		c.			$
Quebec—Con.					
Quebec City—					
$10–$15..	0·13	350	2·7	1·26	16
16– 24..	0·16	440	3·1	1·11	25
25– 39..	0·21	550	3·3	0·92	26
40– 59..	0·2S	730	2·7	0·71	39
Verdun—					
$10–$15..	0·09	350	1·8	1·05	20
16– 24..	0·14	470	2·0	0·93	25
25– 39..	0·16	630	2·1	0·82	31
40– 59..	0·25	830	2·3	0·73	53
Trois-Rivières—					
$10–$15..	0·10	300	2·9	1·16	14
16– 24..	0·16	400	3·3	1·05	19
25– 39..	0·20	520	3·3	0·88	30
40– 59..	0·16	740	2·4	0·70	49
Urban 1,000-30,000—					
$10–$15..	0·15	270	3·0	1·05	15
16– 24..	0·22	360	3·1	0·92	22
25– 39..	0·29	510	2·6	0·74	35
40– 59..	0·20	750	2·0	0·62	56
Urban under 1,000—					
$10–$15..	0·17	230	2·8	0·85	19
16– 24..	0·16	310	2·5	0·71	28
25– 39..	0·29	450	2·1	0·5S	40
40– 59..	0·16	6S0	1·7	0·54	66
Ontario—					
Toronto—					
$10–$15..	0·25	450	1·3	1·14	20
16– 24..	0·24	530	1·7	0·97	22
25– 30..	0·34	640	1·9	0·78	25
40– 59..	0·37	S90	1·6	0·65	41
Hamilton—					
$10–$15..	0·18	360	1·6	1·01	17
16– 24..	0·30	410	2·1	0·S2	19
25– 39..	0·35	580	1·9	0·72	28
40– 59..	0·22	890	1·3	0·61	54
Ottawa—					
$10–$15..	0·16	320	2·4	1·10	16
16– 24..	0·21	370	2·7	0·86	21
25– 39..	0·27	520	2·4	0·71	32
40– 59..	0·32	750	1·7	0·57	52
London—					
$10–$15..	0·18	290	1·9	0·88	17
16– 24..	0·22	3S0	2·0	0·74	21
25– 39..	0·26	530	1·8	0·63	33
40– 59..	0·27	760	1·3	0·53	55
Windsor—					
$10–$15..	0·21	390	1·5	1·05	14
16– 24..	0·19	490	1·9	0·94	15
25– 30..	0·2S	630	2·0	0·78	24
40– 59..	0·28	910	1·5	0·65	44
Kitchener—					
$10–$15..	0·17	430	1·4	1·14	18
16– 24..	0·22	470	2·0	0·92	20
25– 39..	0·32	590	2·0	0·74	2S
40– 59..	0·32	810	1·5	0·5S	56
Brantford—					
$10–$15..	0·22	2S0	2·0	0·8S	14
16– 24..	0·22	360	2·0	0·72	18
25– 39..	0·23	520	1·9	0·62	32
40– 59..	0·20	6S0	1·6	0·52	60
Urban 1,000-30,000—					
$10–$15..	0·17	260	2·1	0·84	18
16– 24..	0·23	370	2·1	0·75	23
25– 39..	0·26	530	1·9	0·65	34
40– 59..	0·25	2S0	1·5	0·20	57
Urban under 1,000—					
$10–$15..	0·14	210	2·1	0·67	22
16– 24..	0·16	310	1·9	0·61	32
25– 39..	0·14	450	2·1	0·5S	42
40– 59..	0·25	750	1·8	0·59	54

TABLE 7. Data used in the correlation between average number of lodgers per household and related factors for urban households of one family, with wage-earner heads, consisting of husband and wife or more persons living in rented homes, by rental groups, cities of 30,000 population and over and urban by size groups, Canada, by provinces, 1931—Con.

Monthly Rental	X_1 Average No. of Lodgers per House-hold	X_2 Average Monthly Rent per Room in Cents	X_3 Average No. of Children per House-hold	X_4 Average No. of Persons per Room[1]	X_5 Monthly Earnings per Person[2]
		c.	..		$
Manitoba—					
Winnipeg—					
$10–$15	0·28	470	1·5	1·30	15
16– 24	0·33	530	2·1	1·07	18
25– 39	0·38	690	2·1	0·88	28
40– 59	0·44	1,030	1·5	0·73	45
Urban 1,000–30,000—					
$10–$15	0·15	290	2·5	1·00	16
16– 24	0·21	410	2·3	0·86	24
25– 39	0·22	580	2·3	0·78	32
40– 59	0·18	840	1·8	0·67	53
Urban under 1,000—					
$10–$15	0·17	240	2·2	0·80	21
16– 24	0·22	310	2·0	0·65	35
25– 39	0·19	470	2·1	0·60	44
Saskatchewan—					
Regina—					
$10–$15	0·18	540	1·7	1·53	13
16– 24	0·26	590	1·9	1·13	19
25– 39	0·31	740	2·0	0·94	28
40– 59	0·45	990	1·6	0·74	45
Saskatoon—					
$10–$15	0·18	400	2·0	1·26	15
16– 24	0·24	500	2·1	1·00	20
25– 39	0·32	700	2·0	0·87	28
40– 59	0·46	910	1·8	0·71	46
Urban 1,000–30,000—					
$10–$15	0·15	340	2·3	1·13	16
16– 24	0·17	450	2·1	0·90	26
25– 39	0·26	590	2·0	0·75	35
40– 59	0·33	870	1·6	0·65	52
Urban under 1,000—					
$10–$15	0·15	280	2·3	0·95	22
16– 24	0·21	380	2·1	0·77	32
25– 39	0·32	530	1·9	0·66	47
Alberta—					
Calgary—					
$10–$15	0·20	490	1·5	1·32	17
16– 24	0·19	670	1·6	1·16	21
25– 39	0·26	740	1·8	0·86	31
40– 59	0·34	950	1·5	0·68	49
Edmonton—					
$10–$15	0·13	400	1·9	1·22	17
16– 24	0·19	570	1·8	1·05	23
25– 39	0·28	660	1·8	0·80	33
40– 59	0·29	870	1·6	0·66	51
Urban 1,000–30,000—					
$10–$15	0·14	310	2·2	1·03	19
16– 24	0·16	420	2·0	0·82	29
25– 39	0·20	600	1·8	0·71	40
40– 59	0·40	840	1·7	0·63	56
Urban under 1,000—					
$10–$15	0·14	300	2·1	0·95	26
16– 24	0·16	390	1·9	0·77	40
25– 39	0·21	550	1·8	0·67	49
British Columbia—					
Vancouver—					
$10–$15	0·16	400	1·6	1·12	16
16– 24	0·20	510	1·7	0·92	21
25– 39	0·25	690	1·7	0·79	32
40– 59	0·31	1,010	1·2	0·67	54
Victoria—					
$10–$15	0·10	290	1·8	0·84	20
16– 24	0·14	410	1·8	0·77	27
25– 39	0·14	600	1·6	0·68	36
40– 59	0·27	1,890	1·2	0·60	46
Urban 1,000–30,000—					
$10–$15	0·12	310	1·9	0·94	20
16– 24	0·15	430	1·9	0·82	29
25– 39	0·26	610	1·7	0·70	42
40– 59	0·48	930	1·3	0·63	64
Urban under 1,000—					
$10–$15	0·07	280	2·1	0·90	22
16– 24	0·17	390	1·9	0·74	32
25– 39	0·19	590	1·5	0·66	43

TABLE 8.   Private families of two or more persons, showing average number per family of persons, own children, guardianship children and other dependents, by age of head, rural and urban by size groups, Canada and provinces, 1931

No.	Age of Head	Total				Rural			
		Persons	Children	Guardianship Children	Other Dependents	Persons	Children	Guardianship Children	Other Dependents
1	**CANADA**	**4·22**	**2·27**	**0·039**	**0·049**	**4·53**	**2·55**	**0·049**	**0·054**
2	Under 25	2·76	0·80	0·048	0·026	2·81	0·84	0·066	0·033
3	25–34	3·74	1·74	0·023	0·034	3·97	1·96	0·029	0·038
4	35–44	4·90	2·91	0·023	0·050	5·37	3·36	0·028	0·056
5	45–54	4·92	2·97	0·034	0·054	5·41	3·42	0·042	0·062
6	55 and over	3·48	1·59	0·071	0·056	3·66	1·74	0·085	0·060
7	**Prince Edward Island**	**4·30**	**2·28**	**0·077**	**0·129**	**4·36**	**2·32**	**0·082**	**0·145**
8	Under 25	2·91	0·94	0·046	0·089	2·89	0·93	0·048	0·114
9	25–34	3·90	1·86	0·032	0·102	3·92	1·86	0·032	0·119
10	35–44	5·26	3·18	0·040	0·158	5·35	3·23	0·045	0·183
11	45–54	5·16	3·10	0·072	0·162	5·29	3·20	0·075	0·183
12	55 and over	3·56	1·60	0·122	0·108	3·61	1·62	0·126	0·117
13	**Nova Scotia**	**4·30**	**2·32**	**0·073**	**0·082**	**4·33**	**2·32**	**0·089**	**0·098**
14	Under 25	2·88	0·96	0·041	0·032	2·90	0·98	0·043	0·041
15	25–34	3·96	1·96	0·036	0·053	4·08	2·06	0·042	0·067
16	35–44	5·11	3·11	0·035	0·088	5·25	3·22	0·039	0·111
17	45–54	5·16	3·16	0·067	0·096	5·30	3·26	0·078	0·122
18	55 and over	3·51	1·57	0·125	0·087	3·52	1·54	0·142	0·095
19	**New Brunswick**	**4·55**	**2·56**	**0·063**	**0·080**	**4·78**	**2·76**	**0·074**	**0·087**
20	Under 25	2·93	0·96	0·054	0·037	2·96	0·99	0·068	0·045
21	25–34	4·12	2·10	0·037	0·057	4·31	2·26	0·043	0·065
22	35–44	5·49	3·46	0·037	0·090	5·88	3·82	0·042	0·103
23	45–54	5·48	3·47	0·059	0·097	5·86	3·82	0·069	0·108
24	55 and over	3·64	1·71	0·103	0·079	3·76	1·79	0·118	0·079
25	**Quebec**	**4·79**	**2·83**	**0·044**	**0·050**	**5·42**	**3·43**	**0·060**	**0·051**
26	Under 25	2·81	0·79	0·050	0·032	2·84	0·81	0·080	0·034
27	25–34	4·08	2·05	0·027	0·036	4·55	2·51	0·038	0·035
28	35–44	5·69	3·69	0·030	0·055	6·82	4·79	0·043	0·057
29	45–54	5·85	3·90	0·042	0·059	6·98	4·99	0·057	0·065
30	55 and over	3·87	2·01	0·074	0·052	4·12	2·21	0·091	0·049
31	**Ontario**	**3·82**	**1·88**	**0·032**	**0·051**	**4·02**	**2·05**	**0·039**	**0·062**
32	Under 25	2·73	0·78	0·030	0·019	2·78	0·82	0·039	0·027
33	25–34	3·51	1·52	0·016	0·031	3·69	1·68	0·019	0·037
34	35–44	4·40	2·43	0·017	0·049	4·74	2·73	0·021	0·058
35	45–54	4·37	2·42	0·028	0·058	4·68	2·70	0·032	0·072
36	55 and over	3·17	1·29	0·060	0·066	3·31	1·40	0·068	0·077
37	**Manitoba**	**4·26**	**2·32**	**0·035**	**0·037**	**4·61**	**2·65**	**0·042**	**0·037**
38	Under 25	2·67	0·74	0·057	0·021	2·74	0·79	0·081	0·026
39	25–34	3·57	1·58	0·025	0·032	3·85	1·85	0·029	0·036
40	35–44	4·78	2·80	0·020	0·044	5·25	3·26	0·021	0·045
41	45–54	4·93	2·99	0·029	0·039	5·46	3·50	0·038	0·038
42	55 and over	3·67	1·79	0·063	0·031	3·90	2·00	0·076	0·028
43	**Saskatchewan**	**4·54**	**2·58**	**0·038**	**0·030**	**4·81**	**2·84**	**0·040**	**0·032**
44	Under 25	2·76	0·80	0·095	0·028	2·79	0·82	0·100	0·033
45	25–34	3·76	1·77	0·029	0·028	3·91	1·91	0·030	0·032
46	35–44	·5·15	3·16	0·024	0·033	5·49	3·49	0·025	0·035
47	45–54	5·26	3·31	0·028	0·032	5·65	3·69	0·029	0·033
48	55 and over	3·77	1·88	0·069	0·024	4·02	2·12	0·070	0·026
49	**Alberta**	**4·23**	**2·28**	**0·034**	**0·030**	**4·49**	**2·53**	**0·037**	**0·032**
50	Under 25	2·69	0·74	0·070	0·032	2·72	0·77	0·070	0·041
51	25–34	3·61	1·62	0·024	0·027	3·78	1·78	0·026	0·031
52	35–44	4·75	2·77	0·021	0·033	5·11	3·12	0·023	0·036
53	45–54	4·83	2·89	0·028	0·033	5·24	3·29	0·030	0·033
54	55 and over	3·57	1·69	0·065	0·025	3·80	1·91	0·071	0·023
55	**British Columbia**	**3·65**	**1·73**	**0·030**	**0·031**	**3·77**	**1·83**	**0·039**	**0·032**
56	Under 25	2·68	0·77	0·055	0·016	2·77	0·86	0·074	0·019
57	25–34	3·33	1·36	0·019	0·024	3·51	1·54	0·023	0·024
58	35–44	4·07	2·12	0·017	0·033	4·27	2·31	0·022	0·032
59	45–54	4·03	2·11	0·023	0·033	4·17	2·23	0·030	0·034
60	55 and over	3·13	1·25	0·054	0·034	3·17	1·24	0·072	0·036

TABLE 8. Private families of two or more persons, showing average number per family of persons, own children, guardianship children and other dependents, by age of head, rural and urban by size groups, Canada and provinces, 1931

Urban 30,000 and over				Urban 1,000–30,000				Urban under 1,000				No.
Persons	Children	Guardianship Children	Other Dependents	Persons	Children	Guardianship Children	Other Dependents	Persons	Children	Guardianship Children	Other Dependents	
3.87	1.95	0.025	0.044	4.14	2.19	0.038	0.045	4.11	2.16	0.051	0.044	1
2.67	0.71	0.028	0.022	2.80	0.84	0.036	0.018	2.77	0.83	0.075	0.021	2
3.41	1.42	0.016	0.032	3.75	1.76	0.021	0.029	3.84	1.85	0.032	0.028	3
4.32	2.36	0.016	0.047	4.83	2.85	0.022	0.045	4.99	3.02	0.028	0.039	4
4.37	2.46	0.023	0.047	4.80	2.86	0.035	0.051	4.83	2.88	0.042	0.047	5
3.34	1.53	0.044	0.049	3.32	1.44	0.069	0.057	3.12	1.21	0.086	0.055	6
–	–	–	–	4.12	2.19	0.056	0.075	4.04	2.06	0.096	0.087	7
–	–	–	–	2.96	1.00	0.043	0.036	2.88	0.92	0.042	–	8
–	–	–	–	3.83	1.85	0.022	0.047	3.88	1.80	0.078	0.088	9
–	–	–	–	4.95	3.00	0.017	0.079	5.10	3.07	0.045	0.096	10
–	–	–	–	4.81	2.85	0.049	0.092	4.48	2.46	0.111	0.117	11
–	–	–	–	3.43	1.56	0.102	0.079	3.27	1.39	0.130	0.071	12
3.99	2.07	0.035	0.057	4.37	2.42	0.061	0.062	3.99	2.04	0.061	0.076	13
2.79	0.83	0.028	0.020	2.93	0.97	0.043	0.026	2.68	0.82	0.050	–	14
3.65	1.68	0.028	0.032	3.93	1.95	0.031	0.041	3.82	1.84	0.019	0.037	15
4.56	2.59	0.021	0.061	5.14	3.16	0.035	0.065	4.93	2.92	0.041	0.060	16
4.56	2.64	0.034	0.063	5.16	3.20	0.059	0.068	4.75	2.78	0.064	0.069	17
3.39	1.57	0.060	0.077	3.55	1.65	0.106	0.072	3.23	1.32	0.090	0.110	18
3.92	2.01	0.035	0.072	4.23	2.28	0.048	0.062	4.10	2.13	0.043	0.069	19
2.89	0.96	0.032	0.019	2.85	0.91	0.028	0.023	2.35	0.59	–	–	20
3.64	1.67	0.020	0.040	3.83	1.83	0.026	0.042	3.99	1.88	0.045	0.104	21
4.51	2.54	0.023	0.076	4.98	2.96	0.032	0.060	4.93	2.96	0.041	0.057	22
4.44	2.52	0.031	0.078	4.97	3.01	0.046	0.076	4.83	2.75	0.045	0.091	23
3.27	1.46	0.056	0.088	3.43	1.55	0.083	0.073	3.12	1.26	0.048	0.055	24
4.30	2.37	0.028	0.050	4.77	2.80	0.042	0.048	4.55	2.57	0.061	0.057	25
2.75	0.74	0.031	0.034	2.86	0.84	0.035	0.028	2.81	0.82	0.041	0.031	26
3.67	1.65	0.019	0.040	4.14	2.12	0.027	0.031	4.28	2.26	0.033	0.035	27
4.85	2.87	0.019	0.056	5.68	3.68	0.029	0.053	5.89	3.88	0.039	0.052	28
5.04	3.12	0.028	0.054	5.72	3.76	0.044	0.058	5.66	3.68	0.057	0.069	29
3.72	1.94	0.051	0.052	3.79	1.92	0.070	0.054	3.33	1.40	0.095	0.066	30
3.64	1.72	0.022	0.044	3.79	1.85	0.033	0.046	3.59	1.65	0.052	0.055	31
2.65	0.69	0.020	0.017	2.77	0.83	0.031	0.012	2.80	0.88	0.026	0.016	32
3.29	1.31	0.012	0.028	3.55	1.57	0.016	0.026	3.67	1.68	0.023	0.025	33
4.07	2.11	0.013	0.045	4.41	2.45	0.017	0.042	4.51	2.55	0.025	0.045	34
4.08	2.16	0.021	0.049	4.35	2.41	0.030	0.051	4.25	2.31	0.045	0.059	35
3.12	1.31	0.041	0.054	3.04	1.16	0.062	0.062	2.83	0.92	0.081	0.071	36
3.79	1.87	0.021	0.037	4.14	2.19	0.036	0.036	4.02	2.07	0.058	0.036	37
2.55	0.63	0.029	0.016	2.70	0.80	0.028	0.015	2.75	0.84	0.059	0.012	38
3.14	1.16	0.017	0.030	3.56	1.58	0.028	0.028	3.61	1.63	0.047	0.017	39
4.11	2.15	0.017	0.044	4.68	2.70	0.021	0.038	4.73	2.77	0.042	0.045	40
4.31	2.39	0.018	0.041	4.78	2.84	0.026	0.040	4.79	2.86	0.040	0.040	41
3.41	1.59	0.033	0.033	3.36	1.46	0.069	0.039	3.21	1.28	0.087	0.036	42
3.87	1.93	0.025	0.027	4.07	2.13	0.032	0.026	4.16	2.21	0.043	0.024	43
2.64	0.69	0.050	0.016	2.68	0.78	0.058	0.011	2.74	0.81	0.167	0.018	44
3.28	1.30	0.021	0.020	3.50	1.53	0.022	0.021	3.64	1.66	0.036	0.019	45
4.27	2.30	0.017	0.033	4.55	2.59	0.021	0.027	4.80	2.86	0.024	0.025	46
4.33	2.41	0.020	0.028	4.58	2.66	0.022	0.032	4.89	2.88	0.033	0.028	47
3.36	1.51	0.046	0.023	3.29	1.39	0.070	0.022	3.15	1.23	0.077	0.022	48
3.73	1.81	0.026	0.029	4.02	2.08	0.034	0.025	4.03	2.09	0.039	0.027	49
2.61	0.67	0.054	0.018	2.67	0.74	0.094	0.013	2.73	0.79	0.103	0.022	50
3.22	1.25	0.018	0.021	3.52	1.55	0.022	0.020	3.54	1.57	0.028	0.021	51
4.07	2.12	0.018	0.032	4.52	2.58	0.020	0.026	4.54	2.59	0.018	0.029	52
4.20	2.28	0.023	0.034	4.50	2.57	0.028	0.032	4.52	2.59	0.033	0.027	53
3.22	1.37	0.045	0.027	3.30	1.40	0.067	0.022	3.21	1.29	0.087	0.029	54
3.50	1.60	0.021	0.033	3.75	1.83	0.026	0.023	3.74	1.80	0.028	0.033	55
2.57	0.68	0.032	0.015	2.61	0.70	0.040	0.009	2.81	0.85	0.115	0.038	56
3.12	1.17	0.016	0.025	3.31	1.35	0.015	0.017	3.51	1.54	0.016	0.057	57
3.83	1.91	0.013	0.037	4.17	2.23	0.015	0.024	4.30	2.36	0.011	0.026	58
3.85	1.95	0.017	0.034	4.19	2.27	0.021	0.022	4.09	2.18	0.018	0.048	59
3.07	1.23	0.037	0.034	3.20	1.32	0.053	0.029	3.06	1.14	0.052	0.030	60

TABLE 9. Private families of two or more persons, showing average number per family of persons, own children, guardianship children and other dependents, by nativity and age of head, rural and urban by size groups, Canada, 1931

Age and Nativity of Head	Number per Family							
	Total				Rural			
	Persons	Children	Guardianship Children	Other Dependents	Persons	Children	Guardianship Children	Other Dependents
Canadian born	4·30	2·34	0·046	0·059	4·57	2·58	0·057	0·065
Under 25	2·78	0·81	0·053	0·028	2·82	0·84	0·071	0·035
25–34	3·86	1·85	0·027	0·038	4·06	2·05	0·032	0·043
35–44	5·12	3·12	0·028	0·062	5·58	3·56	0·033	0·069
45–54	5·15	3·18	0·042	0·071	5·61	3·61	0·051	0·080
55 and over	3·50	1·61	0·078	0·068	3·66	1·73	0·092	0·071
British born	3·77	1·84	0·025	0·030	3·94	2·00	0·030	0·030
Under 25	2·68	0·74	0·020	0·016	2·72	0·80	0·022	0·019
25–34	3·37	1·39	0·013	0·025	3·53	1·55	0·015	0·025
35–44	4·20	2·23	0·042	0·033	4·44	2·47	0·018	0·031
45–54	4·17	2·24	0·042	0·022	4·35	2·40	0·024	0·030
55 and over	3·17	1·32	0·050	0·032	3·25	1·37	0·058	0·034
United States born	4·22	2·27	0·037	0·038	4·52	2·55	0·042	0·036
Under 25	2·73	0·80	0·047	0·019	2·78	0·84	0·058	0·024
25–34	3·74	1·76	0·028	0·031	3·91	1·91	0·033	0·032
35–44	4·81	2·83	0·026	0·043	5·17	3·18	0·030	0·040
45–54	4·75	2·80	0·032	0·040	5·18	3·22	0·034	0·037
55 and over	3·38	1·49	0·072	0·037	3·60	1·67	0·083	0·033
European born	4·56	2·61	0·025	0·025	4·95	2·99	0·030	0·028
Under 25	2·66	0·71	0·038	0·022	2·72	0·77	0·054	0·026
25–34	3·53	1·54	0·015	0·022	3·82	1·82	0·019	0·026
35–44	5·03	3·05	0·015	0·030	5·55	3·55	0·018	0·035
45–54	5·47	3·54	0·020	0·027	5·98	4·03	0·025	0·031
55 and over	3·94	2·07	0·054	0·017	4·16	2·27	0·061	0·018
Elsewhere born	4·55	2·62	0·026	0·025	4·57	2·62	0·019	0·019
Under 25	2·66	0·79	0·046	0·074	2·76	0·91	–	0·091
25–34	3·61	1·62	0·023	0·030	3·73	1·74	0·012	0·025
35–44	4·71	2·76	0·016	0·029	4·75	2·77	0·019	0·025
45–54	5·02	3·12	0·023	0·020	5·00	3·09	0·014	0·010
55 and over	4·42	2·55	0·055	0·018	4·36	2·47	0·038	0·011

Age and Nativity of Head	Number per Family											
	Urban 30,000 and over				Urban 1,000-30,000				Urban under 1,000			
	Persons	Children	Guardianship Children	Other Dependents	Persons	Children	Guardianship Children	Other Dependents	Persons	Children	Guardianship Children	Other Dependents
Canadian born	3·95	2·03	0·029	0·055	4·20	2·25	0·042	0·053	4·12	2·16	0·057	0·051
Under 25	2·70	0·73	0·032	0·024	2·82	0·85	0·019	0·038	2·78	0·83	0·072	0·020
25–34	3·53	1·54	0·019	0·037	3·85	1·86	0·024	0·031	3·72	1·82	0·031	0·029
35–44	4·49	2·52	0·019	0·060	4·64	3·04	0·026	0·053	5·15	3·18	0·032	0·045
45–54	4·54	2·63	0·029	0·065	4·98	3·03	0·040	0·063	4·96	3·00	0·049	0·057
55 and over	3·40	1·60	0·049	0·064	3·34	1·46	0·072	0·066	3·13	1·21	0·089	0·064
British born	3·63	1·72	0·020	0·030	3·84	1·90	0·029	0·030	3·84	1·89	0·038	0·029
Under 25	2·63	0·69	0·014	0·014	2·74	0·79	0·019	0·014	2·79	0·77	0·144	0·042
25–34	3·23	1·25	0·012	0·026	3·48	1·49	0·014	0·025	3·50	1·52	0·020	0·021
35–44	3·98	2·03	0·012	0·034	4·31	2·33	0·015	0·033	4·35	2·39	0·024	0·025
45–54	4·00	2·09	0·018	0·031	4·27	2·33	0·026	0·030	4·30	2·35	0·027	0·030
55 and over	3·14	1·32	0·038	0·030	3·14	1·27	0·060	0·033	2·98	1·07	0·069	0·035
United States born	3·67	1·75	0·027	0·042	4·09	2·14	0·034	0·040	4·18	2·24	0·039	0·029
Under 25	2·63	0·69	0·030	0·019	2·75	0·81	0·038	0·011	2·75	0·92	0·060	–
25–34	3·37	1·40	0·018	0·033	3·74	1·75	0·024	0·030	3·74	1·78	0·033	0·016
35–44	4·08	2·13	0·019	0·049	4·70	2·73	0·023	0·044	4·77	2·83	0·024	0·033
45–54	4·02	2·11	0·026	0·044	4·49	2·56	0·031	0·045	4·59	2·65	0·035	0·032
55 and over	3·08	1·26	0·050	0·044	3·23	1·33	0·065	0·044	3·19	1·28	0·073	0·033
European born	4·11	2·17	0·015	0·023	4·27	2·32	0·023	0·018	4·37	2·43	0·041	0·022
Under 25	2·56	0·60	0·021	0·021	2·69	0·76	0·033	0·005	2·66	0·79	0·038	0·050
25–34	3·24	1·25	0·011	0·020	3·39	1·40	0·012	0·013	3·70	1·73	0·031	0·017
35–44	4·49	2·53	0·011	0·028	4·64	2·67	0·014	0·022	4·71	2·81	0·019	0·026
45–54	4·87	2·97	0·012	0·024	5·06	3·15	0·021	0·019	5·21	3·29	0·033	0·026
55 and over	3·70	1·86	0·033	0·015	3·65	1·76	0·060	0·016	3·22	1·31	0·084	0·015
Elsewhere born	4·45	2·53	0·025	0·029	4·78	2·86	0·034	0·028	4·32	2·43	0·080	0·036
Under 25	2·70	0·76	0·056	0·074	2·47	0·87	–	0·067	2·17	0·17	–	–
25–34	3·47	1·48	0·020	0·030	3·81	1·84	0·024	0·032	3·50	1·35	–	–
35–44	4·52	2·59	0·012	0·030	5·14	3·16	0·022	0·034	4·71	2·81	–	–
45–54	5·05	3·15	0·025	0·027	5·02	3·14	0·031	0·020	4·70	2·91	–	–
55 and over	4·40	2·54	0·059	0·022	4·63	2·74	0·075	0·025	3·97	2·26	–	–

TABLE 10. Number of families of two or more persons and number of own children living at home, by racial origin of head, rural and urban by size groups, Canada and provinces, 1931

Province	Racial Origin							
	All Races		British		French		Other and Unspecified	
	Families	Own Children	Families	Own Children	Families	Own Children	Families	Own Children
CANADA	2,149,048	4,881,050	1,230,184	2,312,702	525,730	1,612,953	393,134	955,395
Rural	943,099	2,406,411	497,723	1,031,056	229,610	795,161	215,766	580,194
Urban 30,000 and over	668,206	1,300,442	410,690	690,029	152,365	392,385	105,151	218,028
Urban 1,000-30,000	450,545	986,240	274,299	505,658	118,454	356,298	57,792	124,284
Urban under 1,000	87,198	187,957	47,472	85,959	25,301	69,109	14,425	32,889
Prince Edward Island	18,334	41,871	15,646	34,770	2,402	6,536	286	565
Rural	14,072	32,628	12,056	27,374	1,825	4,888	191	366
Urban 30,000 and over	-	-	-	-	-	-	-	-
Urban 1,000-30,000	3,564	7,807	2,977	6,157	510	1,485	77	165
Urban under 1,000	698	1,436	613	1,239	67	163	18	34
Nova Scotia	106,842	247,623	82,703	187,663	10,779	29,489	13,340	30,471
Rural	58,913	136,663	42,987	97,038	7,584	20,642	8,342	18,983
Urban 30,000 and over	12,376	25,615	10,662	21,800	634	1,549	1,080	2,266
Urban 1,000-30,000	33,662	81,483	27,375	65,405	2,509	7,165	3,778	8,913
Urban under 1,000	1,891	3,862	1,679	3,420	72	133	140	309
New Brunswick	81,212	208,139	54,979	121,289	22,951	79,410	3,282	7,440
Rural	53,725	148,419	33,183	78,204	18,560	65,701	1,982	4,514
Urban 30,000 and over	10,565	21,231	9,465	18,391	456	1,350	644	1,490
Urban 1,000-30,000	16,459	37,503	11,952	23,971	3,877	12,153	630	1,379
Urban under 1,000	463	986	379	723	58	206	26	57
Quebec	537,234	1,521,774	96,731	184,415	406,225	1,261,926	34,278	75,433
Rural	181,754	623,867	18,891	43,331	158,729	570,146	4,134	10,390
Urban 30,000 and over	211,676	501,022	51,416	93,377	135,369	354,051	24,891	53,594
Urban 1,000-30,000	118,036	330,552	22,431	41,138	90,671	278,554	4,934	10,860
Urban under 1,000	25,768	66,333	3,993	6,569	21,456	59,175	319	589
Ontario	783,857	1,469,827	603,379	1,056,272	56,359	158,592	124,119	254,963
Rural	293,388	600,691	220,528	420,376	24,693	77,135	48,167	103,180
Urban 30,000 and over	261,395	449,524	207,376	337,559	12,298	28,610	41,721	83,355
Urban 1,000-30,000	209,503	387,347	159,446	273,416	17,882	49,045	32,175	64,886
Urban under 1,000	19,571	32,265	16,029	24,921	1,486	3,802	2,056	3,542
Manitoba	143,189	331,693	81,968	161,563	8,156	25,194	53,065	144,936
Rural	74,338	197,093	36,903	81,503	5,563	18,601	31,872	96,989
Urban 30,000 and over	48,662	90,940	31,651	53,875	980	1,899	16,031	35,166
Urban 1,000-30,000	15,495	33,928	10,013	19,616	1,461	4,324	4,021	9,988
Urban under 1,000	4,694	9,732	3,401	6,569	152	370	1,141	2,793
Saskatchewan	177,732	458,861	92,387	202,457	8,805	26,886	76,540	229,518
Rural	116,831	331,614	50,531	120,873	6,492	21,003	59,808	189,738
Urban 30,000 and over	21,044	40,548	15,537	28,363	440	985	5,067	11,200
Urban 1,000-30,000	18,381	39,154	13,144	26,371	694	1,801	4,543	10,982
Urban under 1,000	21,476	47,545	13,175	26,850	1,179	3,097	7,122	17,598
Alberta	148,551	338,379	85,145	172,837	6,992	19,203	56,414	146,339
Rural	86,924	220,165	39,647	89,096	4,723	14,062	42,554	117,007
Urban 30,000 and over	37,037	66,921	28,992	51,010	1,101	2,226	6,944	13,685
Urban 1,000-30,000	13,997	29,176	9,956	19,880	401	914	3,640	8,382
Urban under 1,000	10,593	22,117	6,550	12,851	767	2,001	3,276	7,265
British Columbia	152,097	262,883	117,246	191,436	3,041	5,717	31,810	65,730
Rural	63,154	115,271	42,997	73,261	1,441	2,983	18,716	39,027
Urban 30,000 and over	65,451	104,641	55,591	85,654	1,087	1,715	8,773	17,272
Urban 1,000-30,000	21,448	30,290	17,005	29,704	449	857	3,994	8,729
Urban under 1,000	2,044	3,681	1,653	2,817	64	162	327	702

TABLE 11.   Average earnings of heads of families, average number of children earning per family and average earnings per child, by selected occupations of heads, Canada, by provinces[3], 1931

No.	Occupation	Nova Scotia			New Brunswick			Quebec		
		Average Earnings of Heads	Children per Family Earning	Earnings per Child	Average Earnings of Heads	Children per Family Earning	Earnings per Child	Average Earnings of Heads	Children per Family Earning	Earnings per Child
		$		$	$		$	$		$
1	Farm labourers	4·81	0·25	3·23	4·31	0·22	2·81	5·19	0·32	3·80
2	Fishermen	4·84	0·39	2·68	4·62	0·37	2·19	3·90	0·36	3·04
3	Lumbermen	4·17	0·30	2·73	3·45	0·32	2·45	4·43	0·34	2·66
4	Miners	6·84	0·35	4·42	7·15	0·32	3·74	7·76	0·20	3·08
5	Labourers (mining)	6·04	0·34	4·54	4·79	0·19	3·07	6·35	0·37	3·50
6	Bakers (mfg.)	10·67	0·20	6·43	11·09	0·30	5·21	9·67	0·54	5·03
7	Butchers and slaughterers (mfg.)	10·27	0·47	5·23	9·39	0·19	3·72	10·26	0·44	5·23
8	Tailors (mfg.)	10·12	0·56	5·11	10·73	0·52	5·90	9·47	0·64	5·79
9	Compositors; printers, n.s.	14·12	0·23	5·09	15·95	0·25	7·17	15·72	0·42	6·31
10	Moulders, core makers, and casters	9·13	0·39	4·57	9·49	0·48	4·90	8·99	0·57	5·13
11	Blacksmiths, hammermen, and forgemen (mfg.)	8·28	0·45	4·67	10·32	0·45	3·87	9·83	0·71	4·94
12	Machinists (mfg.)	10·51	0·34	5·05	12·96	0·35	5·47	11·33	0·53	5·45
13	Boilermakers,platers,and riveters(mfg.)	9·22	0·52	4·48	12·86	0·37	5·26	10·24	0·55	5·13
14	Mechanics, n.e.s. (mfg.)	10·21	0·18	4·82	11·08	0·13	4·43	11·42	0·74	4·83
15	Brick and stone masons	8·48	0·37	4·34	10·00	0·55	3·79	9·31	0·32	4·68
16	Carpenters	7·04	0·45	4·17	7·65	0·47	3·90	8·62	0·71	4·54
17	Electricians and wiremen	13·35	0·23	4·81	13·33	0·13	5·88	12·90	0·25	5·18
18	Painters, decorators, and glaziers	7·24	0·37	4·56	8·48	0·40	4·57	8·67	0·46	4·70
19	Plumbers, steam fitters, and gas fitters	10·38	0·24	6·37	12·28	0·26	4·87	10·91	0·41	5·10
20	Agents—ticket and station (railway)	18·32	0·18	7·21	18·04	0·21	7·11	20·56	0·28	6·94
21	Conductors (steam railway)	19·27	0·49	5·69	21·96	0·44	5·09	20·20	0·48	6·34
22	Locomotive engineers	19·70	0·45	4·85	22·47	0·44	6·05	20·00	0·48	5·87
23	Locomotive firemen	14·32	0·19	3·92	14·90	0·23	3·93	13·99	0·25	3·71
24	Brakemen	13·91	0·22	4·43	15·15	0·15	4·60	14·21	0·32	4·30
25	Conductors and motormen (street car)	13·63	0·20	5·03	13·65	0·10	5·70	13·07	0·41	5·21
26	Section foremen, sectionmen; trackmen	9·68	0·37	3·81	10·00	0·28	4·02	10·11	0·44	3·63
27	Seamen, sailors, and deckhands	7·58	0·25	3·73	6·92	0·22	5·16	7·39	0·30	3·79
28	Truck drivers	8·63	0·14	4·05	8·55	0·16	4·42	9·51	0·22	4·33
29	Teamsters, draymen, carriage drivers	7·95	0·32	4·27	7·22	0·36	3·44	8·37	0·46	4·09
30	Shippers (warehousing and storage)	10·95	0·34	5·00	11·08	0·36	5·50	11·51	0·45	5·93
31	Commercial travellers	20·10	0·23	6·44	18·58	0·24	7·55	18·98	0·39	6·97
32	Salesmen	11·78	0·22	6·12	12·43	0·18	6·18	12·83	0·30	5·96
33	Police and detectives	14·13	0·23	4·83	13·62	0·30	5·50	15·81	0·43	5·86
34	Clergymen	16·43	0·12	4·99	16·62	0·15	7·38	19·90	0·32	8·40
35	Teachers—school	19·18	0·10	7·35	17·74	0·12	5·73	19·67	0·22	7·17
36	Engineers[1] (professional service)	21·54	0·21	4·98	21·43	0·25	6·06	29·61	0·22	7·32
37	Accountants and auditors	22·86	0·18	7·10	21·71	0·17	7·94	25·39	0·27	8·28
38	Janitors and sextons	8·23	0·44	4·93	8·44	0·51	4·58	8·56	0·52	5·77
39	Watchmen and caretakers	9·05	0·52	5·05	8·78	0·59	4·55	8·99	0·78	5·16
40	Cooks	7·85	0·36	4·10	6·78	0·31	3·46	8·90	0·34	4·28
41	Other clerical (office clerks)	14·25	0·25	6·16	14·76	0·19	5·97	15·06	0·28	6·79
42	Labourers and unskilled workers[2]	4·82	0·32	3·33	4·80	0·33	3·03	6·03	0·51	3·73
43	Unweighted mean for all occupations	11·43	–	4·87	11·81	–	4·86	12·23	–	5·19

[1] Exclusive of mining engineers.
[2] Not agricultural, mining, or logging.
[3] Exclusive of Prince Edward Island.

TABLE 11.   Average earnings of heads of families, average number of children earning per family and average earnings per child, by selected occupations of heads, Canada, by provinces[3], 1931

Ontario			Manitoba			Saskatchewan			Alberta			British Columbia			No.
Average Earning of Heads	Children per Family Earning	Earnings per Child	Average Earnings of Heads	Children per Family Earning	Earnings per Child	Average Earnings of Heads	Children per Family Earning	Earnings per Child	Average Earnings of Heads	Children per Family Earning	Earnings per Child	Average Earnings of Heads	Children per Family Earning	Earnings per Child	
$		$	$		$	$		$	$		$	$		$	
5·34	0·23	4·30	3·21	0·16	2·71	3·22	0·13	2·14	4·13	0·12	3·45	6·03	0·22	4·44	1
7·48	0·22	4·50	3·31	0·27	2·15	-	-	-	-	-	-	5·36	0·26	3·43	2
4·72	0·28	3·23	3·49	0·31	1·37	-	-	-	6·46	0·21	3·19	6·70	0·13	3·86	3
12·30	0·14	5·77	9·77	0·06	1·50	4·99	0·24	3·21	7·44	0·21	4·65	7·70	0·38	4·36	4
8·46	0·22	4·19	7·55	0·21	4·95	6·15	0·09	3·68	6·89	0·31	5·02	8·50	0·24	5·32	5
10·80	0·35	5·87	10·15	0·33	5·07	11·50	0·18	6·11	11·30	0·26	5·45	11·64	0·35	6·18	6
10·45	0·32	6·01	9·36	0·45	5·66	9·06	0·23	5·85	10·27	0·22	5·58	11·65	0·32	6·12	7
9·14	0·59	6·01	8·34	0·49	5·61	9·58	0·46	6·03	9·78	0·43	6·68	9·70	0·53	5·90	8
16·55	0·27	7·31	17·41	0·30	7·15	19·96	0·21	7·84	18·91	0·25	7·12	17·73	0·29	6·61	9
7·35	0·44	5·03	10·07	0·38	4·03	-	-	-·	9·23	0·32	6·02	11·43	0·39	5·12	10
9·46	0·45	5·55	10·80	0·43	6·29	8·40	0·30	6·45	11·22	0·34	5·25	10·48	0·40	5·70	11
10·49	0·33	5·82	12·60	0·31	6·49	11·58	0·27	5·70	12·47	0·27	5·98	11·99	0·28	6·20	12
10·59	0·43	5·64	12·12	0·54	4·94	13·56	0·52	5·64	11·65	0·34	4·40	10·83	0·50	5·94	13
11·25	0·18	5·94	10·58	0·16	4·77	9·83	0·04	4·90	10·90	0·11	5·20	11·74	0·15	5·48	14
8·36	0·56	5·61	8·14	0·59	5·38	7·82	0·46	5·28	8·78	0·43	4·84	10·07	0·51	6·23	15
8·62	0·48	5·69	8·46	0·51	4·99	6·36	0·39	4·64	8·47	0·41	5·77	8·63	0·45	5·72	16
14·13	0·19	6·10	14·93	0·22	5·39	14·19	0·22	7·48	15·06	0·13	6·48	14·58	0·16	6·60	17
8·53	0·37	5·52	9·02	0·38	5·19	7·68	0·28	5·46	8·70	0·30	5·81	8·26	0·38	5·49	18
11·41	0·30	5·62	11·83	0·37	6·06	11·86	0·39	6·10	12·10	0·30	5·78	11·57	0·33	5·90	19
19·71	0·18	6·82	21·30	0·17	6·98	20·21	0·11	5·57	20·40	0·14	7·31	22·20	0·24	7·12	20
21·88	0·42	6·52	22·47	0·35	6·36	22·43	0·20	5·47	22·74	0·27	6·95	21·45	0·31	5·63	21
23·55	0·37	6·35	22·48	0·36	6·00	24·62	0·21	5·56	23·29	0·29	5·59	21·64	0·29	5·82	22
15·23	0·16	5·50	10·93	0·12	4·49	12·78	0·13	4·77	12·37	0·07	3·50	13·47	0·05	5·96	23
14·95	0·21	5·49	13·64	0·24	5·32	12·30	0·13	4·09	13·48	0·11	5·45	14·09	0·17	4·47	24
13·48	0·37	6·18	12·28	0·41	5·72	15·50	0·35	6·40	14·41	0·35	5·86	14·78	0·34	6·16	25
10·51	0·28	4·48	9·07	0·27	3·16	9·88	0·18	3·69	10·69	0·17	4·46	10·46	0·20	4·62	26
8·90	0·20	5·13	-	-	-	-	-	-	-	-	-	9·26	0·22	5·48	27
9·72	0·16	5·24	9·55	0·17	4·74	9·47	0·17	4·50	9·99	0·16	5·48	10·29	0·17	5·12	28
9·06	0·38	4·94	8·42	0·42	3·83	8·41	0·35	4·31	8·79	0·26	5·23	8·97	0·29	5·11	29
11·07	0·32	6·16	12·14	0·36	6·41	12·50	0·26	6·56	12·29	0·22	5·97	12·72	0·32	6·28	30
21·33	0·27	7·86	17·85	0·33	7·27	18·10	0·23	6·01	18·64	0·21	6·38	10·20	0·30	6·56	31
14·08	0·21	6·94	13·78	0·24	6·31	12·71	0·14	4·95	13·76	0·17	6·33	13·47	0·22	6·51	32
17·09	0·25	6·40	16·36	0·27	5·83	15·70	0·16	6·24	16·57	0·20	6·81	16·89	0·20	5·67	33
19·18	0·20	7·95	18·65	0·24	6·86	15·35	0·11	6·47	15·63	0·15	7·76	17·27	0·17	6·35	34
24·90	0·12	9·29	18·03	0·17	5·73	16·55	0·05	5·78	18·09	0·07	7·83	21·87	0·15	7·75	35
28·16	0·15	7·48	27·41	0·18	7·37	22·40	0·15	6·20	24·37	0·15	6·67	22·05	0·20	6·93	36
24·12	0·15	8·93	23·15	0·21	8·42	24·22	0·12	7·03	23·38	0·16	7·95	21·64	0·19	7·09	37
9·52	0·49	6·02	19·17	0·49	6·07	8·59	0·40	4·65	9·90	0·39	6·13	9·43	0·44	5·95	38
10·17	0·55	5·78	10·26	0·49	5·05	10·47	0·36	5·32	10·41	0·43	5·62	10·43	0·39	6·10	39
9·43	0·23	5·30	9·19	0·22	4·56	8·56	0·22	4·63	9·97	0·16	5·96	8·78	0·28	5·52	40
15·36	0·21	7·22	15·40	0·22	6·81	14·90	0·19	6·67	14·88	0·22	7·39	14·66	0·25	7·06	41
6·24	0·35	4·34	5·32	0·33	3·61	4·99	0·27	3·18	5·98	0·26	4·36	6·70	0·32	4·84	42
12·94	-	5·95	12·40	-	5·28	12·55	-	5·38	12·85	-	5·79	12·56	-	5·78	43

TABLE 12.   Occupations ranked according to earnings of heads of families, size of family, earnings of children, percentage of children 15 years of age and over at school and children gainfully occupied, Quebec, 1930-1931

Occupation	X₁ Earnings of Heads	X₂ Smallness of Family	X₃ Earnings of Children	X₄ P.C. of Children 15 Years of Age and over at School	X₅ Children Gainfully Occupied	X₆ Children Gainfully Occupied as P.C. of Children 15 Years of Age and over
Engineers[1] (professional service)	1	3	3	3	41	41
Accountants and auditors	2	8	2	4	37	36
Agents—ticket and station (railway)	3	33	6	2	34	42
Conductors (steam railway)	4	39	8	6	13	40
Locomotive engineers	5	32	12	8	12	37
Clergymen	6	1	1	1	29	39
Teachers—school	7	5	4	5	40	31
Commercial travellers	8	13	5	7	23	33
Police and detectives	9	22	13	16	19	28
Compositors; printers, n.s.	10	11	9	15	20	21
Other clerical (office clerks)	11	4	7	12	36	25
Brakemen	12	37	31	10	31	35
Locomotive firemen	13	36	37	9	38	38
Conductors and motormen (street car)	14	27	18	11	22	30
Electricians and wiremen	15	15	19	14	39	29
Salesmen	16	6	10	13	33	23
Shippers (warehousing and storage)	17	10	11	22	16	6
Mechanics, n.e.s. (mfg.)	18	18	26	17	2	27
Machinists (mfg.)	19	19	16	23	9	10
Plumbers, steam fitters, and gas fitters	20	23	23	18	21	19
Butchers and slaughterers (mfg.)	21	17	17	21	18	11
Boilermakers, platers, and riveters (mfg.)	22	21	21	32	7	7
Section foremen, sectionmen; trackmen	23	42	38	24	17	34
Blacksmiths, hammermen, and forgemen (mfg.)	24	34	25	35	4	12
Bakers (mfg.)	25	24	24	33	8	3
Truck drivers	26	9	30	25	42	17
Tailors (mfg.)	27	12	14	20	5	2
Brick and stone masons	28	30	28	37	28	14
Moulders, coremakers, and casters	29	26	22	38	6	1
Watchmen and caretakers	30	25	20	39	1	8
Cooks	31	7	32	30	27	13
Painters, decorators, and glaziers	32	14	27	22	15	9
Carpenters	33	41	29	28	3	16
Janitors and sextons	34	2	15	19	10	15
Teamsters, draymen, carriage drivers	35	29	33	40	14	5
Miners	36	28	40	26	35	26
Seamen, sailors, and deckhands	37	20	35	29	32	32
Labourers (mining)	38	38	39	36	24	20
Labourers and unskilled workers[2]	39	31	36	41	11	4
Farm labourers	40	16	34	34	30	18
Lumbermen	41	40	42	42	26	22
Fishermen	42	35	41	31	25	24

[1]Exclusive of mining engineers.   [2]Not agricultural, mining, or logging.

TABLE 13. Occupations ranked according to earnings of heads of families, size of family, earnings of children, percentage of children 15 years of age and over at school and children gainfully occupied, Ontario, 1930-1931

Occupation	X_1 Earnings of Heads	X_2 Smallness of Family	X_3 Earnings of Children	X_4 P.C. of Children 15 Years of Age and over at School	X_5 Children Gainfully Occupied	X_6 Children Gainfully Occupied as P.C. of Children 15 Years of Age and over
Engineers[1] (professional service)	1	6	5	3	40	39
Teachers—school	2	1	1	2	42	40
Accountants and auditors	3	2	2	5	39	36
Locomotive engineers	4	39	12	6	11	38
Conductors (steam railway)	5	31	10	9	9	34
Commercial travellers	6	5	4	8	22	31
Agents—ticket and station (railway)	7	19	9	4	36	41
Clergymen	8	12	3	1	33	42
Police and detectives	9	14	11	12	24	28
Compositors; printers, n.s.	10	9	6	16	23	19
Other clerical (office clerks)	11	3	7	14	29	25
Locomotive firemen	12	40	30	7	38	33
Brakemen	13	33	31	10	30	35
Electricians and wiremen	14	13	15	11	34	30
Salesmen	15	4	8	13	31	26
Conductors and motormen (street car)	16	24	13	21	12	17
Miners	17	28	23	18	41	37
Plumbers, steam fitters, and gas fitters	18	25	26	15	19	20
Mechanics, n.e.s. (mfg.)	19	11	19	17	35	21
Shippers (warehousing and storage)	20	10	14	27	17	3
Bakers (mfg.)	21	22	20	34	15	4
Boilermakers, platers, and riveters (mfg.)	22	29	25	24	8	14
Section foremen, sectionmen; trackmen	23	42	38	28	21	32
Machinists (mfg.)	24	17	21	23	16	16
Butchers and slaughterers (mfg.)	25	23	17	25	18	10
Watchmen and caretakers	26	18	22	40	3	2
Truck drivers	27	15	33	22	37	18
Janitors and sextons	28	8	16	39	4	1
Blacksmiths, hammermen and forgemen (mfg.)	29	30	28	33	6	15
Cooks	30	16	32	19	25	27
Tailors (mfg.)	31	27	18	26	1	8
Teamsters, draymen, carriage drivers	32	35	36	36	10	7
Seamen, sailors, and deckhands	33	7	34	20	32	24
Carpenters	34	32	24	29	5	12
Painters, decorators, and glaziers	35	21	29	30	13	9
Labourers (mining)	36	38	41	37	27	22
Brick and stone masons	37	26	27	35	2	5
Fishermen	38	37	37	32	28	29
Moulders, coremakers, and casters	39	36	35	31	7	6
Labourers and unskilled workmen[2]	40	34	39	38	14	11
Farm labourers	41	20	40	41	26	13
Lumbermen	42	41	42	42	20	23

[1]Exclusive of mining engineers.   [2]Not agricultural, mining, or logging.

TABLE 14. Order of birth of legitimate children born in 1931 (including stillborn children), by age of mother, Canada and provinces, 1931

Age Group of Mother and Order of Birth of Child	Canada	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
ALL AGES	**239,294**	**1,850**	**11,363**	**10,761**	**83,414**	**68,928**	**14,305**	**21,238**	**17,048**	**10,387**
1st child	55,486	411	2,649	2,001	14,593	19,560	3,749	4,746	4,402	3,375
2nd "	45,710	303	2,045	1,797	12,850	15,299	2,847	4,279	3,721	2,569
3rd "	33,233	286	1,536	1,329	10,479	10,325	2,053	3,098	2,607	1,520
4th "	24,905	182	1,226	1,106	8,536	7,202	1,509	2,309	1,803	1,032
5th "	18,873	171	949	913	7,098	4,942	1,138	1,779	1,250	633
6th "	14,530	144	756	744	5,857	3,494	806	1,327	977	425
7th "	11,930	107	604	696	5,302	2,508	623	1,066	712	312
8th "	9,457	72	445	606	4,519	1,815	470	767	560	203
9th "	7,099	51	345	468	3,611	1,232	341	591	340	120
10th "	5,525	53	281	348	2,945	857	245	471	257	68
11th "	3,939	28	195	267	2,240	551	179	289	135	55
12th "	3,022	15	134	176	1,803	379	150	209	115	41
13th "	1,978	7	75	141	1,280	209	72	118	66	10
14th "	1,356	6	60	75	874	137	58	94	42	10
15th "	834	5	31	34	589	71	31	44	25	4
16th "	483	2	18	30	333	43	16	29	10	2
17th "	267	1	4	16	207	15	9	10	3	2
18th "	172	–	5	8	137	14	3	2	3	–
19th "	82	–	1	4	67	3	1	3	3	–
20th and over	100	–	1	–	76	9	3	5	6	–
Not stated	313	6	3	2	18	263	2	2	11	6
Under 15 years	*14*	–	*3*	*3*	*1*	*4*	–	–	*3*	–
1st child	14	–	3	3	1	4	–	–	3	–
15-19 years	**12,897**	**95**	**919**	**740**	**2,698**	**4,580**	**809**	**1,294**	**1,125**	**637**
1st child	9,639	75	669	491	1,930	3,464	651	983	865	511
2nd "	2,727	15	212	206	623	932	133	274	221	111
3rd "	458	3	27	41	125	160	21	33	36	12
4th "	62	2	9	2	18	18	4	4	3	2
5th "	7	–	2	–	–	2	2	–	–	1
Not stated	4	–	–	–	–	4	–	–	–	–
15 years	*101*	*2*	*16*	*9*	*26*	*37*	*2*	*7*	*1*	*1*
1st child	96	2	14	9	26	36	1	6	1	1
2nd "	5	–	2	–	–	1	1	1	–	–
16 years	*510*	*3*	*44*	*42*	*97*	*217*	*25*	*38*	*32*	*12*
1st child	468	3	43	38	84	200	22	35	31	12
2nd "	40	–	1	4	13	15	3	3	1	–
3rd "	1	–	–	–	–	1	–	–	–	–
Not stated	1	–	–	–	–	1	–	–	–	–
17 years	*1,699*	*15*	*153*	*123*	*300*	*640*	*81*	*161*	*134*	*92*
1st child	1,454	14	125	102	253	547	69	141	118	85
2nd "	217	1	23	18	43	84	11	18	13	6
3rd "	23	–	4	2	4	7	1	1	3	1
4th "	5	–	1	1	–	2	–	1	–	–
18 years	*4,101*	*28*	*288*	*223*	*803*	*1,477*	*267*	*425*	*375*	*210*
1st child	3,196	21	203	150	603	1,166	219	342	320	172
2nd "	789	5	76	67	179	262	41	76	49	34
3rd "	104	1	7	11	21	43	6	7	5	3
4th "	8	1	1	–	–	4	1	–	1	–
5th "	3	–	1	–	–	1	–	–	–	1
Not stated	1	–	–	–	–	1	–	–	–	–
19 years	*6,486*	*47*	*418*	*338*	*1,472*	*2,209*	*434*	*663*	*583*	*322*
1st child	4,425	35	284	192	964	1,515	340	459	395	241
2nd "	1,676	9	110	117	388	570	77	176	158	71
3rd "	330	2	16	28	100	109	14	25	28	8
4th "	49	1	7	1	18	12	3	3	2	2
5th "	4	–	1	–	2	1	–	–	–	–
Not stated	2	–	–	–	–	2	–	–	–	–
20-24 years	**59,846**	**441**	**3,084**	**2,739**	**18,333**	**17,792**	**3,755**	**5,922**	**4,843**	**2,937**
1st child	25,224	179	1,180	945	7,009	8,165	1,779	2,365	2,128	1,474
2nd "	18,390	128	933	822	5,391	5,514	1,142	1,979	1,561	920
3rd "	9,750	89	566	498	3,395	2,603	516	988	737	358
4th "	4,257	27	266	287	1,595	1,026	219	394	307	136
5th "	1,556	12	95	127	645	340	71	152	75	39
6th "	457	4	37	41	193	94	21	34	25	8
7th "	123	1	4	13	66	23	4	8	3	1
8th "	40	1	–	4	25	5	1	–	4	–
9th "	15	–	1	1	7	3	2	–	1	–
10th "	10	–	1	1	5	–	–	1	2	–
11th "	2	–	–	–	1	1	–	–	–	–
Not stated	22	–	1	–	1	18	–	1	–	1

TABLE 14. Order of birth of legitimate children born in 1931 (including stillborn children), by age of mother, Canada and provinces, 1931—Con.

Age Group of Mother and Order of Birth of Child	Canada	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
25-29 years	**66,212**	**441**	**2,827**	**2,683**	**24,128**	**18,894**	**3,952**	**5,663**	**4,751**	**2,873**
1st child	13,826	95	548	377	3,881	5,177	903	994	973	878
2nd "	14,977	85	535	483	4,599	4,976	936	1,306	1,214	843
3rd "	12,363	99	508	458	4,328	3,423	831	1,161	1,016	539
4th "	9,703	61	482	441	3,901	2,417	538	874	678	311
5th "	6,797	52	352	374	3,066	1,397	354	620	408	174
6th "	4,258	29	217	246	2,032	829	207	365	252	81
7th "	2,407	16	109	158	1,260	401	107	205	120	31
8th "	1,152	4	42	95	636	178	48	83	57	9
9th "	424	-	17	36	252	45	17	37	16	4
10th "	181	-	11	9	110	20	8	15	6	2
11th "	56	-	4	4	33	5	2	2	5	1
12th "	23	-	2	1	14	1	1	1	3	-
13th "	13	-	-	-	12	-	-	-	1	-
14th "	1	-	-	-	1	-	-	-	-	-
15th "	2	-	-	1	2	-	-	-	-	-
Not stated	29	-	-	1	1	25	-	-	2	-
30-34 years	**50,242**	**407**	**2,150**	**2,099**	**18,838**	**14,535**	**2,830**	**4,082**	**3,212**	**2,089**
1st child	4,802	37	167	119	1,272	1,947	317	290	303	350
2nd "	6,617	55	233	184	1,609	2,640	433	501	491	471
3rd "	6,808	53	272	201	1,859	2,580	417	552	512	362
4th "	6,616	56	281	245	2,054	2,136	432	604	501	307
5th "	6,064	53	278	226	2,182	1,730	358	584	422	231
6th "	5,363	62	273	267	2,253	1,237	286	472	369	144
7th "	4,801	35	246	269	2,292	962	237	400	246	114
8th "	3,712	24	161	242	1,979	599	162	289	194	62
9th "	2,439	14	100	153	1,437	344	99	178	89	25
10th "	1,469	12	67	96	906	167	51	115	43	12
11th "	825	4	44	50	515	107	25	56	20	4
12th "	408	2	18	28	265	45	9	25	13	3
13th "	181	-	8	15	125	14	3	10	4	2
14th "	57	-	1	2	43	4	-	3	3	1
15th "	30	-	-	-	26	2	-	2	-	-
16th "	10	-	1	1	5	1	1	1	-	-
17th "	5	-	-	-	4	1	-	-	-	-
18th "	3	-	-	-	3	-	-	-	-	-
19th "	1	-	-	-	1	-	-	-	-	-
20th and over	2	-	-	-	1	-	-	-	1	-
Not stated	29	-	-	1	7	19	-	-	1	1
35-39 years	**34,705**	**337**	**1,645**	**1,703**	**13,287**	**9,286**	**2,031**	**2,962**	**2,146**	**1,308**
1st child	1,580	19	66	51	394	645	78	94	107	126
2nd "	2,441	18	105	76	519	1,014	167	173	185	184
3rd "	3,131	32	130	108	635	1,271	213	301	242	199
4th "	3,353	27	147	104	798	1,264	257	320	234	202
5th "	3,372	44	172	149	963	1,089	265	308	240	142
6th "	3,374	38	184	147	1,094	967	212	354	244	134
7th "	3,451	41	191	186	1,344	814	200	320	247	108
8th "	3,272	35	165	203	1,421	708	176	289	195	80
9th "	2,972	28	163	198	1,429	540	147	271	145	51
10th "	2,531	28	120	164	1,345	384	114	201	137	38
11th "	1,814	10	82	138	1,061	236	69	130	68	20
12th "	1,389	6	55	71	885	168	63	88	38	15
13th "	895	6	36	54	598	79	30	55	32	5
14th "	551	3	18	23	379	52	24	35	14	3
15th "	270	1	7	12	197	24	8	12	8	1
16th "	150	1	4	9	109	8	7	8	4	-
17th "	70	-	-	6	59	3	1	-	1	-
18th "	48	-	-	4	34	6	-	1	3	-
19th "	12	-	-	-	11	1	-	-	-	-
20th and over	16	-	-	-	12	2	-	2	-	-
Not stated	13	-	-	-	-	11	-	-	2	-
40-44 years	**13,602**	**110**	**656**	**702**	**5,505**	**3,295**	**826**	**1,173**	**855**	**480**
1st child	342	2	14	12	94	128	19	19	22	32
2nd "	512	2	25	23	105	208	34	44	36	35
3rd "	648	9	30	20	117	262	47	57	63	43
4th "	837	9	38	25	153	309	55	101	76	71
5th "	985	10	46	34	222	351	81	104	94	43
6th "	999	10	42	38	266	342	74	97	77	53
7th "	1,049	12	50	62	312	276	72	125	89	51
8th "	1,171	8	72	59	425	300	75	89	99	44
9th "	1,143	8	57	70	449	278	70	93	80	38
10th "	1,192	12	72	72	522	254	61	123	63	13
11th "	1,113	12	61	65	575	178	73	89	35	25
12th "	1,067	7	51	62	577	142	70	86	52	20
13th "	790	1	26	66	498	99	31	45	23	1
14th "	643	3	36	43	394	68	27	46	20	6
15th "	459	3	15	20	318	41	19	27	13	3

TABLE 14.   Order of birth of legitimate children born in 1931 (including stillborn children), by age of mother, Canada and provinces, 1931—Con.

Age Group of Mother and Order of Birth of Child	Canada	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
40-44 years—Con.										
16th child	265	1	12	16	183	25	7	14	6	1
17th "	166	1	3	9	126	9	8	8	1	1
18th "	94	-	4	2	79	7	2	-	-	-
19th "	50	-	1	4	37	2	-	3	3	-
20th and over	67	-	1	-	53	7	1	2	3	-
Not stated	10	-	-	-	-	-	9	-	1	-
45 years and over	1,469	10	74	89	608	310	100	138	89	51
1st child	27	1	2	1	7	9	2	1	-	4
2nd "	29	-	2	2	4	8	2	1	6	4
3rd "	64	1	2	3	19	19	8	6	1	5
4th "	62	-	1	2	16	25	4	9	3	2
5th "	79	-	4	3	18	26	9	11	6	2
6th "	75	1	3	5	19	23	6	5	8	5
7th "	95	2	4	8	28	30	3	8	7	5
8th "	109	-	5	3	33	25	8	17	10	8
9th "	105	1	7	10	37	22	6	12	8	2
10th "	141	1	10	6	57	31	11	16	6	3
11th "	128	2	4	10	55	24	10	12	7	4
12th "	134	-	8	14	62	22	7	9	9	3
13th "	99	-	5	6	47	17	8	8	6	2
14th "	104	-	5	7	57	13	7	10	5	-
15th "	73	1	9	2	46	4	4	3	4	-
16th "	58	-	1	4	36	9	1	6	-	1
17th "	26	-	1	1	18	2	-	2	1	1
18th "	27	-	1	2	21	1	1	1	-	-
19th "	19	-	-	-	18	-	1	-	-	-
20th and over	15	-	-	-	10	-	2	1	2	-
Age not stated	307	9	5	3	16	232	2	4	24	12
1st child	32	3	-	2	5	21	-	-	1	-
2nd "	17	-	-	1	-	7	-	1	7	1
3rd "	11	-	1	-	1	7	-	-	-	2
4th "	15	-	2	-	1	7	-	3	1	1
5th "	13	-	-	-	-	7	-	-	5	1
6th "	4	-	-	-	-	2	-	-	2	-
7th "	4	-	-	-	-	2	-	-	-	2
8th "	1	-	-	-	-	-	-	-	1	-
9th "	1	-	-	-	-	-	-	-	1	-
10th "	1	-	-	-	-	1	-	-	-	-
11th "	1	-	-	-	-	-	-	-	-	1
12th "	1	-	-	-	-	1	-	-	-	-
Not stated	206	6	2	-	9	177	2	-	6	4

APPENDICES

APPENDIX I

SEVENTH CENSUS OF CANADA, 1931

Population

Province..............Electoral District..............Subdistrict No......
(Write name and number.)

in municipality of.............................
(Insert name and state whether city, town, village or rural municipality.)

Number		Name and Residence		Description of Home					
in the order of visitation			Place of Abode						
Dwelling house	Family, house-hold or insti-tution	Name of each person in family, household or institution	(In rural localities give parish or town-ship. In cities, towns and villages, give street and number of dwelling)	Home owned or rented	If owned, give value. If rented, give rent paid per month	Class of house (See instruc-tions)	Materials of con-struction (See instruc-tions)	Rooms occupied by this family	Has this family a radio?
1	2	3	4	5	6	7	8	9	10

Personal Description				Place of Birth			Immigration		Nationality and Racial Origin	
Rela-tionship to head of family or house-hold	Sex	Single, married, widowed, divorced	Age at last birth-day	Country or place of birth of this person and of parents of this person. If born in Canada give province. If foreign-born give country. (See instructions)			Year of immigra-tion to Canada	Year of natura-lization	Nationality (Country to which this person owes allegiance)	Racial origin
				Person	Father	Mother				
11	12	13	14	15	16	17	18	19	20	21

Language			Religion	Education		Occupation and Industry			
						Occupation	Industry		
Can speak Eng-lish	Can speak French	Language other than English or French spoken as Mother tongue	Religious body, Denomi-nation or Community, to which this person adheres or belongs	Can read and write	Months at school since Sept. 1, 1930	Trade, profession or particular kind of work, as carpenter, weaver, sawyer, merchant, farmer, salesman, teacher, etc. (Give as defi-nite and precise information as possible)	Industry or business in which engaged or employed, as cotton mill, brass foundry, grocery, coal mine, dairy farm, public school, business college, etc.	Class of worker	Total earnings in the past twelve months (Since June 1, 1930)
22	23	24	25	26	27	28	29	30	31

Unemployment								
If an employee, were you at work Monday, June 1, 1931?	If answer to previous question is NO, Why were you not at work on Monday, June 1, 1931? (For example, no job, sick, accident, on holidays, strike or lockout, plant closed, no materials, etc.)	Total number of weeks unemployed from any cause in the last 12 months	Of the total number of weeks reported out of work in column 34, how many were due to—					
			No Job	Illness	Accident	Strike or Lockout	Tempor-ary Lay-off	Other causes. (See instruc-tions 184)
32	33	34	35	36	37	38	39	40

INSTRUCTIONS TO ENUMERATORS RELATING TO FAMILIES AND HOMES, 1931 CENSUS

46. Who are to be enumerated? This is the most important question for enumerators to determine; therefore, the following rules and instructions should be carefully studied.

47. Habitual home or usual place of abode. The Statistics Act provides that the population shall be enumerated under the **de jure system.** The literal meaning of the term **de jure** is "by right of law," "legally." For the purpose of the census, the home of any person shall mean the usual fixed place of abode of that person—that is where the person usually sleeps or dwells. When a young person has left his parents' home and obtained employment elsewhere the place where he usually stays while engaged in such employment should be considered his **usual place of abode,** and not his parents' residence even though he may still think of and refer to the latter as "home." (See Instructions 4, 50 and 62 and the "Absentee Family Card.")

48. Residents absent on Census day. In every case where members of a family or a household are temporarily absent from their home or usual place of abode, their names and records should be entered on the schedules, the facts concerning them being obtained from their families, relatives or acquaintances, or other persons able to give the information.

49. Persons to be enumerated as members of the family. While it is not possible to lay down a rule applicable to every case, the following persons should generally be included as members of the family:—

(a) Members of the family temporarily absent on the census day, either in foreign countries or elsewhere in Canada on business or visiting. (But a son or daughter permanently located elsewhere, or regularly employed elsewhere and not sleeping at home should not be included with the family.)

(b) Members of the family attending schools or colleges located in other districts. (But a student nurse who receives even a nominal salary should be enumerated where she is in training.)

(c) Members of the family who are ill in hospitals or sanitariums and whose period of absence is more or less known.

(d) Servants, labourers, or other employees who live with the family and sleep on the premises.

(e) Boarders or lodgers who sleep in the house.

(f) Sailors or fishermen at sea; lumbermen in the forest; commercial travellers on the road who are members of the family. (See Instruction 75.)

In many cases it is more than likely that the names of absent members of the family will not be given to the enumerator by the person furnishing the information unless particular attention is called to them. Before finishing the enumeration of a family the enumerator should in all cases, therefore, **specifically ask the question as to whether there are any absent members,** as described above, who should be enumerated with the family.

50. Domestic servants, etc. There is a probability that some persons may be counted in two places, and that others may not be counted at all, under the **de jure** system. A domestic servant, for example, may be reported at the home of her parents as a member of a family **de jure,** and she may also be reported as **de jure** of the family or household where she is employed; or if absent from her home for a comparatively long time, and in her present place of service for only a short time she may be left out of the enumeration altogether. The same thing may occur in the case of farm labourers and employees in other callings. **The enumerator is instructed to take all such persons where found at service—but not at the family home.**

51. Doubtful cases. Where there is a doubt as to whether the absent member of the family or household is temporarily removed to another part of the Dominion the enumerator should enter the complete record of such person on the Population Schedule No. 1 and write after the name in Column 3 "Ab" for absent, and at the same time make a record in Column 4 of present P.O. address. The entry in Column 3 in such cases should be made thus "John Smith (ab)."

52. Persons not to be enumerated. If the head of the family or household, or whoever gives the information, is in doubt concerning the intention of such persons to return and if they be absent twelve months or more, they are not to be enumerated on the Population Schedule, Form 1, the presumption being that they have settled elsewhere. **As a rule, therefore, the enumerator should not include with the family he is enumerating any of the following classes:—**

(a) Persons visiting with this family; in such cases the enumerator should fill and return as directed by Instruction 61 an "Absentee Family Card." (See 51, 62 and 189).

(b) Transient boarders or lodgers at hotels or elsewhere who have some other usual or permanent place of abode.

(c) Persons who take their meals with this family, but lodge or sleep elsewhere.

(d) Servants, apprentices or other persons employed in this family and working in the home or on the premises but **not** sleeping there.

(e) Students or children living or boarding with this family in order to attend a college or school, but whose home is elsewhere.

(f) Any person who was formerly in this family but has since become the inmate of an asylum, almshouse, home of the aged, reformatory or prison, or any other institution of a similar kind; or

(g) Members of this family who have been away from home for twelve months or more.

53. Servants. Servants, labourers, or other employees who live with the family or sleep in the same house or on the premises should be enumerated with the family. (See Instruction 50.)

54. Construction camps. Members of railroad or other construction camps or of mining camps, which have a shifting population composed of persons with no fixed place of abode, should be enumerated where found.

55. Inmates of Prisons, Asylums and Institutions other than medical hospitals. If there is in an enumerator's area a prison, reformatory, jail, penitentiary, almshouse, asylum, or hospital for the insane, home for orphans, home for the blind, a home for deaf and dumb, a home for incurables, an institution for feeble-minded, a soldier's home, a home for the aged or any similar institution, in which persons usually remain for long periods of time, inmates of such institutions should be enumerated by the enumerator appointed for the subdistrict unless the institution is made a separate enumeration area and its census provided for as directed in Instruction 9.

It is specially to be noted that in the case of jails, the prisoners should be there enumerated, however short the term of sentence. **The name of the home address of such persons must be entered in Column 4.**

74. Column 2: Number of Family, household or institution in order of visitation. In Column 2 the families or household should be numbered in the order in which they are enumerated entering the number opposite the head of the family. As in the same house there may be one or more families or households the numbers will not necessarily correspond with the dwelling house. For example, if there are four families in dwelling house number "1" consequently in dwelling house number "2" the first family visited will be family number "5." (See Specimen Schedule.)

75. Family defined. In a restricted sense of the term a family consists of parents with sons and daughters in a living and housekeeping community. For census purposes it has a somewhat different application from what it has in popular usage. It means a group of persons living together in the same dwelling house. The persons constituting this group may or may not be related by ties of kinship, but if they live together forming one household they should be considered as one family. Thus a servant who sleeps in the house or on the premises should be included with the members of the family for which he or she works. Again, a boarder or lodger should be included with the members of the family with which he lodges; but a person who boards in one place and lodges or rooms in another should be returned as a member of the family at the place where he lodges or rooms.

76. It should be noted, however, that two or more families may occupy the same dwelling house without living together. If they occupy separate portions of the dwelling house and their housekeeping is entirely separate, they should be returned as separate families and the number of rooms occupied by each family reported in Column 9. (See Instruction 99.)

77. Families in apartment houses or flats. In an apartment or a tenement house or flat there will be as many families as there are separate occupied apartments, or tenements or flats.

78. Boarding-house families. All the occupants and employees of a boarding house or lodging house, if that is their usual place of abode, make up, for census purposes, a single family.

79. Families in hotels. All the persons returned from a hotel should likewise be counted as a single "family," except that where a family of two or more members (as a husband and wife, or a mother and daughter) occupies permanent quarters in a hotel (or an apartment hotel) it should be returned as a separate and distinct family, leaving the "hotel family" as made up principally of individuals having no other family relations.

80. Institutional families. The officials and inmates of an institution who lives in the institution building or buildings form one family. But any officers or employees who sleep in detached houses or separate dwellings containing no inmates should be returned as separate families.

81. Persons living alone. The census family may likewise consist of a single person. Thus, an employee in a store who regularly sleeps there is to be returned as a family and the store as his dwelling place or a person occupying a house or apartment alone is also to be returned as a family.

NAME AND RESIDENCE

82. Column 3: Name of each person in family, household or institution. The names of every person whose usual place of abode on June 1, 1931, was with the family or in the dwelling house for which the enumeration is being made are to be entered in the following order, namely: Head, first, wife, second, then sons and daughters in the order of their ages, and lastly, relatives, servants, boarders, lodgers or other persons living in the family or household. The persons in an institution may be described as officer, principal, inmate, patient, prisoner, pupil, etc.

83. How to write names. The last name or surname is to be written first, then the given name in full. Where the surname is the same as that of the person in the preceding line it should not be repeated.

84. Column 4: Place of abode. In the case of a city, town or incorporated village the enumerator will enter the number of the house and the street in this column. In the case of rural districts, the name of the township, lot, parish, or cadastral number will be entered in Column 4.

Provided, however, that in Manitoba, Saskatchewan and Alberta, the Section, Township, Range and Meridian and in some cases the Parish, will be entered in this column.

TENURE AND CLASS OF HOME

85. Column 5: Home owned or rented. This question is to be answered only opposite the name of the head of each family and refers to the home in which the family is living at the date of the Census. If the home is **owned** write "O," if the home is **rented** write "R." Make no entries in this column for the other members of the family. (See note at foot of this column on population schedule.)

86. If a dwelling is occupied by more than one family it is the home of each of them, and the question should be answered with reference to each family in the dwelling. The whole dwelling may be owned by one family and a part rented by the other family.

87. Definition of owned home. A home is to be classed as "owned" if it is owned wholly or in part by the head of the family living in the home or by the wife of the head, or by a son, or a daughter, or other relative living in the same home with the head of the family. It is not necessary that full payment for the property should have been made or that the family should be the sole owner.

88. Definition of rented home. Every home not owned either wholly or in part, by the family living in it should be classed as rented, whether rent is actually paid or not.

89. Column 6: If owned give value. If rented give rent paid per month. If the home is owned as indicated by the letter "O" in Column 5 the enumerator will enter in Column 6 opposite the line for the head of the family as nearly as it can be ascertained the current or **actual market** value of the house. This estimate should represent the amount for which the house would sell under ordinary conditions, not at forced sale.

90. If the home is rented as indicated by the entry "R" in Column 5 the amount of rent paid each month should be entered in Column 6, opposite the name of the head of the family. In the case of "free tenants" such as clergymen, janitors, hired men, etc., the estimated value of the monthly rental based on local conditions should be given. The rent entered in this column **should be the rent paid for the month of May, 1931,** and should include only the rental paid for the house or part of house occupied as a home. If the monthly rental includes a store or shop the rental value of said store or shop should be deducted from the rent, before entering it in Column 6.

91. Column 7: Class of home. Opposite the name of the head of the family state whether the home of the family whose Census is being taken is situated in an "Apartment," "Flat," "Row or Terrace," or is a "Single" or "Semi-detached" house, or is in a "Hotel" or "boarding-house."

92. Home in a single or detached house. A single house refers to a self-contained house occupied as a separate dwelling and will be entered in Column 7 by the letter "S."

93. Home in a semi-detached house. A semi-detached house means two separate and distinct dwellings, with separate entrances, under one roof with partition walls running through it from cellar to attic and making of each part a "whole house." This kind of house will be entered in Column 7 by the letter "D."

94. Home in an apartment. A home in an apartment house is one in which the house-keeping is self-contained and the family does not occupy any portion in common with another family and the entry in this column will be for apartment by writing the letter "A."   (See Instruction 71.)

95. Home in a row or terrace. A home in a row or terrace will be entered in this column by the letter "R."

96. Home in a flat. A home in a flat is fully described in Instruction 72 and is to be described in Column 7 by the letter "F."

97. How entries are to be made in Column 7, summarized. Entries will be made to indicate each class of house in Column 7, as follows:—(See also note at foot of Schedule No. 1.)

> "Single house" by the letter "S."
> "Semi-detached" house by the letter "D."
> "Apartment" house by the letter "A."
> "Row or Terrace" by the letter "R."
> "Flat" by the letter "F."

98. Column 8: Materials of construction. The enumerator will indicate the principal materials of the exterior walls of the house in the following manner; thus the entry "S" would signify stone house; "B" would signify brick house; "W" would signify wooden house. The initials "b.v." will indicate brick veneered; "p.l." plastered with lime mortar (on the exterior) "p.c." plastered with cement mortar (stucco). For houses constructed of cement blocks or of concrete, the abbreviation "c.b." will be used. (See also foot of Schedule No. 1.)

99. Column 9: Rooms occupied by this family. Enter in Column 9 the number of rooms occupied by this family for living purposes. The entry must be made in the line opposite the head of the house. In the case of a hotel or boarding house the total number of rooms in the house should be entered opposite the head of said hotel or boarding house. If, however, a family occupies permanent quarters in a hotel or boarding house for living purposes, the number of rooms occupied by it for exclusive family purposes should be entered in Column 9 on the line opposite the name of the head of the family, and the number of rooms thus occupied as a private residence deducted from the total number of hotel rooms used for general purposes. For example, if a hotel contains 100 rooms and a private family occupies permanently 10 rooms the number 10 will be entered opposite the head of the private family and the number 90 opposite the name of the head of the hotel family. (See Instruction 79.)

100. Column 10: Has this family a radio? This question will be answered by writing "yes" for every family which has a radio set and "no" for every family which does not possess one. The entry in Column 10 will be made opposite the name of the head of the family irrespective of the ownership of the instrument.

101. Column 11: Relationship to head of family or household. The head of the family or household, whether husband or father, widow or unmarried person of either sex, is to be designated by the word "Head" in Column 11, and the other members of the family as wife, father, mother, son, daughter, grandson, daughter-in-law, uncle, aunt, nephew, niece, partner, boarder, lodger, servant, etc., according to the relationship which the person bears to the head of the family. Persons in an institution may be designated as officer, inmate, patient, pupil, prisoner, etc., and in the case of the Chief Officer his title should be used as Warden, Superintendent, Principal, etc. If the husband and wife, the father and children, or mother and children are boarding they constitute a family and it should be indicated in this column with a bracket. (See Specimen Schedule lines 49, 50.)

102. Column 12: Sex. The sex will be denoted by "M" for males and "F" for females.

103. Column 13: Conjugal condition. The description in Column 13 will be given by the use of the initial letters, "S" for single person, "M" for married, "W" for widowed (man or woman) and "D" for divorced. Married persons who are legally separated, **not divorced,** or separated only as to bed and board will be described as married by the letter "M."

APPENDIX II

METHODS OF ANALYSIS

Parameters of the Frequency Distribution.—In summarizing mass data it is necessary for us to employ certain numerical indices of dimensions small enough to be grasped by the human mind. For example, the information that in 1931 there were 2,252,729 ordinary households in Canada containing 10,015,779 persons would tell us little about family size if we were not able to calculate the average persons per household, 4·45. Such indices have been called *statistics* by R. A. Fisher and the term seems to be an apt one. It might be well to describe briefly the *statistics* which are used again and again in this monograph and most other statistical treatises.

Annual income of 11 heads of families:—

Annual Income	Number of Heads with Given Income	Annual Income	Number of Heads with Given Income
$ 650.......................................	1	$ 1,450......................................	1
850.......................................	1	1,650......................................	2
1,050.......................................	2	10,050......................................	1
1,250.......................................	3		

A table such as the one above that gives the annual income of 11 family heads is called a *frequency distribution*. Even though it is a very simple table dealing with a small number of heads we feel the need of condensing the information by the use of two or three summary indices. The most familiar and perhaps the most useful of all statistics is the *arithmetic mean* or *average*. The average earnings of each head in the above table were $2,013.64. When we speak of the income of the average man we generally have in mind the typical man but it is apparent that, in the above distribution, the earnings of the typical man were far below the average. This was apparently due to the weight of the income of the one man who earned $10,050 since the average income for the remaining ten was only $1,210. Although when we are dealing with large frequency distributions, the average is never distorted so radically by individual cases, these end values often have a heavy weight in determining it. Average earnings for all classes of the population are always raised considerably by the earnings of those who earn more than $10,000, even though they comprise a small group. The average size of the family is appreciably larger in a locality where there are a few very large families than in one without any very large families, even though the typical size may be the same in both cases. Consequently, we must always be careful in interpreting the significance of averages.

In the case of the above distribution, the *median* would give a better measure of mean income than the arithmetic average. If 11 soldiers were lined up with the tallest on the right and the shortest on the left the median height for the squad would be the height of the sixth or midmost soldier. It is easily seen that the median income for the heads in our sample is $1,250. The median has not been unduly influenced by the income of the man earning $10,050 and, consequently, provides a better indication of typical earnings than did the arithmetic mean. In the example given, the median would be $1,250, for if the incomes were individually arrayed by heads this would be the middle (sixth) item.

The *mode*, derived from the French word *La Mode*, is the most commonly occurring or 'fashionable' value in the frequency distribution. In our example the modal income is also $1,250. The chief disadvantage of the mode is that in the case of irregular distributions, its determination must rest on a somewhat arbitrary basis.

When summarizing the data of frequency distribution we are interested not only in the mean of the values but also in how they are scattered about the mean. Take the case of the earnings of two groups of 3 men each.

First Group		Second Group	
Earnings	Deviation about Mean	Earnings	Deviation about Mean
$ 500	−1,000	$1,000	−500
1,500	0	1,500	0
2,500	+1,000	2,000	+500

In both cases the mean earnings are identical although the distributions are quite different since the variability or *dispersion* of the earnings for the first group is much greater than for the second. The difference between any value and the arithmetic mean of the distribution is called the *deviation* of the value. The dispersion for a distribution is generally measured by its *variance*, or the square root of the variance which is called the *standard deviation*.

To obtain the variance we add the squares of the deviations and divide by the number of cases. For example, the variance and standard deviation in earnings for the first group of men is obtained as follows:—

$$\text{Variance} = \frac{\text{Sum of squares of deviations*}}{\text{number of cases}} = \frac{(-1,000)^2 + (0)^2 + (1,000)^2}{3} = 666,667.$$

Standard deviation $= \sqrt{666,667} = 817$.

The standard deviation is a measure of absolute dispersion, not of relative dispersion. Suppose we wish to compare variability in the speeds of 3 horses with that in the speeds of 3 automobiles and the speeds of the horses and automobiles, respectively, were as follows:—

Horses— 5 miles per hour　　　　Automobiles—60 miles per hour
　　　　　8　　"　　"　　"　　　　　　　　　65　　"　　"　　"
　　　　　11　"　　"　　"　　　　　　　　　70　　"　　"　　"

The standard deviation in speeds for the horses works out at 2·45 m.p.h. and for the automobiles at 4·08 m.p.h. It is contrary to common sense, however, to say that the relative variability in the speeds of the cars was greater than that in the speeds of the horses. Relative dispersion may be measured by the *coefficient of dispersion* which is obtained by dividing the standard deviation of the distribution by its arithmetic mean. In the above example the coefficients of dispersion in the speeds of the horses and automobiles, respectively, were 0·31 and 0·06.

Correlations.—Much of statistical investigation is devoted to the study of interrelationships between two or more sets of data. Let us consider the following table relating the number of persons per household to the number of rooms occupied.

X Persons per Household		Y Rooms per Household
1	....	2
3	....	3
4	....	5
5	....	7
5	....	6
6	....	7
8	....	8
8	....	10

It is apparent that size of family and size of house are interdependent since the size of the house tends to increase with the size of the family. The coefficient of correlation has been derived to measure relationships of this kind.

Y Persons per Household	$(Y - \overline{Y})$ Deviations about Mean	$(Y - \overline{Y})^2$ Squares of Deviations	$\overline{X}$ Rooms Occupied	$(X - \overline{X})$ Deviations about Mean	$(X - \overline{X})^2$ Squares of Deviations	$(X-\overline{X})(Y-\overline{Y})$ Products of Deviations
1	−4	16	2	−4	16	+16
3	−2	4	3	−3	9	+ 6
4	−1	1	7	+1	1	− 1
5	−	−	5	−1	1	−
5	−	−	6	−	−	−
6	1	1	7	+1	1	+ 1
8	3	9	8	+2	4	+ 6
8	3	9	10	+4	16	+12
40	−	40	48	−	48	+40

*It may easily be shown that the sum of the squares of the deviations is a minimum when the deviations are taken about the arithmetic mean of the distribution.

The average persons per household is 5 and the average rooms per household 6. The second and fourth columns of the above table give the deviations of the values about their mean and the third and fifth columns the squares of the deviations. Statistical discussion may be shortened by referring to variables in terms of algebraic symbols. In the above table we may indicate the number of persons per household by Y and the number of rooms occupied by X. The arithmetic means of the two variables may then be referred to by $\overline{Y}$ and $\overline{X}$, respectively, the deviations of the values by $(Y - \overline{Y})$ and $(X - \overline{X})$ and the squares of the deviations by $(Y - \overline{Y})^2$ and $(X - \overline{X})^2$. The standard deviations of the two sets of data may be symbolized by σ_y and σ_x. The number of items correlated, 8 in this case, is generally referred to by the letter N.

Then σ_y (standard deviation in persons per household) $= \sqrt{\dfrac{40}{8}} = \sqrt{5}$

σ_x (standard deviation in rooms per household) $= \sqrt{\dfrac{48}{8}} = \sqrt{6}$

The last column of the table gives the products of the deviations. Now it is obvious that if size of house is closely related to size of family the deviations in the two variables for each family will tend to be of the same sign with the result that their products will generally be positive while if there is an inverse relationship between the two variables the deviations will tend to be opposite in sign so that their products will generally be negative. The degree and direction of the relationship between two sets of variable quantities is, consequently, indicated by the sum of the products of the deviations of the quantities about their arithmetic means. The coefficient of correlation is generally symbolized by r with subscripts to denote the variables correlated. The formula for the *Pearsonian coefficient of correlation* is as follows:—

$$r_{xy} = \frac{\dfrac{(X - \overline{X})\ (Y - \overline{Y})}{N}}{\sigma_x\ \sigma_y}$$

The numerator of the above ratio is called the product moment for the two sets of data. The reader will easily comprehend why the product moment is divided by the standard deviations of each variable since its magnitude will obviously depend on the dispersion of the two sets of data irrespective of the degree of relationship existing between them. The correlation for our sample data may be calculated as follows:—

$$r_{xy} = \frac{\dfrac{40}{8}}{\sqrt{6}\ \sqrt{5}} = \frac{5}{\sqrt{5}\ \sqrt{6}} = \sqrt{\frac{5}{6}} = \cdot 9.$$

The Pearsonian coefficient of correlation is never greater than 1 or less than -1. A correlation of unity indicates a perfect relationship between the two sets of data so that a correlation of $\cdot 9$ is very high and is seldom met with in sociological data. It is not wise to attach much weight to correlations obtained from distributions where the total number of items is as small as in our example, since the relationship may be accidental. In calculating correlations where the number of items is large and the mean is not an integer it is generally advisable to employ short-cut methods but these will not be discussed here. The reader may study them from any elementary text book on statistics.

The meaning of the coefficient of correlation is best interpreted through its square. In the accompanying diagram the number of persons living in each household has been plotted against the number of rooms occupied. The vertical spaces represent the number of persons in the household and the horizontal spaces the number of rooms occupied. The horizontal line is drawn through 5, the mean persons per household. It is not difficult to see that the mean of the squares of the distances of the points from this line will coincide with the variance in persons per
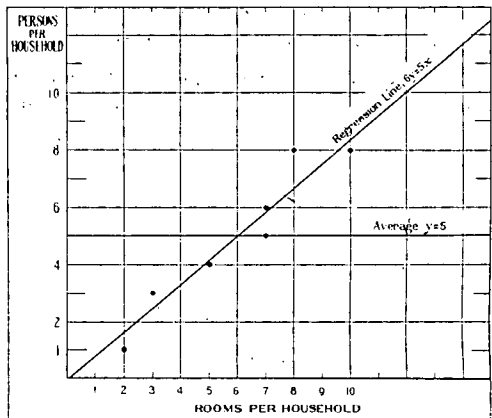
household. The diagonal line represents the regression equation relating the number of persons per household to the number of rooms occupied. This equation may be derived from the following formula:—

$$\frac{y - \bar{y}}{\sigma_y} = r_{xy} \frac{x - \bar{x}}{\sigma_x}$$

Substituting the values for our example we obtain the following equation:—

$$\frac{y - 5}{\sqrt{5}} = \sqrt{\frac{5}{6}} \frac{x - 6}{\sqrt{6}}$$

Simplifying, $6y = 5x$.

The means of squares of the distances of the points from this line (measured parallel to the y axis) are obviously much less than the means of the squares of the distances from the horizontal line. The former may be derived from the latter from the following formula: $Sy^2 = Oy^2 (1 - r^2) = 5\left(1 - \frac{5}{6}\right) = \frac{5}{6}$. The square of the coefficient of correlation evidently measures the fraction of the variance in family size which may be associated with size of house.

The usefulness of this device will become apparent when we are analysing the influence of various population attributes on average family size. Suppose we have the averages for family size in a number of localities. How much of the variance in the averages can be associated with the percentages of the populations of the localities of French racial origin? In order to answer this question we obtain the coefficient of correlation between the two variables and square it, obtaining the fraction of the variance in average family size which can be attributed to varying proportions of French Canadians in the localities.

Very often it is necessary to discuss interrelationships between more than two variables. For example, consider data for a number of localities giving average family size, percentage of population French, and percentage of population Roman Catholic. The three variables may be referred to by the symbols x, y, z, respectively. There will be correlations between all three. Now part of the correlation between average family size and percentage of population French-Canadian may be due to the fact that a large proportion of French Canadians are Roman Catholics. The *partial coefficient of correlation* between average family size and percentage of population French-Canadian, when the percentage Roman Catholic is held constant, measures the relationship between the first two variables—independent of the latter. It may be derived from the following formula:—

$$r_{xy \cdot z} = \frac{r_{xy} - r_{xz} r_{yz}}{\sqrt{1 - r^2_{xz}} \cdot \sqrt{1 - r^2_{yz}}}$$

In the symbol for the partial correlation, the first two subscripts denote the variables correlated and the subscript or subscripts following the period denote the variables held constant. Similar formulae have been developed for partial correlations when more than one variable is held constant.

The multiple coefficient of correlation measures the total correlations between a dependent variable and several independent variables.

The *statistics* discussed above are those which have been used most frequently in this monograph. A more thorough treatment may be found in any elementary text book in statistics.