## Out of school - <br> Into the labour force

Trends and prospects for enrolment,school leavers and the labour force in Canada

- the 1960s through the 1980s -

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Education, Science and Culture Division
Projections Section

# OUT OF SCHOOL - INTO THE LABOUR FORCE 

## Trends and prospects for enrolment, school leavers and the labour force in Canada

- the 1960s through the 1980s -

by<br>Z. Zsigmond, G. Picot, W. Clark, M. S. Devereaux

The views expressed by the authors are their own and not necessarily those of Statistics Canada.

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This study is another of the Statistics Canada reports that go beyond provision of tabular data. Emphasis is on analysis and the identification and description of trends. The subject is broad, ranging from population and enrolment, to the young leaving school and entering the labour force. One objective is to demonstrate how trends in these areas are interdependent.

A feature of the report is that it provides data on two levels - a summary of the major findings for educators, policy-makers and the general public, as well as detailed historical and projected statistics on population, enrolment, graduates and labour force entrants for analysts and researchers.

Projections of the numbers leaving school to become available to the labour force, and the implications of these numbers, are central to the study. Such projections and their interpretation are influenced by prevailing conditions. Thus, it is likely that these projections, which were made in 1977, will require adjustment as circumstances change.

Considerable discussion focuses on the relationship between education and the labour market. The authors recognize that education has a multiplicity of purposes, only one of which is preparation for employment. They do not wish to imply that students are motivated solely by job prospects, or that all education should be conducted with that end in view. However, the nature of the report and the necessity of limiting its scope result in a view of education from a labour market perspective.

Miles Wisenthal, Director General, Institutional and Public Finance Branch, Statistics Canada

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The authors accept sole responsibility for the opinions and any errors in the report.


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## INTRODUCTION

## BACKGROUND

Recent demographic trends have caused considerable change in Canada's education systems. At the elementary level, declining enrolment has been the norm rather than the exception since 1970. Secondary enrolment is just beginning a similar period, and the post-secondary system will face this prospect in the 1980s. The enrolment decline coincides with an excess of postsecondary graduates in some disciplines relative to jobs requiring that level of education. Unemployment and possible underemployment of young people in general, and post-secondary graduates in particular, have become issues. It is these areas - enrolment, the annual number of students entering the labour force, and their past and possible future labour market experiences - that are the focus here.

A 1977 Statistics Canada study, Future trends in Enrolment and Manpower Supply in Ontario, produced in co-operation with the Ontario Educational Communications Authority, was the forerunner of this report. The projections model and techniques developed for the Ontario analysis have been applied to national data. The Ontario project, in turn, was based on a pilot study released in 1973 under the authorship of Zoltan Zsigmond and Edith Rechnitzer Projected Potential Labour Force Entrants from the Canadian Educational Systems. This report is in some ways an update of the original 1973 work, although considerable analysis and comment have been added.

## OBJECTIVES

The intention is to provide a broad, general overview of expected changes in the manpower supply from the Canadian education systems, and possible implications. Discussion emphasizes the relationship between the number and educational profile of school leavers and the labour market. It is hoped that the statistics and analysis will give planners, policymakers, and the general public a clearer understanding of some of the issues
in this relationship. The report examines some underlying causes, particularly those of a demographic nature, and the extent to which current difficulties are short- or long-term. Because the study is analytical, it does not confront the very difficult question of what adjustments are possible and/or necessary in either the education system or labour market. The intention is simply to bring the issues into sharper focus, not to offer solutions or recommendations.

More specifically, the primary objectives are: (1) project to 1986 the annual number of potential labour force entrants from the Canadian education systems; (2) estimate the educational attainment of this annual supply of "new" manpower; (3) interpret the data in the light of related labour force information, and (4) discuss possible implications of expected variations in supply. Secondary goals include: (1) provision of detailed elementary, secondary, college and university enrolment projections to 1986, (2) comparison of trends in Canada and the United States, and (3) dissemination of population data, which is so essential to educational planning and the understanding of many issues in education and the labour market today.

## AUDIENCE

Since the objectives are numerous, the report is aimed at a wide audience - education and manpower planners interested in the detailed data and observations; business and industry concerned about the educational attainment and availability of future employees; politicians involved in major policy issues; teachers, guidance counsellors and parents responsible for advising young people, and last but definitely not least, students themselves, who upon leaving school must find their way in the labour market. It is recognized that the facts and speculations provide only a general overview, and are perhaps not as detailed as many readers would like.

## REFERENCE PERIOD

The study concentrates on the period from the mid-sixties to 1976 , and the future to 1986. Possible trends to the year 2001 are outlined, and earlier developments occasionally are examined.

## LAYOUT

The main body of the report consists of seven chapters, written so that each can be read without reference to the rest of the study. Therefore, some repetition of crucial points is unavoidable. Summary statistics are included in each chapter to support the analysis. Detailed statistical tables, along with a brief methodological discussion and other technical information, are in the appendices.

The seven chapters are:
I - Summary: a summary of Chapters II to V.
II - Population: a projection of Canada's school-age and total populations.
III - Enrolment and Graduates: a discussion of past trends and detailed projections of elementary-secondary, college (non-university) and university enrolment and graduates.

IV - Potential Labour Force Entrants: a projection of the annual number of potential labour force entrants from the education systems, by level of schooling.
V - School Leavers and the Labour Force: a discussion of the implications of projected trends in school leavers for the growth, age composition and educational attainment of the labour force. Future labour market prospects for school leavers are also discussed.
VI - Alternative Projections: alternative projections of population, enrolment and the annual number of school leavers.
VII - A Comparison of Canadian and American Trends: a comparative analysis of past trends in the total fertility rates, school-age populations, enrolments, unemployment, and other selected statistics.

All data sources are listed in Appendix I. If a specific source is not cited, the information was provided by Statistics Canada.

## SCOPE AND LIMITATIONS

Scope

The study covers almost all parts of the education systems in Canada, including all elementary, secondary, post-secondary non-university (college) and university institutions, public or private. Enrolment in trade schools and trade-level enrolment in non-university institutions has been excluded.

Because the object is to calculate the number of labour force entrants from the education system, only full-time enrolment was considered. Little information is available on part-time students. Moreover, since the majority of them are already in the labour force, they are not "entrants".

Detailed enrolment projections were produced for each educational
level. However, the study goes beyond enrolment to project output, including:
-the number who leave the school system each year, not to return the next;
-the number of these leavers who remain in Canada and thus are "potential labour force entrants", and
-their educational attainment.

The annual number of school leavers (all persons enrolled full-time at any level one year but not the next) was determined by a series of calculations based on the enrolment projections and other data on migration and death. Sample surveys, extrapolation of survey data and trend projection of past numbers of school leavers were not employed. (A general description of the methodology is given in Appendix I).

Beyond the projections, various kinds of labour force data were examined to clarify some aspects of the relationship between school leavers and the labour market. This analysis is not as systematic as that on which the projections are based owing to insufficient data and knowledge in this area. Based on available information, however, some effort has been made to look at possible implications of the number and educational attainment of school leavers for the labour force and labour market in the future.

## Limitations

Since the study endeavours to develop a new methodology and analyze a relatively "soft" area, there are obviously some limitations. In the projections perhaps the most serious is the broad educational attainment categories by which school leavers and potential labour force entrants are classified. The seven categories are: less than secondary graduation; secondary graduation; "some" post-secondary education; non-university graduation; bachelor's or first professional degree; master's degree, and Ph.D. No attempt was made to estimate the number of students available to the labour force from individual secondary grades, or from specific disciplines at the post-secondary level. Necessary data are lacking. However, even given the data, projections of output from the entire education system by discipline would require such a detailed model that the results would be very suspect. For these reasons, it was not feasible to project "school leavers" by discipline. Data deficiencies also prevented breakdowns by region, or for the English- and French-speaking populations. Limitations in the analysis of the relationship between school leavers and the labour market are many. These are outlined in chapter 5.

The study has other limitations. The more significant are:
-For manpower planning, it is important to note that the education system is only one source of workers, although likely the largest. The labour force is also augmented via immigracion, and the entry or re-entry of persons from households.
-In many instances, it would have been desirable to compare the supply of manpower from various levels of the education system with the demand for such workers to assess their labour market prospects. But, the manpower demand projections necessary for such a comparison were not available.
-Limitations associated with all projections apply here: projected values should not be considered precise predictions but rather indicators of general trends. Decimal points that appear in projections are used only for technical convenience, not to suggest exact values.


## CHAPTER I

## SUMMARY OF FINDINGS

The summary highlights the results of this quantitative study of past and projected input (enrolment) and output (persons leaving school) of Canada's education systems. The focus is on the number of school leavers and their relationship to the labour market. Clearly, however, output (school leavers) depends on enrolment, which, in turn, depends on the size of the school-age population.

It is easy to fall into the habit of speaking of the future as if it were going to be as projected. Use of the word "will" throughout the study implies an undue degree of certainty; it should be interpreted as "is expected".

The numbers reported and concomitant implications are based on a single projection of enrolment and potential labour force entrants that seemed reasonable at the time of writing (Winter 1977-78). To indicate a possible range over which the findings could vary, alternative projections of population, enrolment and potential labour force entrants were made. The alternatives and assumptions that underlie them are in chapter 6.

The projection extends from 1976 to 1986, although trends to 2001 are out lined. Summary statistical tables are at the end of the chapter.

## POPULATION

assumptions:
total population:

The special population projection prepared for this study incorporates the assumption that the total fertility rate (the expected number of children per 1,000 women throughout their 1ifetime) will decline from 1,866 in 1975 to 1,800 by 1978, and then remain constant. Annual net migration is assumed to be 100,000 .

The fertility rate is probably the most significant but also the most uncertain aspect of long-range population projection. To demonstrate the effect of a higher or lower rate, two alternative population projections are given in chapter 6 .

The total population is projected to grow from 23.0 million in 1976 to 26.1 million by 1986: a $13.5 \%$ increase in 10 years or $1.3 \%$ annually.

The annual number of births rose throughout the 1950s (the postwar baby boom), peaking in 1959 at 479,000. A sharp and steady decline followed to 343,000 in 1973. Births increased to 365,000 in 1976, but fell slightly to an estimated 360,000 in 1977. The fertility rate continued to fall in 1977. Under the assumption of a constant total fertility rate, annual births are projected to slowly increase, reaching a peak of 412,000 in 1984 well below the 1959 high. If the total fertility rate continues to decline, the number of births may more closely resemble the lower projection in chapter 6 .

The sequence of the postwar baby boom, the subsequent precipitous drop in births, and the upturn since 1973 creates an unprecedented demographic phenomenon: population
waves. As they mature, the baby boom children swell each successive age group. A 1 ull or trough follows and then a second, though considerably smaller, rise. All levels of education, as well as the labour force, will be affected by these population waves.

As the waves move through the population, its age composition shifts. The population will grow "older" along with the baby boom generation. For example, 4-17-year-olds, who represented $29.0 \%$ of the total in 1971, will decrease to $20.1 \%$ by 1986 . At the same time, the 25-44 age group will rise from $25.1 \%$ to $33.1 \%$ of the total.
the school-age population:

The school-age population was first to exhibit these waves (Chart 1). The compulsory nature of elementary and much secondary school ensures that enrolment follows population trends. And at the post-secondary level the size of the $18-24$ age group is a principal determinant of enrolment.

The number of $6-13$-year-olds (population apt to be enrolled in elementary school), which peaked at 3.7 million in 1971, will decline until the early 1980 s to a low of 2.9 million - a $22 \%$ drop. An increase will follow, but only to a projected 3.3 million by the mid-1990s, well below the 1971 high.

The 14-17 age group (secondary) follows the same pattern but with some time-lag. It peaked at 1.9 mili . m in 1977, will decrease to approximately 1.4 million in the late 1980 s (a drop of $26 \%$ ), and then rise until the turn of the century.

The 18-24 age group (post-secondary) will grow approximately $1.2 \%$ a year to 3.4 million by the early 1980s. As did the others, it will then fall - to 2.7 million by the mid-1990s (a $21 \%$ drop) - and increase thereafter.

Chart-1
Selected age group populations relevant to school enrolment, Canada, 1961 to 2001


## ENROLMENT (Table 1)

Full-time elementary, secondary and post-secondary enrolment are examined historically and projected to 1986. Part-time enrolment has been excluded. All public and private institutions, regardless of their sources of financial support or control, are included.

## definitions:

assumptions:

Elementary school consists of kindergarten and grades 1 to 8 (i.e., the first eight years of school); secondary, the ninth year and above, and post-secondary, universities and non-university institutions. Universities are degree-granting institutions. The term non-university encompasses community colleges, institutes of technology, Ontario's Colleges of Applied Arts and Technology (CAAT's), Quebec's collèges d'enseignement général et professionnel (CEGEP's), hospital schools of nursing, and other colleges, public or private. Enrolment in vocational and technical programs not requiring secondary completion or its equivalent and in programs of less than one year's duration has been excluded.

Because elementary school attendance is compulsory, enrolment almost exactly matches the $5-13$ age group. The only exception is kindergarten where numbers are expected to grow steadily regardless of population trends.

The secondary situation is similar, although other factors affect enrolment in the higher grades. Because of the poor job market for young people, it is possible that, at least in the near future, more students will stay in secondary school beyond compulsory age.
\(\left.\begin{array}{l}Post-secondary projections present the most difficulty <br>
because of the variety of educational and occupational <br>
choices offered potential students. Enrolment is affected <br>
by students' values and attitudes, the job market, entrance <br>
requirements, government financial support and so on. <br>
For the projection described here it is assumed that <br>
student demand for some types of post-secondary education <br>

will decrease in the near future, due primarily to a poor\end{array}\right\}\)| labour market for many graduates. As well, the declining |
| :--- |
| proportion of government expenditures allocated to education |
| may depress enrolment. An indicator of the net effect |

elementary enrolment (grades 1 to 8 ):

Elementary enrolment grew steadily after World War IT to a 1968 peak of about 3.8 million. By 1976 it had declined to 3.4 million and will bottom out at 3.0 million in the early 1980s. (The $22 \%$ decrease since 1968 - 800,000 students - is greater than 1976 elementary enrolment in the three Prairie Provinces combined). After the mid-1980s a gradual rise to approximately 3.45 mili ion in the mid-1990s is projected. The magnitude of this increase is somewhat uncertain, as it can be influenced by variations in the fertility rate. However, the 1968 high will not likely be reached again this century (Chart 2).

Maximum secondary enrolment in Canada was 1.7 million in 1976. By 1986 it will have dropped $23 \%$ to 1.32 million . (The 390,000 loss is larger than current secondary enrolment in both Alberta and B.C.). Enrolment in the nine provinces excluding Quebec is expected to peak at 1.3 miliion in 1978, fall $16 \%$ to 1.1 million in the early 1980 s, remain more or less constant to 1990, and start increasing gradually thereafter. Despite the rise in the early 1990s, the 1978 level will not recur this century. Projected trends for combined elementary-secondary enrolment are displayed in Chart 2.

In the 1960 s a combination of demographic, social, economic and political factors culminated in unprecedented post-secondary growth. Full-time enrolment more than tripled between 1962 and 1976, from 197,000 to $605,000$. The average annual increase in the sixties was a remarkable $11 \%-12 \%$. It fell to around $4.5 \%$ in the early seventies, and by 1976 had decreased to $2.0 \%$. The $208 \%$ enrolment gain between 1962 and 1976 was the result of: (1) a $75 \%$ jump in the size of the 18-24 age group during 1962-76, and (2) a rising enrolment rate.
postsecondary enrolment:
secondary enrolment (ninth year and above) :

Chart - 2
Total elementary-secondary enrolment, 1962-2001

the post-
secondary
enrolment rate:
projected full-time post-secondary enrolment:

The enrolment rate - full-time enrolment related to the 18-24 age group population - went from $\mathbf{1 1 . 1 \%}$ in 1962 to $19.4 \%$ in 1976. During the 1960 s the rate rose constantly, but in the 1970s the trend changed. After a steady increase the male rate peaked in 1971 at $22.3 \%$, and fell slightly to $21.1 \%$ by 1976 . On the other hand, the female rate continued climbing from $14.6 \%$ in 1971 to $17.7 \%$ in 1976 (Chart 3). The result is a shift in the mix of post-secondary students from 39\% female in 1962 to $40 \%$ in 1971 and $45 \%$ in 1976. This phenomenon is evident in both colleges and universities. Because of rising female participation, the total enrolment rate went from $18.5 \%$ in 1971 to 19.4\% in 1976.

The projection presented here is based on the assumption that the enrolment rate will decline from $19.4 \%$ in 1976 to $17.4 \%$ in 1986 because of: (1) a labour market surplus of post-secondary graduates in some disciplines, and consequent unemployment, underemployment and decreasing wages relative to other workers; (2) a diminishing demand for teachers into the 1980 s as elementary-secondary enrolment continues to decrease, and (3) continuation of the recent drop in the total proportion of government expenditures allocated to education (from 22.2\% in 1970 to $17.0 \%$ in 1975).

A slowly increasing 18-24 age group (1.2\% a year) combined with a falling enrolment rate results in more or less stable post-secondary enrolment between 1977 and 1982 of about 613,000 students. The subsequent decline in the 18-24 age group is expected to cause enrolment to drop to around 550,000 by 1986 (Chart 4). This is 1ikely to continue into the early 1990s.

Chart - 3
Post-secondary gross enrolment rate (total full-time enrolment related to 18-24 age group population) Canada, 1962-86


Chart - 4
Total full-time post-secondary enrolment, 1962-86


Because part-time enrolment has been excluded, these projections are not comprehensive. Part-time students constitute a significant proportion of post-secondary enrolment: an estimated $24 \%$ in 1975.
university enrolment:
non-university enrolment:

Recent enrolment trends indicate a movement toward professional and labour market-oriented programs in universities. Between 1971 and 1976 undergraduate enrolment growth was: commerce, $60 \%$; health (medicine, nursing, dentistry, etc.), $30 \%$; engineering, $23 \%$; education, $20 \%$; law, $21 \%$; science, $8 \%$, and arts, $1 \%$. As a proportion of all undergraduates, arts fell from around 40\% in 1971 to $34 \%$ in 1976. The trend toward professional and labour market-oriented programs is expected to continue in the short- and medium-term. For Canada, this projection indicates little change in total university enrolment to the early 1980s ( 383,000 in 1983 compared with 377,000 in 1976). However, some provinces - particularly Ontario have already experienced a decline in enrolment (1977). If this trend continues, the lower projection in chapter 6 might be realized. After 1983 a dec1ine to 356,000 by 1986 is anticipated in the medium projection shown here .

The growing popularity of career-related programs may increase college (i.e., post-secondary non-university) enrolment vis-a-vis universities. Total college enrolment is projected to peak in 1977 and 1978 at 243,000 and then decline steadily to 195,000 by 1986 (a $20 \%$ drop in eight years). Up to 1982 the projected drop is due largely to declines in Quebec. Since Quebec accounts for more than half of all non-university enrolment, it has considerable influence on the national trend. Enrolment in the nine provinces excluding Quebec is expected
to rise slowly from 107,000 in 1976 to 117,000 in 1982 and then decline $9 \%$ to 107,000 in 1986. For Quebec abnormally high enrolment is expected in 1977 and perhaps 1978 because of the restructured school system. Afterward, owing largely to demographic factors, a steady decline is projected from 133,000 in 1977 to around 89,000 in 1986, a drop of one-third. The decline is expected to continue in all regions into the early 1990s.
graduates:
enrolment synopsis:

The numbers of secondary, university and college graduates have been projected, but this is not a good indicator of the number of potential labour force entrants. Only about $40 \%$ of the students who leave school each year are graduates. Many quit before completing the program in which they are enrolled; some return in later years. As we11, many graduates continue their studies at a higher level. For these reasons the number of graduates alone is not a reliable estimate of potential labour force entrants. However, knowledge of their numbers is necessary to compute the educational attainment of school leavers. Projections of secondary, university and college graduates are shown in Table 2 at the end of the summary.

Projected changes in enrolment will affect all aspects of the education system. Ultimately, the population waves will hit each level, creating ten- to twelve-year periods of increase and decline. Periods of growth and contraction each have unique problems. At any time, enrolment patterns differ from one level to another, but eventually similar problems will confront authorities at all levels.

It must be noted that this is a projection for Canada; provincial and sub-provincial patterns could vary significantly.

## POTENTIAL LABOUR FORCE ENTRANTS (Tables 3 and 4)

definition of school leavers:
educational attainment categories:
manpower sources:
annual number of potential labour force entrants:

Everyone enrolled full-time at any level in the education system during one academic year, but not the next, is a "school leaver". This includes all students who leave school for any reason, graduates or not. Those remaining in the country and eligible to work are referred to as "potential labour force entrants".

The educational attainment of school leavers has been calculated to determine the annual number of potential labour force entrants with: (1) less than secondary graduation; (2) secondary graduation; (3) "some" postsecondary (enrolled in a post-secondary institution but "left" before graduation) ; (4) post-secondary certificate or diploma (chiefly graduates of colleges or similar institutions); (5) bachelor's or first professional degree; (6) master's degree, and (7) doctoral degree.

Because the trade level has been excluded from this study, many reported as having "some" or "completed" secondary education could have trades training.

The number of potential labour force entrants represents the annual supply of "new" manpower available to the labour force from the education system. While there are other sources of manpower (immigration and the household sector), the education system is the principal one.

Because of the baby boom, the annual manpower supply from the education system increased rapidly. In 1976 $60 \%$ more school leavers became available to the work force than in 1966 (580,000 compared with $360,000-$ see chart 5 ).

Chart - 5
Potential labour force entrants from the Canadian education systems, 1966-86

educational attainment of school leavers:

For Canada the number peaked in 1977 at an estimated 615,000. However, the national figure is affected by the restructuring of Quebec's education; the number of school leavers in the other nine provinces will continue to rise until 1980.

The annual influx will then decline each year until the early 1990s, reflecting the birth turnaround after 1960. By the mid-1980s approximately the same number of young people will be leaving school and seeking employment as in 1970.

Chart 5 shows that secondary leavers have been and will continue to be more numerous than their post-secondary counterparts. But the real difference has been the respective rates at which output from the two levels has increased. Between 1966 and 1976 the annual number of labour force entrants from secondary school rose only $26 \%$ (from 294,000 to 372,000 ), while those with post-secondary education increased 210\% (from 67,000 to 208,000). By 1986 the number with secondary education will have shrunk to almost the 1966 level, and those leaving the post-secondary system will be more than triple the 1966 figure. Variations in the past were caused by the tendency for a larger proportion of young people to attend post-secondary institutions. In the medium-term future, the population's changing age composition will increase the size of the post-secon-dary-educated segment vis-a-vis those with secondary schooling. This results in relatively more highly educated labour force entrants.

Chart 6 and Table 4 show the rising educational attainment of new labour force entrants. In 1966 approximately $19 \%$ had post-secondary credentials or had completed

Chart - 6
Potential labour force entrants from the Canadian education system:
Percentage distribution by level of schooling, selected years

part of such a program. The percentage rose to $36 \%$ in 1976, and is expected to be more than $42 \%$ by 1986 - a drastic change in the nature of new manpower in only 20 years.
post-secondary credentials:

Among post-secondary graduates, bachelor's and first professional degree-holders are most common. In 1976 50,300 with bachelor's degrees, 39,500 with certificates or diplomas, and 8,100 with graduate degrees became available to the labour force. Degrees in arts predominate at the bachelor's level, although the percentage has been declining: $44 \%$ of all 1966 bachelor's and first professional degrees were in arts, $41 \%$ in 1971, and $35 \%$ in 1976.

Females constitute a growing proportion of the potential labour force entrants with bachelor's degrees: $36 \%$ in $1966,48 \%$ in 1976. They also tend to enrol in arts and education. In $1975-7641 \%$ of the female bachelor's graduates received arts degrees, compared with $31 \%$ for men. Another $28 \%$ of women were granted degrees in education, compared with $13 \%$ of males.

## THE IMPACT OF SCHOOL LEAVERS ON THE LABOUR FORCE

Quantitative and qualitative changes in the manpower supply from the education system have far-reaching consequences for the labour force and labour market. Some of the issues and possible implications are discussed, including:
-the growth rate, age composition and educational attainment of the labour force;
-recent growth in managerial, professional and technical jobs compared with the number of post-secondary leavers seeking such jobs;
-labour force growth and unemployment;
-current youth unemployment;
-the relationship between education and unemployment;
-impact of the decreasing demand for school teachers on the labour market for university graduates;
-a possible qualification spiral and underemployment.
Most of the discussion about the future is based on changes in the supply of manpower. This study is in some ways one side of a two-sided coin: the projections deal almost exclusively with manpower supply; no corresponding demand projections have been made. Nonetheless, recent and anticipated changes in the manpower supply from the school system have profound implications.
Although this report examines education strictly from a labour market standpoint, the authors realize education has a multiplicity of purposes, only one of which is preparation for employment. They do not wish to imply that students are motivated solely by job prospects, or that all education should be conducted with that end in view.
labour force growth rate:
age composition of the labour force:

As the baby boom generation emerged from the education system and sought jobs, labour force growth was phenomenal. This growth was accentuated by a rapidly increasing number of working women (the female participation rate was $33.9 \%$ in 1965, $45.9 \%$ in 1977) and high immigration. During the 1965-75 period the labour force increased an average of $3.4 \%$ a year, substantially above other industrialized countries, including the United States. But
if unemployment is not to increase as we11, rapid labour force growth must be accompanied by equally rapid job creation.

When the number of students leaving the education system drops, so will the pace of labour force growth. The annual influx of job-seeking school leavers is expected to peak in 1977. Under the assumptions of 100,000 annual net migration and a moderately rising participation rate, labour force growth will fall from a yearly average of $3.6 \%$ in the $1970-75$ period, to $2.7 \%$ during $1975-80,2.1 \%$ during 1980-85, and $1.4 \%$ during 1985-90.
educational
attainment of the
labour force:

The labour force will "grow older" as the baby boom children mature. The number of $15-24$-year-olds will actually decline in the early 1980s, while the number of $25-44$-year-o1ds increases at rough1y $4.2 \%$ annually. Thus, the proportion of the labour force aged $15-24$ is expected to fall from $27.0 \%$ in 1977 to $18.9 \%$ by 1990. Simultaneously, the proportion aged $25-44$ will rise from $45.2 \%$ to $56.9 \%$.

The educational attainment of school leavers has shifted radically over the last decade from secondary toward post-secondary, thereby raising the overall educational level of the labour force. In the coming decade this shift will continue, but at a slower pace.

As well as by the addition of school leavers, the educational attainment of the labour force is raised by the retirement of older workers who generally have less formal education. As young people replace these older workers, the proportion of the labour force with completed or partially completed post-secondary education grows. It rose from an estimated $12.8 \%$ in 1961 to $22.0 \%$ in 1972 , to rough1y $30 \%$ in 1977 , and is expected to reach $36 \%$ to $40 \%$ by the mid- 1980 's - a two- or threefold increase in 20 years.

By 1986 there will be $50 \%$ more post-secondary-educated persons in the labour force than there are now (1977). But will the type of jobs available demand this level of education? To explore this question, it is necessary to look at the rate at which jobs requiring post-secondary certification have been increasing.
managerial, professional and technical occupations:

Not all post-secondary graduates are employed in managerial, professional or technical jobs, nor do all these fields require post-secondary certification. But the growth of such occupations is a general indication of employment opportunities for college and university graduates. For example, the 1973 Highly Qualified Manpower Survey revealed that $81 \%$ of young (under 29) employed university graduates had jobs classified as managerial, professional or technical. The major occupation was teaching, employing $36 \%$ of young degree-holders.
employment growth and the number of post-secondary graduates:

Between 1966 and 1975 employment in managerial, professional and technical occupations rose about 5\% a year, a very high rate compared with the annual 2.9\% for all occupations. The rate fell to $3.5 \%$ in 1976 and $2.2 \%$ in 1977 . The number of labour force entrants
from college and university, however, was increasing more quickly - 12\% a year from 1966 to 1971, dropping to around $4 \%$ in the mid-seventies. The annual number of school leavers with post-secondary certification more than doubled from 46,000 in 1966 to 98,000 in 1976. This discrepancy in the growth of managerial, professional and technical occupations and the number of post-secondary-educated job-seekers made it virtually impossible for all graduates in the mid- and late 1970s to acquire employment similar to that obtained by their counterparts in the early and mid-1960s.

Future prospects do not appear promising. Some analysts project a slower rate of growth of jobs requiring post-secondary certification over the next decade. This is due in large part to the diminishing need for teachers as enrolment declines. But the number of post-secondary graduates seeking jobs is projected to increase, albeit slowly, to the early or mid-1980s. Because of this divergence between the supply of "new" manpower with post-secondary certification and the number of jobs requiring that educational level, the labour market situation for graduates in some disciplines is not likely to show immediate improvement, and may worsen before it gets better, perhaps in the second half of the eighties. More will be said of this shortly.

## SCHOOL LEAVERS AND UNEMPLOYMENT

labour force growth and unemployment:

If unemployment is not to increase when a large number of people enter the labour market, the rate of job creation must be high. Conversely, fewer entrants should alleviate unemployment. Rapid labour force expansion, combined with a recent slowdown in the rate of job creation, has contributed to current high unemployment: 8.1\% in 1977. Although labour force growth is starting to decline, job creation may have to advance quite rapidly in the next few years if unemployment is to diminish.

The levels of job creation needed to achieve certain rates of unemployment have been estimated in a series of rough "exploratory" calculations. The unemployment rates selected are not predictions or projections. They are simply hypothetical values used to put the necessary increase in employment (jobs) in context.

The first requirement for such a calculation is a labour force projection. Labour force growth depends on the size of the working-age population (aged 15 and over) and the proportion who decide to seek work (i.e., the participation rate). Two labour force projections are used. Both are based on the medium population projection, and differ only in the participation rates chosen for the future.

The higher projection assumes a continuation of recent trends in labour force participation. The male rate, which has dropped slightly (from $78.7 \%$ in 1974 to $77.7 \%$ in 1977), remains constant to 1980, and increases slowly to $78.4 \%$ in 1986 . The female rate, which has been increasing rapidly: 8.8 percentage points in the past nine years from $37.1 \%$ in 1968 to $45.9 \%$ in 1977 , rises 7.4 more percentage points in the next nine to $53.3 \%$ by 1986 .

The second projection is lower. It incorporates a male participation rate that declines slightly in the near future from $77.7 \%$ in 1977 to $77.3 \%$ in 1982 and returns to $77.7 \%$ by 1986. The female rate rises slowly in this projection, increasing 3.7 percentage points to $49.6 \%$ by 1986.

High unemployment and difficulty securing work tend to discourage some persons from job-seeking, thus excluding them from the labour force. This tends to reduce participation rates. Therefore, current high unemployment, which is expected to persist in the near future, could exert a downward pressure on labour force participation. The lower projection incorporates this assumption.

On the basis of these labour force projections, the "exploratory calculations" suggest that:
(1) for unemployment to remain at $8 \%$ until 1980 and decline to $6 \%$ by 1986, average annual job creation would have to be 250-285 thousand to 1980, 225-270 thousand to 1986;
(2) for unemployment to drop from $8.1 \%$ in 1977 to $7.0 \%$ in 1980 and to $5.0 \%$ by 1986, annual average job creation would have to be 305-340 thousand to 1980, roughly $230-270$ thousand to 1986;
(3) for unemployment to drop from $8.1 \%$ in 1977 to $6.5 \%$ in 1980 and to $4.0 \%$ by 1986, average annual job creation would have to be 335-370 thousand to 1980, 250-300 thousand to 1983, and 230-270 thousand to 1986 .

Employment growth in recent years puts these numbers in context. Between 1970 and 1977 the average number of new jobs was 240,000 per year, ranging from a low of less than 100,000 in 1970 to 439,000 in 1973. During the 1972-74 period the rate of job creation was quite high, averaging 360,000 per year. Recently, the rate has been lower, at an average 190,000 per year between 1975 and 1977.

An international comparison shows that during the 1970s Canada has had the highest rate of job creation of major
western industrialized countries. For example, between 1970 and 1976 employment increased $20.9 \%$ in Canada, $11.3 \%$ in the United States, $9.5 \%$ in Australia, $6.1 \%$ in Sweden and $2.3 \%$ in France. Even during the slower growth years of 1975 and 1976, only Norway and the U.S.A. (in 1976) had higher rates of job creation.

The projections on which these calculations are based also indicate that as labour force growth slows in the midand late 1980 s, a lower rate of job creation will significantly reduce unemployment. Roughly 130-160 thousand jobs a year would maintain a constant level of unemployment, and 170-190 thousand jobs a year would lower it $1 \%$. From a historical perspective these are relatively moderate increases in employment. At that time, the demand may be for more workers rather than more jobs. In the shortterm, however, a substantial rate of job creation will be required to reduce unemployment.
youth unemployment:

Unemployment has been, and for some time will be, concentrated disproportionately among the young. About one-quarter of the Canadian labour force is $15-24$, but almost half the unemployed are in this age group. Their 1977 unemployment rate was $14.5 \%$, more than twice the $5.8 \%$ of those 25 and older. Even in a better economic climate unemployment was more severe among the young - during the sixties rates were $6.1 \%$ for $14-24$-year-olds, $2.8 \%$ for those 25 and over. However, because of the large numbers currently entering the labour market and the recent slowdown in job creation, employment difficulties of the young have worsened. As long as large numbers are looking for work, youth unemployment could remain a problem. Calculations similar to those just described suggest that to reduce their unemployment rate to $9 \%$ by 1980 , jobs held by $15-24$ year-o1ds would have to increase at roughly 80-100 thousand a year, depending upon the proportion of the young entering the labour force. Keeping the rate around
$14 \%$ to 1980 requires $30-50$ thousand jobs per year. Over the past decade the average annual increase in employment among 15-24-year-olds was 66,000 . But it was erratic, averaging 139,000 between 1971 and 1974 but plummeting to 16,000 during 1975-77.

However, the falling birth rate of the 1960 s is likely to have an impact after 1981. The inevitable decline in the number of $15-24$-year-olds on the 1 abour market is unprecedented, so the effect on the economy is difficult to predict. Yet it seems reasonable to suggest that youth unemployment would not be a problem during such a contraction in the supply of "new" manpower.

As the baby boom children grow older, the employment difficulties that many of them have had to confront may not totally disappear. Labour market competition among older people (e.g., 25-35) could be considerable when the number of workers of these ages swe11s. This may, for example, affect their unemployment rate.
education and unemployment:

Traditionally, unemployment has been negatively correlated with education: the higher the education, the lower the unemployment. This holds true today for both the entire labour force and new entrants. Average 1974-77 spring unemployment of the total labour force was $10.1 \%$ for those with elementary education, $8.2 \%$ among those with secondary, and $2.5 \%$ for university degree-holders. The pattern among 15-24-year-olds was the same, but rates were higher: elementary, $23.2 \%$; secondary, $13.5 \%$; "some" post-secondary, $9.5 \%$; postsecondary diploma or certificate, $6.3 \%$, and degree, 5.4\% (Chart 7).

Average spring unemployment rate, by educational level, Canada, 1974-77

unemployment of Ontario college and university graduates:

These national figures do not allow comparisons of unemployment rates between more detailed educational categories - for example, by discipline. Surveys of 1974 and 1975 Ontario college and university graduates do, however, provide such data.

Unemployment among 1975 Ontario college and university graduates was $2 \%$ to $3 \%$ higher than among 1974 graduates. Although often quite high immediately following graduation, after more than one year in the labour force, their overall unemployment rate was lower than that of the 15-24 age group.

But unemployment varies substantially by discipline. The 1975 survey indicated that unemployment tended to be higher among bachelor's degree-holders (8.4\% in September 1976 , approximately 15 months after graduation) than graduates of Colleges of Applied Arts and Technology (6.6\%). University graduates of health disciplines, business, engineering, architecture, education, mathematics and science fared best, with unemployment rates between 2.2\% and $7.1 \% 15$ months after graduation. Rates for graduates in the humanities, social sciences, fine arts and languages were higher, ranging from $12 \%$ to $15 \%$. These were above the unemployment rate for the $15-24$ age group as a whole. 1975 CAAT's graduates of technology, technical, secretarial, health and business programs had the lowest unemployment rates $-4 \%$ to $8 \%$ in September 1976. Unemployment among graduates in education services and creative and visual arts was above the average for all 15-24-year-olds $-10 \%$ to $12 \%$.

## UNIVERSITY GRADUATES ON THE LABOUR MARKET

job applications and hirings in the federal government:

Data are available on the number of recent university graduates hired through the federal Public Service Commission's Post-secondary Recruitment Program. This covers approximately $80 \%$ of all recent graduates (i.e., those graduating during the previous 3 or 4 years) hired by the federal government. Since the early 1970s there has been a considerable increase in applicants, but no corresponding rise in hirings. From about 15,000 in 1973 the number of applicants jumped to 25,000 by 1977, an increase of roughly two-thirds in four years. During the same period the number hired fluctuated around 1,000 (961 in 1973; a peak of 1,122 in 1975; 1,008 in 1977).

Hence, the proportion of applicants hired fell from 6.4\% in 1973 to $4.0 \%$ in 1977. It is likely that the increase in applications reflects the tighter labour market university graduates now encounter, which may motivate them to submit applications to a variety of potential employers.

The 1977 data show that graduates hired were from job-oriented disciplines that provide skills in specific areas. Nearly half the approximately 7001977 university graduates hired (about whom data are available) had degrees in commerce, management or business administration. The extent of government selectivity can be demonstrated by relaing hirings to the estimated number of 1977 bachelor's degree graduates in each discipline. Commerce, management and business administration graduates had the best chance of obtaining available government jobs - 44 per 1,000 1977 bachelor's degree graduates were hired through the Post-secondary Recruitment Program. Other disciplines with fairly numerous hirings in relation to graduates were computer science (38 per 1,000), economics (14), the physical sciences (13), political science (11), and engineering (7). Disciplines with few hirings were
psychology, sociology and geography, each at 2 per 1,000 graduates, and the humanities, fine and applied arts and education at 1 or less per 1,000 .

These data refer only to the Post-secondary Recruitment Program. Of the approximately 60,000 university graduates who left school in 1977 , perhaps 14,000 (or $23 \%$ ) applied to the federal government, and roughly 700 (or $1.2 \%$ ) were hired.

Other federal government data suggest that many jobhunters were forced to accept lower-paying, less demanding jobs. During the first half of 1977, about $30 \%$ of all applicants for clerical positions, where the formal education requirment is Grade 10 , held university degrees or college diplomas or certificates.
starting salaries for bachelor's degree graduates:

As the number of job-seekers with bachelor's degrees increases, their labour market position appears to deteriorate. A comparison of starting salaries in industry for graduates with bachelor's degrees, with average earnings of all industrial workers, shows that in 1965 a graduate's average starting salary was $110 \%$ of that for all workers; this peaked in 1968 at $118 \%$. A subsequent turnaround meant that by 1977 new bachelor's graduates earned $88 \%$ of the average industrial wage. The starting salary in this comparison is a weighted average of five categories of graduates engineering, honours science, honours arts, commerce and business administration, and pass arts or science.

The pattern of an increasing starting salary relative to all workers from 1965 to 1968 and a dec1ine thereafter holds for all disciplines, although engineers' salaries were highest and three-year arts and science graduates' lowest. These data suggest that when the large number of bachelor's degree-holders began to enter the labour market in the 1970s, salaries employers were
obliged to pay increased, but did not keep pace with the overall rise in wages.
the major employment sector for university graduates:
the declining demand for teachers:

Ideally, present and future prospects for university graduates should be assessed by determining the demand for graduates in each occupation and/or industry and relating it to expected supply. Theoretical and practical difficulties preclude such an approach in most fields. However, a closer examination of the teaching profession is possible. It has been a major employment sector for university graduates: in 1973 36\% of all employed degree-holders in Canada, 28 or younger, were in education.

Demand for teachers, of course, is governed primarily by the size of enrolment. Since the number of students has been projected, it is possible to determine general trends in the future need for teachers.

Elementary-secondary enrolment has been falling since 1970, and with it the demand for teachers. The number hired directly from educational institutions (college or university) plummeted from an estimated 30,000 in 1969 to 10,000 or less in 1976. During the same period, the number of bachelor's degree graduates available to the labour force increased $50 \%$ from 32,000 to 50,000 (Chart 8). Demand for new teachers will likely decline further as elementary-secondary enrolment falls to a low in the mid-1980s.

The decreasing demand in so prominent an employment sector as teaching concurrent with an expanding manpower supply is partially responsible for present employment difficulties of many bachelor's degree graduates, and no improvement is in sight. Even after the low of the mid1980s, elementary-secondary enrolment, and hence the need for teachers, will not match the high growth years of the 1960s.

Chart - 8
Elementary-secondary enrolment, school leavers with bachelor's degrees and "new" teachers hired, Canada, 1962-86


As the demand for teachers declined in the 1970s and the number of graduates continued to increase, the economic and career benefits associated with a general degree diminished. There appeared to be, and maybe still is, a gap between students' labour market expectations, perhaps based on the experience of the 1960s, and labour market reality. Persistence of this situation may result in re-evaluation of the purposes of a general degree and a change in the motives for earning one.

## LABOUR MARKET PROSPECTS FOR SCHOOL LEAVERS

demography as a prominent causal factor:
future manpower supply:

A major contributor to the labour market problems of young people has been demography, notably the postwar baby boom, which produced an unprecedented number of young job-seekers. Their ranks will peak around 1980 and remain high for some years thereafter.

But beyond their sheer numbers, this generation is unique in another way: their educational attainment. Unemployment would have been evident even had the educational profile of the young not changed, simply because job creation has not been able to keep pace with the rise in the number of young workers. However, the tendency for a larger proportion to secure post-secondary education, at the same time that the potential student population was inflated by the baby boom, has been partially responsible for the creation of a new problem - labour market difficulties among some post-secondary graduates.

Yet just as the recent expansion in the number of young job-seekers contributed to their employment difficulties, the expected decline in the mid- to late 1980s may improve their situation. Such a speculation, however, must be examined more carefully.

The current decline in the annual number of school 1eavers with secondary graduation or less will continue over the next ten years. By 1986 the number will have fallen to the 1966 level. As well, those retiring from the labour force are more likely than young entrants to have only secondary education. The combination of these two factors will deplete the supply of secondary-educated manpower. Unless the demand for workers with this educational background falls rapidly, their competitive position
in the labour market could improve. In particular, persons with trades or vocational training might be in short supply. This possibility could not be examined here because of a lack of appropriate data.

The number of school leavers with a partial or completed post-secondary education will continue to increase, although slowly, until the early to mid-1980s. It is difficult to speculate about college graduates. Many now appear to be faring well in the labour market, although saturation seems to have been surpassed in some areas like nursing and social services. If many students choose college rather than university, a large number of college graduates could create problems of labour market absorption in some fields.

University graduates with general degrees are confronted by a declining demand for teachers and strong competition from the large number of college and professional graduates. Falling teacher demand and slow government growth at a time when the number of university graduates continues to increase, albeit slowly, will likely worsen short-term labour market prospects. This may be particularly true for graduates with general degrees.

In the longer term, the declining birth rate of the 1960s will eventually manifest itself in the labour market as it has in elementary and secondary enrolment, and soon will in post-secondary institutions. The number of college leavers is projected to start falling in the early 1980s, with the number of university-educated leavers soon to follow. Annual numbers may, nonetheless, remain high for some years. Overall, the supply of "new" manpower from the school system will peak in the late 1970s. Throughout the 1980s fewer young persons will seek jobs each year, thereby perhaps reducing unemployment. However, young job-seekers are currently numerous, and it may be the late 1980 s before their ranks drop to a level that can be readily absorbed, even by an expanding economy.

## CANADIAN-AMERICAN COMPARISON

demography:
post-secondary education:
post-secondary graduates on the labour market:

To determine to what extent the issues discussed here are unique to Canada, it is useful to compare Canada and the United States. In general, population, enrolment and labour force trends have been similar in the two countries. Fluctuations in the fertility rate, the root cause of many current problems, have followed more or less the same course in the United States. Canada's baby boom, however, was relatively larger, This, combined with greater immigration (on a per capita basis), has resulted in a faster growing young population and labour force in Canada during the past decade.

While the amount of education young people receive has increased dramatically in both countries, the American post-secondary enrolment rate - total full-time enrolment related to the 18-24 age group population - has remained higher (in 1976, 23.8\% compared with Canada's 19.4\%). In both countries the proportion of women enrolling in college or university increased throughout the 1970 s, while the proportion of men fell slightly. With a higher enrolment rate, the United States also produces more graduates: per capita, using the 20-29-year-old population as a base, in 1976 there were 1.3 times as many bachelor's degree graduates in the U.S. as in Canada, 3.0 times as many master's, and 2.2 times as many doctorates.

Similar post-secondary enrolment patterns during the 1960 s and 1970 s mean that difficulties American graduates are encountering in the labour market resemble those of Canadian graduates. Employment problems are most prevalent among humanities and social and behavioural science graduates, as is the case in Canada. Those in
engineering, the health professions and business fare somewhat better. However, again as in Canada, American university and college graduates have a lower unemployment rate than their contemporaries with less education.
youth unemployment:
educational attainment of the labour force:

Youth unemployment has been as intractable in the United States as in Canada. Until 1977 unemployment of young people was higher in the U.S., well above $10 \%$ since 1970. But in 1977 the American rate of $13.4 \%$ was surpassed by Canada's $14.5 \%$.

The educational level of workers in both countries has jumped recently. The proportion of the American labour force with post-secondary education increased from $25.2 \%$ in 1969 to $33.3 \%$ in 1977; in Canada the 1977 figure was approximately $30 \%$. This trend is apt to continue into the early 1980s. It seems likely that the implications of a more highly educated youth and labour force will be similar in Canada and the United States.

QUALIFICATION SPIRAL AND UNDEREMPLOYMENT

With an excess of college and university graduates in some disciplines, many may accept jobs that do not require post-secondary training. This could result in formal or informal escalation of the educational prerequisites for some positions - a qualification spiral. Once a level of education has encompassed a large sector of the population, its credentials are perceived to lose their value. Acquisition of such credentials may tend to become quasi-compulsory, perhaps less to acquire a benefit than to avoid being penalized. At this point,
the qualifications may not be sufficient to guarantee a "good" job, but may be essential for entering the competition for such jobs.

The corollary of a qualification spiral is underemployment, a condition in which workers' acquired skills and education exceed job requirements. Little empirical information is available on so nebulous a concept. However, in the last five or ten years the number of post-secondary graduates has far outstripped the creation of jobs requiring that level of education. Underemployment, then, is probable.

There is some evidence of underemployment:
(1) During the first half of $1977,30 \%$ of all applicants for clerical work in the federal government had a university degree, college diploma or certificate. These positions formally require Grade 10.
(2) A 1973 survey of university degree-holders indicated that $10 \%$ had jobs requiring less than two years of post-secondary education; $21 \%$ of the graduates with general degrees were in such positions.
(3) In September 1975 rough1y one quarter of the 1975 Ontario bachelor's degree graduates earned less than the minimum starting salary for federal public service trainees in positions requiring that level of education. Among college graduates the proportion was higher.

Students' awareness of the labour market could alter the size and nature of post-secondary enrolment. If a significant decline in the proportion of young people attending post-secondary institutions were combined with the falling 18-24-year-old population, the annual number of graduates could diminish rapidly in the mid- and late 1980s. Such possibilities should not be ignored by planners. The immediate issue, however, is the large number of young people unemployed or encountering other labour market difficulties.

It is hoped that this report will give planners, policymakers and the public a clearer understanding of some of the issues involved in the relationship between education and employment. Speculation about the future has been offered to alert people to the possible influence of demography. Most problems are not short-term, and thus, are unlikely to be solved or disappear in the immediate future. On the other hand, in the longer-term many current conditions in education and employment will be influenced by demographic changes, and no doubt, by changes in policy and public attitudes. In that sense, they are not inherent. They are, however, extremely complicated and solutions or improvements will not be found easily.

If this report has added to the information available to such a problem-solving process, it will have achieved its objective.

TABLE 1. FULL-TIME ENROLMENT BY INSTITUTIONAL LEVEL. 1971-72 TO 1986-87.

YEAR


POST-SECONDARY---------------- GRAND NON-UNONUNI VERSITY TOTAL
$\qquad$ TOTAL

GRAND NNIVERSIT
(THOUS ANDS )

| $1971-72$ | 335.5 | $5,466.4$ | 5.802 .0 |
| :--- | :--- | :--- | :--- |
| $1972-73$ | 341.7 | 5.414 .6 | 5.756 .2 |
| $1973-74$ | 349.5 | $5,329.1$ | 5.678 .6 |
| $1974-75$ | 386.5 | 5.242 .7 | $5,629.2$ |
| $1975-76$ | 398.4 | 5.192 .0 | 5.590 .5 |

173.8
191.0
201.5
212.6
222.5

| 323.0 | 496.8 | 6.298 .8 |
| :--- | :--- | :--- |
| 322.4 | 513.4 | $6,269.6$ |
| 332.1 | 533.6 | 6.212 .1 |
| 347.4 | 559.9 | 6.189 .1 |
| 370.8 | 593.4 | 6.183 .8 |

PROJECTED

| 1976-77(1) | 391.5 | 5.101 .4 | 5.492.9 | 228.7 | 376.9 | 605.7 | 6.098.6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1977-78 | 379.6 | 4.971.9 | 5.351 .5 | 243.5 | 373.4 | 617.0 | 5.968 .4 |
| 1978-79 | 378.2 | 4,842.5 | 5.220.7 | 243.4 | 372.3 | 615.6 | $5,836.3$ |
| 1979-80 | 382.5 | 4.719 .5 | 5,102.0 | 235.2 | 378.5 | 613.7 | 5,715.7 |
| 1980-81 | 393.1 | 4,600.7 | 4,993.8 | 230.2 | 381.9 | 612.1 | 5,605.9 |
| 1981-32 | 405.3 | 4.494.0 | 4.899.2 | 229.7 | 383.9 | 613.6 | 5.512.8 |
| 1982-83 | 417.0 | 4.405.7 | 4,826.7 | 228.5 | 383.5 | 612.0 | 5,438.7 |
| 1983-84 | 429.9 | 4,358.5 | 4,788.4 | 221.0 | 383.3 | 604.3 | 5,392.7 |
| 1984-85 | 446.4 | 4,343.7 | 4.790.1 | 209.3 | 377.8 | 587.1 | 5,377.2 |
| 1985-86 | 462.4 | 4.353.9 | 4,816.3 | 199.5 | 367.4 | 566.9 | 5,383.2 |
| 1986-87 | 476.7 | 4.379.2 | 4.855.9 | 195.5 | 355.9 | 551.4 | 5,407.3 |

TABLE 2. SECONDARY AND POST-SECONDARY GRADUATES. 1971-72 TO 1986-87


[^0]TABLE 3. mumber of potential labour force entrants from the education system by level of schooling, 1966 to 1986.


TABLE 4. PERCENTAGE DISTRIBUTION OF POTENTIAL LABQUR FORCE ENTRANTS FROM THE EDUCATION SYSTEM



## CHAPTER II

## POPULATION

## INTRODUCTION

The number of children entering Kindergarten or Grade 1 depends on the number born five or six years before. Virtually all children between 6 and 15 attend school, as do a large proportion of those in their late teens and early twenties. Regular annual progression through a fairly standard series of grades and levels also means that a student's age is an indicator of how far he or she has advanced. Thus, a population projection is the basis of an enrolment projection, from which in turn, projections of graduates and potential labour force entrants are derived.

To accomplish the aim of this study, it was essential to obtain a reliable population projection. Because results of the 1976 Census were not available, the projection was based on 1975 population estimates. The projection starts with 1976 and runs to 2031. The assumptions are a constant total fertility rate of 1.80 (from 1978), and annual net migration of $100,000 .^{1}$

Two alternative projections based on the same annual net migration, but higher (2.10) and lower (1.60) total fertility rates are given in chapter 6.

## PERSPECTIVE

Detailed projections of enrolment, graduates and potential labour force entrants are provided to 1986, but the population projection has been extended beyond the turn of the century to 2031. The reason is to show longrange trends if the current situation - low fertility and about 100,000 net

[^1]migration - persists. Such a projection stretches far enough to show the age composition of the population when today's elementary pupils reach retirement age; it also can be the basis for speculation about the social and economic implications of the baby boom's progression through adulthood and old age.

## COMPONENTS OF POPULATION CHANGE

Population projections indicate the population that would result if the underlying assumptions turn out to be correct. The objective is always to select the most reasonable assumptions about the components of population change: births (fertility), net migration and deaths. These assumptions are chosen with long-term trends in mind, and may not reflect expected short-term changes.

Although future levels of mortality and net migration can only be estimated, changes in these two components are likely to have much less effect on the size and composition of the population than changes in fertility. But future fertility rates are a matter of conjecture. Because of this uncertainty about the total fertility rate and hence the number of births, projections of the size of young age groups are subject to more error than those of older ages.

## Fertility ${ }^{1}$

As well as having the greatest impact on projections, fertility is the component of population change that is subject to most uncertainty in the future. It is difficult to determine the annual number of births, even in the short-run, because the social, economic and other factors that influence it are neither fully understood nor easily predicted.

[^2]Chart 9 illustrates the wide variations in fertility that are possible. From an average 3.54 births per woman in 1921, fertility dropped to a low of 2.65 in 1937, and did not exceed 3.00 until 1943. Thereafter, it rose almost steadily to a high of 3.94 in 1959.

After 1959 the fertility rate did an about-face, and declined to 1.87 in 1975, well below the 2.10 replacement level needed for zero population growth (ZPG). At the same time annual births decreased (28.4\%) to 343,373 in 1973. This was the lowest total since $1946(343,504)$. But in the three years following 1973, the number rose to an estimated 364,630 by 1976. Yet the increase may have halted, at least temporarily. Preliminary 1977 figures suggest births fell to 360,340 .

How the fertility rate will fluctuate throughout the projection period is open to question. A significant rise in annual births until the early 1980s could occur without increased fertility; the rate need only level off. In fact, the recent upturn in births (1974-76) stems from the large number of women now of childbearing age. Their ranks will grow in the immediate future.

Moreover, if women have been postponing family formation to pursue a career, an upsurge in fertility is possible. A survey by the Canadian Mothercraft Society ${ }^{1}$ showed that a number of new mothers had delayed having babies because of careers, financial situations, uncertainty about wanting children, and a desire to ensure their marriages were stable. Thus, the fertility rate could rise during the next few years as more of the baby boom generation reach their late twenties or early thirties.

Contrariwise, a further decline in fertility cannot be ruled out. As previously mentioned, early indications are that 1976's rate was lower

1. "Canadian birthrate climbing", The Canadian Press, October 6, 1977.

Chart - 9
Total Fertility Rate(1) 1921 to 1975, and Projected to 2001


Chart - 10
Live Births in Canada, 1921 to 2001

than 1975's and 1977's lower stil1, since births dropped despite an increase of potential mothers.

The fertility decline has been attributed to a number of social and economic conditions:
-changing roles and aspirations of women, particularly education and labour force participation;
-liberalized abortion laws;
-increasing use of reliable contraceptives, and
-financial uncertainty.

Fertility has been shown to be negatively correlated with women's education and labour force participation, both of which have risen. For example, in $1960-61$ only $25.8 \%$ of all bachelor's degree graduates were women; by 1973-74 the proportion had risen to $41.5 \%$. Women's full-time post-seconddary enrolment rate (female enrolment as a percentage of the 18-24-year-old female population) increased from $7.4 \%$ in $1960-61$ to $17.6 \%$ in 1975-76.

Their labour force participation rates have also increased: from $27.9 \%$ in 1960 to $45.0 \%$ in 1976 . With more women working, fewer are having children, or are having smaller families if they choose to become mothers.

An uncertain economic climate may also contribute to a drop in fertility. In the past as shown in Chart 9, fertility fell during the Great Depression. Of course, correlation is not synonymous with causation. Nonetheless, if economic conditions are a factor in the fertility decline, recent developments could have implications for fertility in the near future. ${ }^{1}$

[^3]Unemployment in 1977 was 8.1\%. The Consumer Price Index, with 1971 as a base of 100.0, had risen to 167.2 in December, 1977.

In light of the apparent continued decline in fertility and the existence of conditions that could deepen it, the fertility assumption of 2.20 , hitherto employed in most education projections, was rejected. An assumption of 1.80 was used instead, as it appeared more reasonable when the projections were made (Spring, 1977). It was assumed that the rate would reach that level in 1978 and remain there throughout the projection period, although annual fluctuations are to be expected. But given the inability to predict either these fluctuations or the factors affecting them, it seems preferable to assume a smooth trend in the fertility rate, with the qualification that the actual trend in the rate (and by extension, the actual trend in the number of births) will not be nearly so smooth as shown in these projections.

The projection of annual births to 2001 (Chart 10 ) shows a $15.2 \%$ rise from 358,021 in 1975 to 412,300 in 1984, and then a sharp $10.6 \%$ drop to 368,600 in 1999.

To show how different fertility assumptions would affect births and population, chapter 6 contains projections based on rising fertility (to 2.10 by 1990) and declining fertility (to 1.60 by 1990).

## Migration

The level of net migration is influenced by government policy and by economic, social and political conditions in Canada and abroad. These circumstances and their effects on migration cannot be predicted with certainty.

Nonetheless, perhaps one of the most significant determinants of migration, especially immigration, since the end of the Second World War has been the state of Canada's economy. Exact statistics are available on gross immigration only. Chart 11 shows that it has varied greatly in the past and

Chart - 11
Immigration and Unemployment Rate, Canada, 1946 to 1976

is negatively correlated ${ }^{1}$ with the unemployment rate: when unemployment rose, immigration dropped, and vice versa. An exception to this trend is evident between 1956 and 1957, when despite increasing unemployment immigration went from 164,900 to 282,200 , partially owing to an influx of refugees after the Hungarian Revolution.

Canadian unemployment has increased steadily since 1973, and reached an annual average rate of $8.1 \%$ in 1977. Moreover, few indicators suggest any immediate improvement.

The assumption of 160,000 immigrants may be too high for the near future. The total for 1976 was only 149,429 , a $20.5 \%$ drop from the previous year.

Emigration over the past two decades has been estimated to be about 60,000 a year. Thus, the migration assumptions are:

| entering | 160,000 |
| :--- | ---: |
| leaving | 60,000 |
|  | 100,000 |

## Mortality

Canada's death rate ( 7.4 per 1,000 in 1974) is one of the lowest in the world. It has declined gradually but continuously over the past hundred years, and seems to have almost levelled off. Death rates through the childbearing ages are sufficiently low that a further reduction would have little effect on the size and age structure of that segment of the population in the future. However, a breakthrough in the control of major diseases (i.e., cardiovascular disease and cancer) could substantially reduce mortality rates at the older ages. This would result in a larger, older population than projected here.

1. The correlation coefficients are -.56 for the last 10 years; -.51 for the last 20 years, and -.42 for the last 25 years.

The average life expectancy for men rose from 66.3 in 1951 to an estimated 69.7 in 1976, and is projected to be 70.2 in 1986. Life expectancy for females is greater, and the gap is projected to widen: the corresponding figures are 70.8 in 1951, 76.9 in 1976, and 78.4 in 1986.

POPULATION PROJECII ONS

## Total

Despite a 1.80 fertility assumption, much below the replacement level, and annual net immigration of only 100,000 , projections suggest that Canada's total population will rise. The relatively young age structure that now prevails leads to more births than deaths. However, the annual rate of growth of the population will decline steeply. It peaked at $3.3 \%$ in 1956-57 and fell to $1.3 \%$ by 1971.

Between 1961 and 1971 the population went from $18,238,247$ to $21,568,311$ an increase of $18.3 \%$. By 1981 the total is projected to be $24,554,000$ representing a $13.8 \%$ rise during this decade and an average of $1.3 \%$ a year. The projected projected population and ten-year and average annual growth rates are:

$$
\begin{array}{ccc}
\text { Population } & \text { Percentage increase during } & \text { Average annual } \\
\text { grevious decade } & \text { growth rates }
\end{array}
$$

1961 18,238,200
1971 21,568,300
1981 24,554,000
$1991 \quad 27,537,000$
2001 29,767,000
$201131,718,000$
2021 33,147,000
$203133,907,000$

| $18.3 \%$ | $1.69 \%$ |
| ---: | ---: |
| $13.8 \%$ | $1.30 \%$ |
| $12.1 \%$ | $1.15 \%$ |
| $8.1 \%$ | $0.78 \%$ |
| $6.6 \%$ | $0.64 \%$ |
| $4.5 \%$ | $0.44 \%$ |
| $2.3 \%$ | $0.23 \%$ |

This consistent, if slow, growth of the total population hides significant shifts in the age profile. Primarily because of past fluctuations in annual
births, the rates of change of different age groups will not be the same as that for the total population.

## School-age Population

People of school-age are the central concern of this report. Projections of their numbers up to 1986, the main reference period for which detailed breakdowns and analyses have been made, are most reliable, as all the students except those in the earliest grades have already been born. Beyond 1986 the school-age population will be determined in varying degrees by trends in future births. By 2000 numbers will depend on future births, and hence, are highly uncertain. Projections merely indicate general trends that will prevail should the assumptions be more or less realized.

Table 5 (Appendix A) displays details of the school-age population from 1971 to 1986. Variations in provincial education systems mean that ages and corresponding grades may not be uniform across the nation. Nonetheless, the table projects nine age groups that approximate most enrolment levels, including: 4-5 (Kindergarten), 6-13 (grades 1 to 8), 14-17 (grade 9 and up), 4-17 (elementary-secondary), 18-21 (undergraduate university and non-university), 22-24 (graduate students), 18-24 (all post-secondary), and $4-24$ (the entire school-age population). The size of these age groups indicates annual enrolment changes to be expected from demographic factors alone.

Chart 1 shows how the magnitude of the three main education age breakdowns ( $6-13,14-17$ and $18-24$ ) has varied since 1961, and the ups and downs projected to 2001. Since $6-13$ falls within the range of compulsory school attendance
in most jurisdictions, ${ }^{1}$ the size of this cohort determines enrolment trends in the lower grades. In 1976 enrolment in grades 9 and up represented $96 \%$ to $97 \%$ of $14-17$-year-olds, close to saturation. Demography, then, is the main influence on enrolment at this level as well. Consequently, population projections for the two younger age groups approximate enrolment projections. Similarly, because about $80 \%$ of all full-time students in post-secondary institutions are 18-24-year-olds, the pattern of enrolment resembles that of the age group.

The rise and fall of these three age cohorts, depicted on the "A" scale of Chart $1^{2}$, contrasts with the slow, steady growth of the total population, shown on the "B" scale. The shock wave of the baby boom produces ripples in the school-age population that extend into the twenty-first century.

```
Six to 13 Age Group
```

The 6-13 age group reached an all-time high of $3,702,500$ in 1971, when it contained a maximum number of baby boom children. The subsequent drop

1. Compulsory school attendance:
```
Newfoundland - 7-15
    Prince Edward Island - 7-15
    Nova Scotia - 5-16
    New Brunswick - 7-16
    Quebec - 6-15
    Ontario - 6-16
Manitoba - 7-16
Saskatchewan - 7-16
Alberta - 6-16
British Columbia - 7-15
Yukon - 7-16
Northwest Territories - 6-15
```

Virtually all 6-year-olds are enrolled in school in the provinces where the lower compulsory school attendance age is 7.
2. Alternative projections to 2001 employing different total fertility rate assumptions are shown on Chart 35 in chapter 6 . These demonstrate the effect that alternative fertility rate assumptions have on the size of the school-age population.
caused by the fertility reversal is expected to reach its lowest point $(2,902,200)$ in 1982 , depleting their ranks $21.6 \%$. Based on the assumption of a constant fertility rate, the baby boom generation will then have increasing numbers of children, and the $6-13$ population will rise again to $3,320,600$ in 1995 , a $14.4 \%$ gain over the 1 ow but still about 400,000 less than 1971's record. At the turn of the century numbers will fall again.

Fourteen to 17 Age Group

Similar trends characterize the $14-17$ age group, although with some timelag. Maximum size is expected to be about $1,904,200$ in 1977. A twelveyear decline of $23.9 \%$ then sets in, terminating at $1,449,100$ in 1989 . The next wave crests at $1,694,000$ (up $16.9 \%$ ) in 2001.

Eighteen to 24 Age Group

The baby boom peak of the $18-24$ age group, $3,396,600$, is not expected until 1982. Thereafter, numbers fall steadily (21.4\%) to 2,668,400 in 1995. Yet at the turn of the century the $18-24$ age group is again increasing.

## Age Composition of the Population

To put variations in the school-age population in perspective, and to obtain a broader view of expected demographic shifts, the projected age composition of the entire Canadian population to 2031 is shown at 10 -year intervals in Table II-1 and Chart $12 .{ }^{8}$ The population has been divided into age groups with particular relevance to societal institutions, e.g., education, labour force, retirement, etc. The relative size of these groups influences the conditions they will have to face. For example, the size of

[^4]Chart - 12
Total Population and Percentage Distribution in Censal Years, by Selected Age Groups, 1941 to 1975, and Projected to 2031


Population Distribution by Broad Age Groups, Roughly Corresponding to Major Life-cycle Stages, Canada, 1921-2031

|  | Age span | 1921 | 1931 | 1941 | 1951 | 1961 | 1971 | 1976 | 1981 | 1986 | 1991 | 1996 | 2001 | 2011 | 2021 | 2031 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Years |  |  |  |  |  | Num | bers i | in mill | ions |  |  |  |  |  |  |
| ALL AGES |  | 8.8 | 10.4 | 11.5 | 14.0 | 18.2 | 21.6 | 23.1 | 24.6 | 26.1 | 27.5 | 28.7 | 29.8 | 31.7 | 33.1 | 33.9 |
|  |  |  |  |  |  |  |  |  | Cent |  |  |  |  |  |  |  |
| ALL AGES |  | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Pre-school | 0-3 | 9.6 | 8.2 | 7.4 | 9.8 | 10.0 | 6.6 | 6.0 | 6.2 | 6.3 | 5.8 | 5.2 | 5.0 | 4.9 | 4.6 | 4.5 |
| Less than 1 | 0 | 2.4 | 1.9 | 1.9 | 2.5 | 2.5 | 1.6 | 1.5 | 1.6 | 1.6 | 1.4 | 1.3 | 1.3 | 1.2 | 1.1 | 1.1 |
| Day care | 1-3 | 7.2 | 6.3 | 5.5 | 7.3 | 7.5 | 5.0 | 4.5 | 4.6 | 4.7 | 4.4 | 3.9 | 3.7 | 3.7 | 3.5 | 3.4 |
| Elementary-secondary | 4-17 | 30.4 | 29.5 | 26.2 | 25.1 | 28.8 | 29.1 | 25.7 | 21.9 | 20.1 | 20.0 | 19.9 | 18.9 | 17.1 | 16.8 | 16.3 |
| Kindergarten | 4-5 | 4.9 | 4.3 | 3.6 | 4.7 | 4.7 | 3.7 | 3.1 | 2.9 | 3.1 | 3.0 | 2.7 | 2.5 | 2.5 | 2.4 | 2.3 |
| Elementary | 6-13 | 17.9 | 17.1 | 14.9 | 14.4 | 17.3 | 17.2 | 14.4 | 11.9 | 11.3 | 11.7 | 11.6 | 10.7 | 9.7 | 9.6 | 9.3 |
| Secondary | 14-17 | 7.6 | 8.1 | 7.7 | 6.0 | 6.8 | 8.2 | 8.2 | 7.1 | 5.7 | 5.3 | 5.6 | 5.7 | 4.9 | 4.8 | 4.7 |
| Adulthood | 18-64 | 55.2 | 56.7 | 59.7 | 57.4 | 53.5 | 56.2 | 59.7 | 62.6 | 63.8 | 63.6 | 63.8 | 64.8 | 65.7 | 62.8 | 60.0 |
| Post-secondary | 18-24 | 11.7 | 12.7 | 12.9 | 10.8 | 9.4 | 12.5 | 13.5 | 13.8 | 12.2 | 9.9 | 9.3 | 9.7 | 9.5 | 8.6 | 8.8 |
| Maturity | 25-44 | 28.5 | 27.3 | 28.2 | 28.9 | 26.7 | 25.1 | 27.2 | 30.0 | 33.1 | 34.5 | 33.4 | 31.2 | 27.8 | 27.8 | 26.7 |
| Middle age | 45-64 | 15.0 | 16.7 | 18.6 | 17.7 | 17.4 | 18.6 | 19.0 | 18.8 | 18.6 | 19.2 | 21.1 | 23.9 | 28.3 | 26.4 | 24.5 |
| 01d Age | 65 and over | 4.8 | 5.6 | 6.7 | 7.7 | 7.7 | 8.1 | 8.6 | 9.3 | 9.8 | 10.6 | 11.1 | 11.3 | 12.3 | 15.8 | 19.2 |

[^5]older age groups indirectly affects the education system, especially the post-secondary level. Government expenditures on education must be balanced against those necessary in areas such as old age security and other health and welfare programs.

These projections, notably beyond the turn of the century, are not meant to be forecasts of exact numbers, but rather indicators of trends. Nonetheless, the sequential effects of past fluctuations in the number of annual births will result in an "aging" population.

The postwar expansion in births and the succeeding contraction produced a population bulge that will eventually work its way through all age groups. This bulge is followed by a cohort diminished in size by the fertility turnaround. In any decade the group that contains the baby boom generation will have a high growth rate, while older and younger groups grow at a slower pace or even decline.

As the baby boom passes through the various stages of life, they will encounter stiff competition for the goods, services, and activities appropriate to those stages, whether it be buying a house, seeking promotion at work, or receiving medical care.


## CHAPTER III

## ENROLMENT AND GRADUATES

## INTRODUCTION

The number of people who leave Canada's education systems to enter the national labour force depends, of course, on the number who are in the systems as well as the rate at which they leave. Therefore, although the object of this study is a projection of annual school leavers to 1986, an enrolment projection for the same period lays the essential groundwork.

Separate sections are devoted to enrolment at the elementary-secondary and post-secondary levels. Full-time enrolment in public, private and federal institutions is included; part-time enrolment is excluded, as is enrolment in trade and vocational schools, special-purpose schools (e.g., for the handicapped), and adult education programs. Part-time enrolment is excluded because the goal is to estimate the number of students leaving school to enter the labour force, and most part-time students are already working. Trade-level enrolment in post-secondary non-university institutions is not covered, since much of it is less than one year's duration. Because the data are confined to what might loosely be defined as "formal" full-time education, the attainment of Canada's population is somewhat understated. Nevertheless, this is not a serious shortcoming, as the purposes are to estimate the number of labour force entrants and to illustrate the order of magnitude of trends.

Wide variations in the structure of the 12 education systems make it impossible to define the elementary and secondary levels in a way that applies directly to all provinces.

The elementary-secondary course of studies usually extends over 12 years (11 in Quebec and Newfoundland; 13 in Ontario). The split between the two levels may be made after the sixth, seventh and eighth year.

In this report national elementary enrolment includes enrolment in the "first eight years of school" (excluding kindergarten); secondary covers enrolment in the ninth year. Kindergarten is examined separately.

This division is arbitrary; others are possible and reasonable, particularly the split after six years rather than eight. Readers wishing to observe trends for other arrangements of elementary and secondary school may do so by recombining the enrolments by grade shown in Appendix B.

Phasing out of the final elementary year in Quebec (grade 7) between the late sixties and 1975 created an irregularity in Canada's elementary and secondary enrolment (Charts 13 and 14).

Because of the relatively large size of Quebec enrolment (roughly a fourth of Canada's total elementary-secondary enrolment in 1976), the structural change in the Quebec system has a significant effect on the national trends of all other variables: post-secondary enrolment, number of graduates, and number of potential labour force entrants. For this reason to show enrolment trends without the "artificial" effect of this structural change, trends for Canada, the nine provinces excluding Quebec, and Quebec alone are shown in some chapters.

When interpreting the results, it should be remembered that the trends displayed here are national, and enrolment will vary by province because of differences in birth rates and migration. Perhaps more important are sub-provincial differences (i.e., municipalities, school districts, counties, etc.) as a result of uneven settlement patterns. However, the national figures do indicate general trends expected in Canada throughout the rest of this century, largely owing to the fluctuating birth rate.

## Kindergarten

Kindergarten is preschool education designed for children below the age of compulsory attendance. ${ }^{1}$ Depending upon the province, kindergarten may be available to children three to five years old. Unlike other elementary levels, its optional nature means that enrolment is not determined solely by demography. Past enrolment has not represented $100 \%$ of the age group eligible to attend.

Kindergarten is the only educational level that is expected to increase overall (about $22 \%$ ) between 1976 and the target year, 1986. In this projection the rise is primarily a demographic effect, since the enrolment rate ${ }^{2}$ increases only slightly throughout the forecast period. A minor upturn in the annual number of births in the mid-seventies will contribute to enrolment growth in the early eighties. However, estimating future kindergarten enrolment is difficult, as other considerations could result in enrolment above that projected. For example, greater female labour force participation and the availability of school facilities due to the decline in elementary enrolment since 1970 could contribute to higher kindergarten enrolment.

## Results

Kindergarten enrolment in $1962(168,800)$ represented $19 \%$ of the fourand five-year-old population. By 1976 the total had risen to 391,500 , representing $54 \%$ of the age group. A1though no large increase in this percentage is expected over the forecast period, enrolment is projected to rise to 476,700 by $1986-87$, or $59.6 \%$ of the relevant population.

1. Kindergarten is mandatory only in Nova Scotia
2. The ratio of total kindergarten enrolment to the $4-$ and 5 -year-old population.

## Table III-1

Historical and projected kindergarten enrolment, selected years

| Enrolment | Gross enrolment rate <br> (to $4-5$ age group) |
| :---: | :---: |
| (Thousands) | (Percent) |


| $1962-63$ | 168.8 | $19.1 \%$ |
| :--- | :--- | :--- |
| $1966-67$ | 255.4 | 27.5 |
| $1971-72$ | 335.5 | 42.1 |
| $1976-77$ | 391.5 | 54.3 |
|  |  |  |
| $1978-79$ | 378.2 | 53.8 |
| $1981-82$ | 405.3 | 56.2 |
| $1986-87$ | 476.7 | 59.6 |

Enrolment in the First Eight Years of School (Elementary ${ }^{1}$ )

Since virtually everyone aged 6-13 must attend school, elementary enrolment is dictated primarily by the size of this age group, which in turn, results from births the appropriate number of years earlier, the infant mortality rate, and migration patterns. The number of births is the single most important determinant of elementary enrolment.

Elementary enrolment increased steadily in the postwar period from $2,146,800$ in 1951 to a high of $3,844,100$ in 1968. By 1974 it had fallen to $3,432,800$, reflecting the decline in births. ${ }^{2}$ A further drop to $3,011,600$

1. Grades $1-8$ in all provinces except Quebec where it includes Elementary 1-7 and Secondary I before 1975, and Elementary 1-7 and Secondary I and II for 1975 and beyond.
2. The structural change in the Quebec school system over this period elementary school was shortened to six rather than seven years - also contributed to the decrease.

## Chart - 13

Elementary school enrolment, 1961-2001
(first eight years of schooling excluding kindergarten)

is projected for 1981 - althogether a $22 \%$ loss of 832,500 between the 1968 peak and the 1981 low. Enrolment is projected to remain near the 1981 total for several years, then rise gradually to about $3,054,300$ by 1986 (Chart 13).

Since elementary enrolment is so dependent on demographic trends, it is the only stage of education for which projections can be made with confidence. All the children who will be elementary pupils from now until 1982 have been born; only migration and mortality can alter their numbers. A slight deviation from projected enrolment between 1982 and 1986 is possible if the fertility rate changes suddenly, but that is not anticipated. A shift in migration patterns could also have an effect, but the general trends will prevail.

Enrolment will increase between 1986 and the mid-nineties ( $13 \%$ over the ten years between 1986 and 1995) and then decline. The projected "peak" is substantially below the 1968 high, a leve 1 not expected again this century (Chart 13). The rise after 1986 results from an increasing number of baby boom generation women entering the child-bearing years; hence, more births. However, elementary enrolment growth projected here for the late 1980s will in no way compare with the explosion of the 1960s.

Table III-2

Elementary enrolment, selected years
(First eight years of school excluding kindergarten)

| Enrolment | Average annual <br> growth rate between <br> indicated years |
| :---: | :---: |
| (Thousands) | (Percent) |
| $3,438.2$ |  |
| $3,753.4$ | $+2.2 \%$ |
| $3,815.6$ | +0.4 |
| $3,396.5$ | -1.9 |
|  | Projected |
| $3,179.4$ |  |
| $3,011.6$ | -3.2 |
| $2,996.1$ | -1.8 |
| $3,054.3$ | -0.2 |
|  | +1.0 |

1962
1966
1970
1976

1978
1981
1984
1986

Average annual growth rate between indicated years
(Percent)
$+0.4$
-1.9
-3. 2
-1.8
-0.2
$+1.0$

While enrolment projections to the early 1980s can be made with considerable confidence, those beyond the mid-eighties depend on assumptions about future fertility rates. This projection is based on the assumption that fertility will remain at its current level throughout the forecast period. If the rate continues to fall, the increase projected for the late 1980s would be almost non-existent. On the other hand, if fertility turns around and starts increasing in the next five years, the late eighties' rise could be more dramatic than suggested. (Chapter 6 gives alternative fertility rate and population projections.)

To obtain a more consistent view of enrolment trends, it is necessary to examine the other nine provinces separately from Quebec. Enrolment patterns are basically the same, although the years of "highs" and "lows" differ slightly. For the nine provinces, enrolment peaked in 1970, and was followed by the current decline, which is expected to continue to the mid-eighties (a $17 \%$ drop of 477,000 ). After 1985 it will rise again, but the peak in the mid-nineties is not expected to reach the 1970 level.

Decreases and increases in the nine provinces are somewhat more moderate than in Canada as a whole, which is influenced by the extreme decline in Quebec's fertility rate during the sixties. Before 1960 Quebec had the highest fertility rate in the country - it now has the lowest. Therefore, Quebec's enrolment decline has been steeper than that in most other provinces.

Although trends will vary between provinces and sub-provincial regions, the general pattern is likely to hold in most areas.

## SECONDARY

For this study, secondary enrolment consists of the ninth year of school and above in all provinces. ${ }^{1}$ A major discontinuity in 1975 results from the structural change in Quebec's school system.

[^6]As at the elementary level, the primary influence on secondary enrolment is demography (births, migration, mortality). Thus, trends are similar, but delayed approximately seven to eight years because of the age difference between elementary and secondary students.

In addition, student choice operates at the secondary level. Beyond compulsory age they can leave school. This possibility makes secondary enrolment projections more uncertain, especially in higher grades. Nonetheless, demography remains the major determinant.

## Historical Developments

In the immediate postwar period, secondary school did not receive the emphasis that was placed on elementary education. Even in 1951 the ratio of Canada's total secondary enrolment to the $14-17-y e a r-o l d$ population (secondary school gross enrolment rate) was only $46 \%$. ${ }^{1}$ But throughout the fifties and early sixties the focus shifted, and by 1966 the gross enrolment rate had risen to $87 \%$.

In the second half of the 1960 s other factors contributed to still greater secondary school participation. For example:
-Employers demanded higher levels of education from job applicants
-Canadian society became "degree-conscious", prompting more young people to aim for post-secondary training.

The beginning of the 1970s was marked by higher secondary school participation than at any time past or since, as the gross enrolment rate reached $97 \%$ in 1971. After 1971 national trends in the enrolment rate are not consistent, forcing a separate examination of nine provinces excluding Quebec.

After a peak of $97.5 \%$ in 1970 the gross enrolment rate in the nine provinces began a slow drop to $94.2 \%$ in 1974. During 1975 and 1976 the rate remained around $94.5 \%$.

1. Because of the differences in the provincial education systems, no one measure of secondary participation is absolutely accurate at the national level. This rate is only an indicator of the extent of secondary school participation, and is not the percentage of $14-17-$ year-olds actually in school. Many secondary students are older than 17, and in some provinces (e.g., Que., Nfld.) 17-year-olds are in post-secondary institutions.

## Table III-3

```
Secondary gross enrolment rate, selected years
    (to 14-17 age group)
```

| Canada* | Nine provinces <br> (excluding Quebec) |
| :---: | :---: |
| $\%$ | $\%$ |

1951
1962
1966
1970
1971
1972
1973
1974
1975
1976
46.4
76.1
87.3
97.7
96.8
-
-
-
-
-
-
84.7
91.5
97.5
96.5
96.3
94.9
94.2
94.9
94.5

[^7]Throughout the 1960s perception of higher education as a means of upward mobility increased the gross enrolment rate. Growing numbers sought admission to universities or colleges, while at the very least, a majority was determined to complete high school.

However, by 1970 the level of secondary participation was apparently approaching saturation: the enrolment rate stopped rising and declined slightly in the mid-seventies.

Variations in the proportion of students remaining in secondary school can be seen from another perspective - the retention rate. This is enrolment in the twelfth year related to ninth year enrolment three years earlif. It is an approximate but consistent measure of the percentage of grade 9 students who reach grade 12 - an indicator of the "holding power" of secondary school.

The retention rate in the nine provinces rose steadily throughout the sixties from $63.4 \%$ in 1965 to a peak of $76.0 \%$ in 1970 . Following the
same pattern as the gross enrolment rate, it then fell to a low of $67.8 \%$ in 1974, and increased slightly to $69.8 \%$ by 1976 . However, the retention rate in the mid-1970s remained substantially below the 1970 peak.

## Table III-4

Secondary retention rates, nine provinces (excluding Quebec), selected years

| Year in <br> grade 12 | Retention rate (grade 12 <br> enrolment related to <br> grade 9 enrolment |
| :--- | :--- |
| three years earlier) |  |


| $1965-66$ | $63.4 \%$ |
| :--- | :--- |
| $1968-69$ | 70.2 |
| $1970-71$ | 76.0 |
| $1972-73$ | 72.9 |
| $1974-75$ | 67.8 |
| $1976-77$ | 69.8 |

1978-79 71.8
1980-81 72.3
1986-87 72.5

Note: Retention rates not corrected for immigration. Such a correction would decrease rates slightly.

Although the gross enrolment and retention rates declined in the early seventies, for demographic reasons total secondary enrolment continued to climb. The 14-17 age group was increasing so quickly that even though the proportion of students remaining in school fell, enrolment rose.

For Canada secondary enrolment grew $55 \%$ in the eleven years between 1964 and 1974, from $1,170,700$ to $1,809,900$. Secondary enrolment in the nine provinces was still increasing in 1976, although at a very slow rate (1.4\% per year).

## Secondary Enrolment Projections

Secondary enrolment is influenced by both demographic and non-demographic factors. The latter, which include conditions in the education system as well as other social and economic developments, cannot be quantified. Methods of promotion, course offerings, attitudes among the young, etc., can raise or lower enrolment and retention rates, as can economic conditions.

The secondary retention rate is expected to rise slightly by 1978, as the current scarcity of jobs may prompt students to stay in school longer. Throughout the rest of the forecast period to 1986, it is held more or less constant at around $72 \%$ for the nine provinces. Readers are warned that this is not a precise measure of the proportion of Grade 9 students who continue to Grade 12, but rather a consistent indicator of whether a higher or lower percentage of students are completing secondary school.

The $72 \%$ retention rate in the projections is not as high as the peak of 1970 ( $76 \%$ ). It is possible that the rate could reach this level again in the near future since unemployment among the young is expected to remain high. Conversely, as the number of youths entering the labour market declines in the mid-1980s, employment prospects could improve considerably, perhaps producing a decline in the retention rate.

However, such speculations are somewhat irrelevant, since for mediumand long-term enrolment trends, demography is the dominant factor. The waves in elementary enrolment caused by the postwar baby boom, the declining births in the 1960s and 1970s, and the upturn of the late 1970s will soon affect the secondary level.

In the nine provinces, after more than a quarter of a century of constant growth, secondary enrolment is expected to peak in 1978 at 1,312,100 (Chart 14). It will then decline at an average $3.3 \%$ annually ( $4.5 \%$ at one point) until the early 1980s, remain more or less constant to 1990, and start increasing again.

Chart - 14
Secondary school enrolment, 1961-2001 (ninth year of schooling and above)

(1) Discontinuity due to a structural change in the Québec school system and the consequent redefinition, for the purposes of the report, of secondary school enrolment in that province.

Throughout the forecast period secondary enrolment will decline consistently. In Canada as a whole it will fall 386,000 or $23 \%$ between 1975 and 1986 - from $1,710,000$ to $1,320,000$. During the period 1979-84 the average annual decline will be $3.4 \%$, reaching a maximum of $5.2 \%$ in 1981 . After 1986 a few years of stable enrolment are projected, followed by an increase in the 1990s. This rise is based on an expected increase in births in the near future. Secondary enrolment in the $1976-78$ period is the highest that will occur in Canada in this century.

## Table III-5

Secondary enrolment, selected years
(Ninth year of school and above)

| Enrolment | Average annual <br> growth rate between <br> indicated years |
| :---: | :---: |
| (Thousands) | (Percent) |

1962
1966
1971
1974
1976

1978
1981
1984
1986

| $1,002.4$ | $+6.8 \%$ |
| :---: | :---: |
| $1,303.5$ | +5.6 |
| $1,708.7$ | +1.9 |
| $1,809.9$ | $*$ |

Projected

| $1,663.1$ | -1.2 |
| :--- | :--- |
| $1,482.4$ | -3.8 |
| $1,347.7$ | -3.1 |
| $1,324.9$ | -0.8 |

[^8]TOTAL ELEMENTARY-SECONDARY ENROLMENT

An overview of combined elementary and secondary enrolment in Canada, the nine provinces, and Quebec from 1962 to 2001 is shown in Chart 2 in the summary.

For Canada as a whole enrolment peaked in 1970, is expected to decline to the mid-1980s, and then start increasing. Once again the structural change in Quebec adds a non-demographic factor to this projection.

In Quebec total elementary-secondary enrolment started falling rapidly after 1970. The decline will continue until the early eighties as a result of the drop in Quebec's fertility (from 4.00 in 1957 to 1.68 in 1973). Enrolment is expected to level off and increase slightly after the mideighties.

Total elementary-secondary enrolment in the nine provinces peaked in 1971, remained more or less constant until 1976, and is expected to fall until the early or mid-eighties. This decline, however, is not as great as for Quebec or Canada as a whole. After the mid-eighties, total enrolment is again projected to rise in the nine provinces.

In all cases the highest elementary-secondary enrolment of the century was attained around 1970. Growth expected in the late 1980 s will be modest compared with that of the 1960 s.

The projections refer to full-time enrolment in all universities and post-secondary non-university institutions, public or private. Post-secondary non-university institutions include those whose programs require secondary school or the equivalent for admission, are of one year's duration or longer, and whose graduates receive diplomas or certificates (e.g., community colleges, Quebec CEGEP's, Ontario's CAAT's). Enrolment in trade and vocational schools is excluded, as is enrolment in college vocational courses which last less than one year or which do not require secondary graduation for admission. Part-time and adult education enrolment are excluded, since the objective is to compute the number of potential labour entrants, from the school system, and it is estimated that most part-time students are already in the labour force.

As at the secondary level, two major variables control full-time post-secondary enrolment: demography and the enrolment rate. To a large extent non-university and university enrolment are determined by the size of the age group from which most students originate. However, because attending college or university is a matter of choice, a great deal of uncertainty is inherent in any post-secondary projection, even if the future demographic base can be determined with a high degree of accuracy. Because of this the enrolment rate - the proportion of a relevant age group attending college or university - is very important in the evaluation of post-secondary projections. Changes in the proportion of young people attending college or university are reflected in the enrolment rate.

As with the elementary and secondary analysis, to obtain a consistent time series it is necessary to examine projected post-secondary enrolment trends in the nine provinces excluding Quebec. The structural change in Quebec resulted in an unusually large secondary graduating class in 1977 which will artificially inflate CEGEP enrolment in 1977 and 1978 and have the same effect on university enrolment around 1979 and 1980.

Because of the large number of students in Quebec (approximately onehalf of non-university and one-fifth of university students in Canada), re-organization of the system caused irregularities in national trends.

Post-secondary enrolment tripled between 1962 and 1976. The average annual growth rate during the first half of the 1960 s was a remarkably high $12 \%$. The rate remained around $11 \%$ in the latter half of the decade and fell to around $4.5 \%$ in the first half of the 1970s. By 1976 the growth rate had dropped to $2.0 \%$.

This enormous growth in the sixties and early seventies resulted from an increase in the size of the relevant population, combined with an ever-rising enrolment rate.

## Demography

For simplicity, 18-24-year-olds are considered the source population of full-time post-secondary enrolment, although persons of other ages are enrolled. ${ }^{1}$

This age group has been growing steadily since the 1950s, and between 1962 and 1976 rose $76 \%$ (average annual increase of $4.1 \%$ ). However, the growth rate will be much lower between 1976 and the peak year of 1982 (approximately $1.4 \%$ per year), and a decline will follow (Chart 1 in Chapter 1).

Gross Enrolment Rate

While the 18-24 age group increased $76 \%$ between 1962 and 1976, ful1time post-secondary enrolment grew 208\%. The difference was caused by a rise in the level of participation in the post-secondary system. The gross enrolment rate (ratio of total full-time post-secondary enrolment to the $18-24$ age group) went from $11.1 \%$ in $1962-63$ to $19.4 \%$ by $1976-77$.

[^9]Among the reasons that contributed to the constantly increasing enrolment rate during the 1960 s were:

The importance attached to post-secondary education - Higher education was considered advantageous to national productivity, and to individuals, both economically and for personal growth.
The need for teachers - Rising elementary and secondary enrolment increased the demand for teachers. Teacher training, in turn, contributed to post-secondary enrolment growth.
Employment opportunities - Persons with degrees were at a premium in the labour market.
Expansion of post-secondary institutions - During this period new universities were opened, and in the mid-sixties college systems were expanded and/or created, e.g., in Ontario the Colleges of Applied Arts and Technology (CAAT's) and in Quebec les collèges d'education général et professione1le (CEGEP's) were created, and in British Columbia the community college system was enlarged.
Government financial support - Under the Federal-Provincial Fiscal Arrangements Act of 1967, the federal government provided more financial support to the post-secondary sector.

In the 1970s the climate of opinion changed. After a temporary halt in 1972 the enrolment rate increased, but apparently for different reasons. Notable among them is the shifting mix of males and females. The male enrolment rate peaked in 1971 and has since declined (Table III-6). The female rate, on the other hand, rose constantly in the 1970s (Chart 3 in chapter 1). Consequently, the composition of post-secondary enrolment changed from $39 \%$ female in 1962 to $40 \%$ in 1971 and $45 \%$ by 1976. In universities the shift has been even more dramatic: the number of full-time female students went from $27 \%$ in 1962 to $36 \%$ by 1971 and $42 \%$ by $1976 .^{1}$ Had the female enrolment rate not continued rising during the early and mid-1970s, the overall post-secondary rate (for both sexes) would have fallen.

1. A factor which contributed to the increased proportion of females in universities was the transfer of teacher training from post-secondary non-university institutions to universities.

Table III-6

Post-secondary enrolment and
gross enrolment rates, selected years

| Year | 18-2 | age grour |  | Total full-time post-secondary enrolment |  |  | Gross enrolment rate (to 18-24 age group) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Total | Male | Female | Total | Male | Female | Total |
|  | (Thousands) |  |  | (Thousands) |  |  | (Percent) |  |  |
| 1962 | 884.8 | 885.3 | 1770.1 | 119.8 | 76.9 | 196.7 | 13.5\% | 8.7\% | 11.1\% |
| 1966 | 1093.0 | 1098.3 | 2191.3 | 191.6 | 118.9 | 310.5 | 17.5\% | 10.8\% | 14.2\% |
| 1971 | 1345.7 | 1343.4 | 2688.9 | 300.7 | 196.1 | 496.8 | 22.3\% | 14.6\% | 18.5\% |
| 1974 | 1479.7 | 1451.2 | 2930.9 | 317.5 | 242.5 | 559.9 | 21.5\% | 16.7\% | 19.1\% |
| 1976 | 1578.0 | 1538.4 | 3116.5 | 332.6* | 273.1 | 605.7 | 21.1\%* | 17.7\%* | 19.4\%* |

* Preliminary

Economist Richard B. Freeman noted that in the United States the proportion of high school graduates entering college has declined since 1970. "There is a substantial and growing body of evidence that young persons, contrary to traditional views of student decision-making, are highly sensitive in their educational and career decisions to the state of the labour market. "1 In both the United States and Canada recent postsecondary enrolment patterns of males appear to be related to labour market conditions, but female enrolment does not exhibit such a straightforward pattern.

In the United States the proportion of $18-19-y e a r-o l d$ females in university and college remained constant between 1970 and 1974 at around $33 \%$,

[^10]while the proportion of males declined sharply from a peak of almost $45 \%$ in 1969 to $33 \%$ in 1974.

Freeman demonstrated that on the basis of two economic variables, graduates' income relative to other workers and relative employment opportunities, it was possible to virtually "predict" the proportion of 18-19-year-old males in college over the 1951-74 period including the 1970 downturn. ${ }^{1}$ Unfortunately, a lack of appropriate data prevents the same sort of analysis for Canada.

However, a comparison of gross enrolment rates in Canada and the United States indicates similar post-secondary enrolment patterns. In the United States, male post-secondary enrolment, related to the $18-24$ population, fell during the $1971-76$ period from $28.0 \%$ to $26.1 \%$. At the same time, in Canada the male rate dropped slightly (from 22.3 to 21.1 ). The decline reversed a prolonged rise of male enrolment rates in both countries. The rate for American females continued to climb from $19.1 \%$ in 1971 to $21.6 \%$ in 1976. Canada experienced the same phenomenon as the female enrolment rate increased from $14.6 \%$ in 1971 to $17.7 \%$ in 1976. Overall, both countries had higher rates in 1976 than in 1971 (Chapter VII provides a more detailed comparison of Canadian and American enrolment).

Hence, since 1971, Canadian post-secondary enrolment patterns have closely resembled those in the United States, which at least for males have been tied to the labour market events by the economist Freeman.

It seems then that the drop in male participation since 1971 could be related to the decreasing employment value of certain types of postsecondary certification. The relationship between the education system and the labour market is discussed in more detail in chapter 5.

In summary, the overall gross enrolment rate rose sharply throughout the sixties from $11.1 \%$ in 1962 to $18.5 \%$ in 1971. After a decline in 1972 it rose again. But this was due solely to an increase in female participation, as the male rate fell during this period.

1. The two variables "explained" $95 \%$ of the difference in the proportion of 18-19-year-old males in college between 1951 and 1974.

## Numbers

Throughout the sixties and seventies enrolment in Canadian post-secondary institutions increased (Chart 15), although the annual rate of growth slowed to around $3 \%-4 \%$ ( 1971 to 1976) compared with the remarkably high $11 \%-12 \%$ in the 1960 s. Preliminary data suggest little if any growth in the university sector in 1977 - and perhaps some decline - although it is likely that college enrolment increased. ${ }^{1}$ Total post-secondary enrolment more than tripled in 15 years from 196,700 in 1962 to approximately 605,700 in 1976.

Since the mid-sixties non-university (college) enrolment has grown faster than university enrolment. In 1966 colleges accounted for $25.8 \%$ of the post-secondary total. By 1970 this proportion had risen to $34.9 \%$ and by 1976 to approximately $37.8 \%$ ( 228,700 students compared with 376,900 university students).

Table III-7

University and non-university enrolment selected years
Non-university

Enrolment | Average |
| :--- |
| annual |
| growth rate |

(Thousands) (Percent)

| University |  | Total |  |
| :--- | :--- | :--- | :---: |
| Enro1mentAverage <br> annua1 <br> growth rate | Enrolment | Average <br> annua1 <br> growth rate |  |
| (Thousands) (Percent) | (Thousands) (Percent) |  |  |


| 55.6 |  |
| ---: | ---: |
| 80.2 | $9.6 \%$ |
| 166.1 | $20.0 \%$ |
| 228.7 | $5.5 \%$ |


| 141.1 | $13.0 \%$ |
| ---: | ---: |
| 230.3 | $7.7 \%$ |
| 309.5 | $3.3 \%$ |
| 376.9 |  |

196.7
310.5
475.6
605.7

[^11]Chart - 15
Full-time post-secondary enrolment, Canada, selected years


## Fields of Specialization

Along with greater numbers enrolling in the sixties and early seventies, the mix of programs students select has changed.

The advent of university transfer programs in the late 1960 s changed the face of college enrolment. In 1966 only $3.3 \%$ of all college students were in university transfer programs, but $29.3 \%$ by 1970 and approximately one-third in 1975 (Table III-8). Quebec has the majority of the transfer students, since Quebec secondary graduates must enter a two-year academic program in the CEGEP's before continuing to university. British Columbia and Alberta also have a considerable number of transfer students.

The requirement for all school teachers to have a degree also influenced non-university enrolment, as the proportion enrolled in teacher training fell from $30 \%$ in 1966 to virtually zero by 1975 ( $0.3 \%$ ). Other events that have influenced non-university enrolment are:
-Transfer of much nurses' training from hospital schools to community colleges, and shortening of the program from three to two years.
-An increase in the number of technology and business programs offered and a simultaneous increase in enrolment in these areas.
-Creation in the late sixties and early seventies of programs in community and social services, recreation, health, fine and applied arts, and others.

Currently, the career programs with the largest enrolments are business (approximately $18 \%$ of all enrolment in 1975) and health ( $16 \%$ ). Students in technology programs constituted roughly $13 \%$ (table III-8).

University programs have not undergone the same degree of expansion as in non-universities, but the type of programs chosen by students has shifted away from arts to more specialized, job-oriented areas. Table III-9 shows that in $1966,44 \%$ of all undergraduates were enrolled in arts. By 1971 the proportion had fallen to $39.6 \%$, and by $197634 \%$.

While the table shows that the proportion enrolling in education remained more or less constant over the past fifteen years, this is misleading. Much teacher training was formerly conducted in non-university

| University Transfer: | 1962-63 |  | 1966-67 |  | 1970-71 |  | 1975-76 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | No. | \% Dist. | No. | \% Dist. | No. | \% Dist. | No. | \% Dist. |
|  | 388 | 0.7 | 2676 | 3.3 | 48601 | 29.3 | 74476 | 33.5 |
| Fine and applied arts | 608 | 1.1 | 3201 | 4.0 | 9590 | 5.8 | 16911 | 7.6 |
| Teacher training | 21032 | 37.8 | 23129 | 28.8 | 10848 | 6.5 | 567 | 0.3 |
| Business | 1218 | 2.2 | 5197 | 6.5 | 27004 | 16.3 | 39506 | 17.8 |
| Technologies | 8780 | 15.8 | 16819 | 21.0 | 20920 | 12.6 | 27785 | 12.5 |
| Nursing | 22630 | 40.7 | 23931 | 29.8 | 26545 | 16.0 | 24570 | 11.0 |
| Other health programs | 66 | 0.1 | 1869 | 2.3 | 3608 | 2.2 | 10242 | 4.6 |
| Natural resources | 209 | 0.4 | 1280 | 1.6 | 4808 | 2.9 | 7085 | 3.2 |
| Community \& social services | 673 | 1.2 | 862 | 1.1 | 5289 | 3.2 | 10722 | 4.8 |
| Others \& not reported | 673 | 1.2 | 1239 | 1.5 | 8886 | 5.3 | 10681 | 4.8 |
| Sub-total (Career) | 55216 | 99.3 | 77527 | 96.7 | 117498 | 70.7 | 148069 | 66.5 |
| Total | 55604 | 100.0 | 80203 | 100.0 | 166099 | 100.0 | 222545 | 100.0 |


|  | Arts ${ }^{1}$ | Science | Education | Engineering | Commerce \& bus. admin. | Medical \& health prof. ${ }^{2}$ | Law | Fine \& applied arts | Others ${ }^{3}$ | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\text { A. } \begin{aligned} & \text { Both } \\ & \text { Sexes } \end{aligned}$ |  |  |  | Percentage Distribution |  |  |  |  |  | Thousands |
| 1962-63 | 42.1 | 11.3 | 12.1 | 12.0 | 5.9 | 7.7 | 2.2 | 0.5 | 6.2 | 132.7 |
| 1966-67 | 44.0 | 13.9 | 13.0 | 9.9 | 5.8 | 6.0 | 2.1 | 0.8 | 4.6 | 210.6 |
| 1971-72 | 39.6 | 14.7 | 13.5 | 9.3 | 7.0 | 6.3 | 2.7 | 2.6 | 4.3 | 287.1 |
| 1973-74 | 35.9 | 15.8 | 13.1 | 8.8 | 8.5 | 6.6 | 2.9 | 3.4 | 5.0 | 295.0 |
| 1975-76 | 35.2 | 13.8 | 13.6 | 9.3 | 9.1 | 6.9 | 2.7 | 3.4 | 6.0 | 331.0 |
| 1976-77 | 34.2 | 13.6 | 13.9 | 9.8 | 9.6 | 7.0 | 2.8 | 3.5 | 5.6 | 336.3 |
| B. Male |  |  |  | Percenta | ge Distrib | tion |  |  |  | Thousands |
| 1962-63 | 38.7 | 12.9 | 8.6 | 16.5 | 7.7 | 6.7 | 2.9 | 0.3 | 5.9 | 95.8 |
| 1966-67 | 39.6 | 16.9 | 8.1 | 14.8 | 8.1 | 4.8 | 3.0 | 0.4 | 4.4 | 139.6 |
| 1971-72 | 34.6 | 17.2 | 9.6 | 14.5 | 9.7 | 4.8 | 3.7 | 1.9 | 3.9 | 178.8 |
| 1973-74 | 31.8 | 18.4 | 8.9 | 14.1 | 11.6 | 5.0 | 3.8 | 2.3 | 4.1 | 178.2 |
| 1975-76 | 31.2 | 16.0 | 9.0 | 15.3 | 12.2 | 5.2 | 3.4 | 2.4 | 5.3 | 190.7 |
| 1976-77 | 30.1 | 15.7 | 8.9 | 16.2 | 12.5 | 5.3 | 3.5 | 2.5 | 5.3 | 189.4 |
| C. Female |  |  |  | Percenta | E Distrib | tion |  |  |  | Thoue sands |
| 1962-63 | 51.0 | 7.1 | 21.2 | 0.4 |  | 10.3 | 0.4 | 1.3 | 6.9 | 36.9 |
| 1966-67 | 52.7 | 8.0 | 22.4 | 0.4 | 1.3 | 8.3 | 0.4 | 1.4 | 5.1 | 71.0 |
| 1971-72 | 47.8 | 10.5 | 20.0 | 0.6 | 2.6 | 8.6 | 1.1 | 3.7 | 5.0 | 108.3 |
| 1973-74 | 42.1 | 11.9 | 19.3 | 0.8 | 3.9 | 9.1 | 1.5 | 5.0 | 6.4 | 116.8 |
| 1975-76 | 40.4 | 10.9 | 19.9 | 1.2 | 4.8 | 9.2 | 1.7 | 4.9 | 7.0 | 140.3 |
| 1976-77 | 39.4 | 10.9 | 20.4 | 1.5 | 5.7 | 9.1 | 1.9 | 4.9 | 6.2 | 146.9 |

1. Slightly overestimated, since it includes a few students who have not declared a major.
2. Dentistry, medicine, nursing, pharmacy and other miscellaneous health professions.
3. Agriculture, household science, religion, veterinary medicine, and unclassified students.
institutions, whereas all teachers are now educated in universities. Combined university and non-university teacher enrolment dropped from 50,400 in 1966 , to 49,300 in 1970 and 45,700 by 1975 , virtually all of which was in universities.

Enrolment growth in other major fields is indicated in Chart 16. From 1966 to 1976 arts increased $24 \%$, science $56 \%$, engineering $58 \%$, the health professions (medicine, nursing, dentistry, etc.) $87 \%$, 1aw $107 \%$, and commerce $166 \%$.

Chart 17 reveals significant differences in the program choices of men and women. A larger proportion of women continue to select arts and education. In 1966, $53 \%$ of all females were in arts, compared with $40 \%$ of the men. Both proportions had declined by 1976 ( $40 \%$ of females compared with $30 \%$ of males), but women were still over-represented. Similarly, in $1976,20 \%$ of females, compared with only $9 \%$ of males, were enrolled in education.

But in recent years women, too, have moved toward more specialized employment-oriented fields. In 1976, $5.8 \%$ of them were enrolled in commerce, compared with only $2.6 \%$ in 1971.

It seems reasonable to hypothesize that labour market problems for general degree graduates have been partially responsible for the recent shift away from arts. Since their job opportunities are not apt to change in the near future, this trend may continue. With the further decline in elementary-secondary enrolment expected until the mid-eighties, the need for new teachers will diminish, and so may the number of students majoring in education. Undergraduate enrolment in job-oriented disciplines may rise, although arts will likely continue to be the largest single field.

## Post-secondary Enrolment Projections

Compared with the elementary-secondary leve1, post-secondary enrolment projections are highly speculative. Students' preferences and government priorities can change radically in a short time, influenced by unforeseen economic and social conditions. Because of this uncertainty, four projections have been developed. Future enrolment rates differ significantly among the

Chart - 16
Growth in full-time university undergraduate enrolment, by field of specialization, Canada, 1966-76

## Growth index (1966=100)



Chart - 17
Full-time undergraduate enrolment, Canada, 1966-67, 1971-72 and 1976-77 Percentage distribution by field of specialization

four. It is, perhaps, this variable that will be of most assistance to readers attempting to evaluate the projections. " B ", a medium projection with an enrolment rate that declines somewhat over the forecast period, is emphasized in this chapter. This same projection is used as a base for calculating future labour force entrants. Readers whose particular interest is post-secondary enrolment should consider the alternatives in Chapter 6.

## Factors Affecting Post-secondary Enrolment

College and university enrolment projections are produced with a flow model based on enrolment in the final year of secondary school (from the secondary enrolment projections). Between-year transition rates are used to determine enrolment for any given year. However, the easiest way to evaluate a projection is to examine the enrolment rate.

Post-secondary enrolment is, of course, influenced by the number of young people in the population. For the sake of simplicity, the 18-24 age group is considered the relevant population, although some students fall outside this age range. ${ }^{1}$

Beyond the number of young people, other factors affect the proportion who enter colleges or universities. Changes in the enrolment rate reflect the influence of these factors.

1. For Canada as a whole, approximately $80 \%$ of all full-time post-secondary
students are 18-24. Because of differences in education systems, the
relevant age group varies by province. The following age groups encompass
the majority of students:
Province
1) Eighteen to 24 age group

Rapid expansion of the $18-24$ age group in the sixties and early seventies has slowed in recent years. It is expected to grow approximately $1.2 \%$ per year between 1977 and the 1982 peak (an increase of 200 thousand or $6.3 \%$ Chart 1 in chapter 1). By 1986 the $18-24$ population is projected to have fallen $6,4 \%$ from the 1982 peak (an annual 1.6\% drop). The decline will continue until the mid-nineties to a low of approximately 2.7 million a $21 \%$ decrease from the peak. That is, there will be one-fifth fewer potential post-secondary students than in 1980. Readers are reminded that these are national projections, and the rates of increase and decrease will differ significantly among provinces. General trends, however, hold for al1 provinces.
2) Non-demographic factors

Post-secondary enrolment rates can vary significantly from year to year, influenced by student demand and government and institutional policies. There is, of course, no method of predicting such variables or precisely determining their effect on enrolment. The best that can be attempted is a discussion of major economic and social trends, and a subjective evaluation of their impact on the enrolment rate. Following is an outline of the assumptions on which projection "B" was based.

The momentum of the drive by females for higher education and professional training is expected to continue in the near future, but it may peak in the face of employment difficulties and perhaps diminish. As has been shown, most women enrol in general arts, education or nursing. But graduates from these disciplines are confronted by the tightest labour market. Thus, the female enrolment rate could level or decline. The shift by females to other disciplines, a phenomenon that is already apparent, may also be accentuated.

1. Preliminary 1977 data indicate a decreased female participation rate in some provinces.

The decline in the male enrolment rate since 1971 is expected to continue until the early 1980s. Demand in the teaching field, which has hitorically employed more university graduates than any other sector of the economy, has fallen with elementary-secondary enrolment. This will continue until the mid-eighties. Since it is primarily students with general or education degrees who rely on employment as teachers, they have had and will likely continue to have, the most severe job market difficulties.

University graduates of other programs continue to have lower unemployment and higher salaries than non-graduates. However, evidence suggests that because of the many graduates seeking jobs, this favourable labour market position is deteriorating (chapter 5). This renders trades and other careers more appealing.

These factors will, of course, not influence all students, but may be particularly important among the "marginal" - those who are not deeply committed to university education, but whose decision to enrol is swayed by external conditions. Students who have chosen a definite career path will no doubt attend university regardless of outside influences.

The proportion of young people entering non-university institutions in the future may or may not be influenced by the factors affecting university enrolment. College training could be more attractive because of its job-oriented nature. The labour market for graduates in some disciplines, e.g., business and the technologies, is still reasonably favourable. However, large numbers of students are currently graduating from colleges, and the saturation point may be reached in many disciplines. Of course, a much more detailed analysis than is possible here would be necessary to determine in which sectors of the economy such saturation is imminent. Projection " B " assumes that college enrolment will increase in relation to universities during the forecast period.

Another factor that can influence demand is family background. Traditionally, students from homes where one or more parent had higher education have been more likely to enrol at the post-secondary level. The proportion of adults with college or university education will increase dramatically. Thus, if the relationship continues to hold, the enrolment rate could rise.

The level of government financial support could also indirectly influence enrolment. The past few years have witnessed a decline in the proportion of total government expenditures allocated to education, from a peak of $22.2 \%$ in 1970 to $17.0 \%$ in $1975 .^{1}$ This trend is unlikely to be reversed in the near future.

It is also possible that to prevent an oversupply of graduates in some professional, para-professional and technical fields, enrolment may be limited in some university faculties and college programs. This is already standard policy in some disciplines.

Most of these factors tend to have a downward influence on the postsecondary enrolment rate, which is the basis of Projection "B". All of the above is, of course, speculation about the near future. Beyond the mideighties, the situation may change, as the number of post-secondary graduates seeking jobs is expected to decrease slowly. In any case, post-secondary enrolment is likely to be volatile and uncertain over the next decade.

Projection "B"

Following is a brief summary of the results of projection "B". The three alternative projections are reported in chapter 6.

1) Enrolment rate

Having peaked in 1975 at $19.6 \%$, the post-secondary enrolment rate is projected to decrease slowly throughout most of the forecast period to $17.4 \%$ by 1986 (Table III-10). The drop in the male rate will continue. The rate for females is projected to peak in 1977 and dec line slowly thereafter.

[^12]
## Table III-10

Post-secondary enrolment rate, selected years (to $18-24$ age group)

Year

1962
1966
1971
1976

1981
1986

13.5
8.7
11.1
17.5

10,8
14.2

$$
22.3
$$

14.6
18.5
$\begin{array}{lll}21.1 & 17.7 & 19.4\end{array}$
Projection "B"
19.2
18.2
17.1
18.2
16.5
17.4

Historical and projected values of other enrolment rates, such as the ratio of non-university enrolment to the $18-21$ age group, are shown in Appendix $B$.
2) Full-time non-university enrolment

Chart 18 indicates that full-time non-university enrolment in Canada is expected to peak at 243,000 in 1977 and 1978, and then decline steadily to 195,000 by 1986 (a $20 \%$ drop in eight years). However, much of the increase and subsequent steep decline results from re-organization of Quebec's education system. Enrolment in the nine provinces is projected to rise slowly from 107,000 in 1976 to a peak of 117,000 in 1982 , then decline $9 \%$ between 1982 and 1986 , or $2.4 \%$ a year.

Non-university enrolment in Quebec is projected to increase to 133,000 in 1977, and then decline steadily to around 89,000 by 1986, a drop of onethird. The sharp rise and fall are caused by the structural changes in the school system. Subsequent drops (beyond 1980) result from a decreasing

Chart - 18
Full-time non-university enrolment, 1962-86


17-20-year-old population in Quebec, where the rate of decline in the birth rate, and hence in the number of children, was most pronounced.

The enrolment slump of the early 1980s is expected to continue beyond 1986, since the $18-21$ age group will continue to shrink until the early 1990s.

## Table III-11

## Full-time non-university enrolment, selected years

| Male Female Both Sexes | Average annual <br> growth rate of <br> total enrolment | Female enrolment <br> as $\%$ of total |
| :---: | :---: | :---: |

------- Thousands $\qquad$ (Percent)
(Percent)

| $1962-63$ | 16.8 | 38.8 | 55.6 | 9.6 | $69.8^{*}$ |
| ---: | ---: | ---: | :---: | ---: | :--- |
| $1966-67$ | 35.9 | 44.3 | 80.2 | 16.7 | 55.2 |
| $1971-72$ | 94.1 | 79.7 | 173.8 | 5.6 | 45.9 |
| $1976-77$ | 115.0 | 113.8 | 228.7 | 49.8 |  |
|  |  |  | Projection "B" |  |  |
| $1978-79$ | 123.1 | 120.2 | 243.4 | 3.2 | 49.4 |
| $1981-82$ | 115.9 | 113.8 | 229.7 | -1.8 | 49.5 |
| $1986-87$ | 96.0 | 99.5 | 195.5 | -2.8 | 50.9 |

[^13]3) Full-time university enrolment

University enrolment in Canada is expected to remain more or less stable over the next five years or so, although some provinces are already (1977) experiencing an enrolment decline. If this trend continues, the lower projection, " D ", in chapter 6, may be more realistic. Projection "B" indicates a slight rise ( $1.6 \%$ ) between 1976 and 1983, from 377,000 to $383,000$. After 1983, enrolment is projected to decrease to 356,000 by 1986 , a $7.1 \%$ decline in three years (Chart 19).

Chart - 19
Full-time university enrolment, 1962-86


University enrolment in Quebec will undergo the "artificial" increase referred to earlier around 1979. A decline is expected after this peak.

The projection suggests university enrolment in the remaining nine provinces will decrease slightly in the short-term from the 1976 level of 299,000 , remain constant or increase slightly to 1983 , and then fall to 286,000 by 1986 .

Table III- 12 demonstrates that female enrolment as a proportion of the total is expected to continue its upward climb early in the forecast period, but then level at around 44\% (from $42 \%$ in 1976).

While projections by field of specialization have not been produced, enrolment in arts and science, and perhaps education, is likely to decrease as a proportion of the total. Undergraduate enrolment in these three areas grew at an average annual rate of $1.3 \%$ between 1971 and 1976 . In more careeroriented programs (law, medical and health professions, commerce, engineering, agriculture, architecture, and veterinary medicine) it rose at a combined average annual rate of $6.3 \%$. A1though undergraduate enrolment may level and then decline, enrolment in many professional areas may continue to increase. Arts, general science and education are apt to bear the brunt of the decline.

Nonetheless, these faculties may remain the largest in the future. For example, even assuming that enrolment in career-oriented fields ${ }^{1}$ will grow at an annual rate of $3 \%$ from 1976 to 1986 , and that total undergraduate enrolment will follow Projection "B", arts, science and education would constitute $46 \%$ of the total by 1986 (compared with $62 \%$ in 1976). It is also likely that arts would still be the largest single student group.

This "illustrative calculation" is not intended to suggest that enrolment in career-related fields will grow at a combined annual rate of $3 \%$. Rather, it is meant to indicate that while arts, general science and education may decrease as a proportion of total, enrolment in these fields is likely to remain greater than in any other single area of specialization.

[^14]
## Table III-12

## Full-time university enrolment, selected years

Male Female Both Sexes \begin{tabular}{l}

Average annual | growth rate of |
| :--- |
| total enrolment |

 

Female enrolment <br>
as of total
\end{tabular}

| 1962-63 | 103.0 | 38.1 | 141.1 |  | 27.0 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1966-67 | 155.7 | 74.6 | 230.3 | 73.0 | 32.4 |
| 1971-72 | 206.6 | 116.4 | 323.0 |  | 36.0 |
| 1976-77 | 217.6 | 159.3 | 376.9 |  | 42.3 |
|  | Projection "B" |  |  |  |  |
| 1979-80 | 212.4 | 166.1 | 378.5 | 0.1 | 43.9 |
| 1983-84 | 214.1 | 169.2 | 383.3 | 0.3 | 44.1 |
| 1986-87 | 198.4 | 157.5 | 355.9 | -2.4 | 44.3 |

Beyond 1986 university enrolment is expected to continue falling, as the number of $18-24-$ year-olds will diminish until the mid-nineties.
4) Total full-time post-secondary enrolment

Ful1-time post-secondary enrolment, the sum of non-university and university enrolment, will follow trends similar to those described in the earlier sections. In general, total enrolment is expected to remain stable until around 1982, and then decline as the 18-24 age group decreases. Although the 18-24 age group will slowly increase to 1982 ( $1.2 \%$ annually), no significant enrolment increases are projected, since a drop in the enrolment rate is expected in the near future. As before, Quebec trends are somewhat irregular. These projections are shown in Chart 4 of chapter 1. Table III-13 summarizes total enrolment since 1962.

## Tab1e III-13

Total full-time post-secondary enrolment, selected years

| Male Female Both Sexes | Average annual <br> growth rate of <br> total enrolment | Female enrolment <br> as a \% of total |
| :--- | :---: | :---: | :---: |
| - (Percent) | (Percent) |  |


| $1962-63$ | 119.8 | 76.9 | 196.7 | 12.1 | 39.1 |
| ---: | ---: | ---: | :--- | ---: | ---: |
| $1966-67$ | 191.6 | 118.9 | 310.5 | 9.9 | 38.3 |
| $1971-72$ | 300.7 | 196.1 | 496.8 | 4.0 | 39.5 |
| $1976-77$ | 332.6 | 273.1 | 605.7 |  | 45.1 |
|  |  |  | Projection "B" |  |  |
| $1979-80$ | 330.9 | 282.8 | 613.7 | 0.4 | 46.1 |
| $1982-83$ | 329.2 | 282.8 | 612.0 | -0.1 | 46.2 |
| $1986-87$ | 294.4 | 257.0 | 551.4 | -2.6 | 46.6 |

The growth index in Table III-14 demonstrates the growth since 1971 of university and non-university enrolment.

Tables in Appendix B give more details on the enrolment projections. This projection is only one of four included in the report. Because of the high degree of uncertainty associated with post-secondary projections, readers particularly interested in enrolment should refer to chapter 6 and/or Appendix $E$ which present the alternatives.

## Table III-14

Growth Index of Ful1-time Post-secondary Enrolment, 1971-86
$1971=100$


## GRADUATES

## Classification

The annual number of graduates is not a good indicator of the number of former students available to enter the labour market. Only $35 \%$ to $40 \%$ of those who leave school each year are secondary or post-secondary graduates, and not all graduates enter the labour force directly. Especially after high school, a large percentage continue to post-secondary institutions. Graduates of a bachelor's program may enrol without interruption at a more advanced level. Others may leave the province; and foreign students, by law, cannot be employed in Canada. Hence, other calculations must be made to estimate the number who enter the labour force.

But although the number of graduates bears little relation to labour force entrants, it is important in determining the level of educational attainment.

Detailed statistical tables showing the historical and projected number of graduates from secondary school, colleges, and universities are in Appendix C. Statistics to $1974-75$ are historical; some preliminary data are included in the 1975-76 figures; all subsequent years are projections. Because of differences in provincial education systems, the category "grade 12 graduates" also includes graduates from grade 11 in Newfoundland (the last secondary year) and from Secondary $V$ in Quebec. Ontario grade 13 graduates have been excluded. ${ }^{1}$

1. This was done to avoid duplication in the count of Ontario secondary graduates. If both grades 12 and 13 were included, the number of secondary graduates in Ontario would be abnormally high relative to other provinces since many students graduate from both grades.

The total number of non-university graduates includes all graduates of career, technical and other terminal programs plus graduates of CEGEP general programs. These two groups are shown separately in Table 22 of Appendix C.

Graduates of university transfer programs in provinces other than Quebec have been excluded from the non-university graduate category because these programs parallel the first one or two years of university. Hence, persons leaving transfer programs and CEGEP general programs are considered to have only "some" post-secondary education, even though they may have received a diploma or certificate.

Categories at the university level are self-explanatory. ${ }^{1}$ At all levels the count includes those who graduated after part-time study, as well as those who were enrolled full-time.

Some estimates are included in the historical data. In particular, much of the male-female distribution of secondary graduates was estimated, on the basis of data from a few provinces.

## Results

Final year enrolment in a program is the primary determinant of the number of graduates. Thus, to project the number, a graduation rate is usually applied to final year enrolment. ${ }^{2}$ The assumptions in a particular enrolment projection, then, are also the assumptions underlying the graduates projection. The projection of graduates in Appendix C is based on enrolment Projection "B".

The major observations from the tables are:
-The number of secondary graduates peaked in 1976-77 at roughly 285,000 , and is projected to fall $23 \%$ to 219,000 by 1985-86. Female secondary graduates are expected to continue to outnumber males.

[^15]-The number of graduates with post-secondary certificates or diplomas (non-university graduates and university undergraduate diplomas) is expected to peak in 1978-79 at 75,000, and decline thereafter. To the early 1980s, the decline is mainly in Quebec. By contrast, in the other provinces the number is expected to increase slowly until the early 1980s, and then decline.
-The number of university graduates is projected to rise $12 \%$ between 1975-76 and 1985-86 to a high of roughly 111,000 and then drop .
-At the bachelor's level males slightly outnumber females, but the gap has narrowed considerably in the recent past. In 1971-72, 39\% were female; $46 \%$ by 1975-76, and a projected $50 \%$ by 1985-86. At the master's and doctoral levels the large majority continues, and is projected to be male.

See Appendix $C$ for more detailed data.

## CHAPTER IV

## POTENTIAL LABOUR FORCE ENTRANTS FROM THE EDUCATION SYSTEM

## INTRODUCTION

"School leavers" were enrolled full-time at any level of the education system in a given academic year, but do not return as full-time students the following year. They can be secondary or post-secondary graduates, or people who leave without graduating. But not all leavers are available to the labour force. Some emigrate, a few die, and foreign students cannot legally accept employment. Those who remain in Canada represent the annual potential supply of "new" manpower from the country's education system. ${ }^{1}$ This by no means represents all new labour force entrants, as there are other sources of manpower (e.g., through immigration or the entry into the labour force from the household sector).

## Classification

The annual number of potential labour force entrants has been classified according to level of attainment: less than grade 12 graduation; ${ }^{2}$ secondary graduation; "some" post-secondary; ${ }^{3}$ non-university diploma or certificate, or undergraduate diploma; bachelor's degree; master's degree, and doctorate.
"Diplomas and certificates" refers primarily to students graduating from "career" programs. College students entering the labour force from

1. Even if jobs are not available, school leavers may become part of the labour force, since it includes unemployed persons seeking work.

Most who discontinue full-time studies enter the labour force. Unpublished Statistics Canada data indicate that from $85 \%$ to $93 \%$ of school leavers enter the labour force.
2. This includes everyone leaving before completion of grade 12. But some will have graduated from short courses (e.g., occupational or special vocational).
3. This includes all persons "leaving" university or college before obtaining a degree, "career" diploma or certificate.
one- or two-year university transfer or academic programs (in Quebec) are included in the "some" post-secondary category on the premise that this is equivalent to "some" university education.

This chapter covers leavers from all elementary, secondary and postsecondary institutions. Since trade enrolment is excluded from the study, so are labour force entrants with trades training. Thus, some students shown as having less than grade 12 graduation or secondary school graduation may also have been trained in a trade.

The number of school leavers has been calculated on the basis of past and projected enrolment. Data from 1971 to 1975 are "actual". As a historical point of reference, calculations were also made for 1966 (1966 leavers left during and after the 1965-66 academic year).

## Reliability

The historical values were not determined by counting the number of school leavers, or by any other survey method. Rather, calculations based on enrolment by age and various "adjustments" ${ }^{1}$ were used to estimate the annual number. The resultant total number of school leavers for each year is quite reliable, since it is derived from reliable enrolment data. But disaggregation of the total by educational level requires consideration of other historical data ("adjustments"), many of which are estimates. Hence, the number of school leavers by educational level is less reliable than the total. Nonetheless, all estimates are consistent over the historical (and projected) period, and accurately reflect changes in trends.

## NUMBERS

Not all who "leave" the education system are potentially available to the Canadian labour force. During and after the 1975-76 academic year, 630,800 people left school not to return full-time in 1976-77. However, only $579,600(92 \%)$ were considered potential labour force entrants.

[^16]The rest were foreign students who returned home, or others who left the country. And of the remaining "potential" labour force entrants, only an estimated $85 \%$ to $90 \%$ do, in fact, enter the labour force.

Because of the annual increase in births after World War II, rapidly rising numbers have emerged from the education systems since the early sixties. The children born around the peak year of births, 1959, are now (1978) just 19, an age at which many will seek work. ${ }^{1}$

In 1976, $60 \%$ more former students entered the Canadian work force than in 1966. For Canada as a whole the number peaked in 1977, 18 years after the 1959 high in births at an estimated 615,000 ; a decline to roughly 508,000 by 1986 is anticipated. This means approximately the same number of young people will be seeking work in the middle 1980s as in 1970. This national trend is slightly misleading, as it has been affected by restructuring of Quebec's education system. For the nine provinces excluding Quebec the number of school leavers will continue to grow until 1980, and then decline. In Quebec the peak comes earlier - 1977 - and the province's large numbers skew the Canada total. This decline in young job-seekers is a consequence of the steep drop in births after 1960.

## EDUCATIONAL ATTAINMENT

But while the annual number of labour force entrants is expected to fall in the next decade, their overall educational attainment will steadily increase. In 1966 about 19\% of school leavers entered the labour market with "some" or completed post-secondary education. By 1976 this had increased to $36 \%$, and is expected to reach $42 \%$ by 1986 (Chart 6 , chapter 1). This rise in the educational qualifications of young labour force entrants is due to three factors:
(1) throughout the 1960 s , a remarkable increase in the proportion of young people opting for post-secondary education;
(2) in the early and mid-seventies, the large number of baby boom children of post-secondary age (18-24) whose attendance boosted enrolment, and

[^17](3) in the late seventies and early eighties, the projected decline in the 14-17 age group, which will lower secondary enrolment relative to postsecondary enrolment, and consequently, decrease secondary leavers relative to post-secondary leavers.

The projected increase in educational attainment is not caused by a larger proportion of young people continuing to the post-secondary level. In fact, the enrolment projection employed here assumes a decreasing enrolment rate. The increase results from a shift in the age structure of the young (16-25) population. ${ }^{1}$

Table IV-1 demonstrates that the educational qualifications of young jobseekers will undergo a radical change during the next decade. Virtually all the numerical decline in the 1980s stems from the rapid drop in the supply of secondary-educated leavers (Chart 20). The number with post-secondary education continues to rise slowly into the eighties (Chart 21). By 1986 the supply of secondary-educated "new" young manpower will have shrunk to the 1966 leve1, while the number of post-secondary-educated will be $220 \%$ above that year's total.

## Table IV-1

Potential labour force entrants, by level of schooling, selected years


Thousands Index Thousands Index 1966=100

Post-secondary
(some or completed)
$\begin{array}{cc}\text { Thousands } & \text { Index } \\ & 1966=100\end{array}$

Thousands
Total

| 66.8 | 100.0 | 360.5 | 100.0 |
| ---: | :--- | :--- | :--- |
| 150.3 | 225.0 | 518.1 | 143.7 |
| 208.0 | 311.4 | 579.6 | 160.8 |

Projected
$293.7 \quad 100.0$
$367.8 \quad 125.2$
126.5

| 405.6 | 138.1 |
| :--- | :--- |
| 372.1 | 126.7 |
| 328.0 | 111.7 |
| 295.5 | 100.6 |

$$
\begin{aligned}
& 138.1 \\
& 126.7 \\
& 111.7 \\
& 100.6
\end{aligned}
$$

$$
209.7
$$

$217.9 \quad 326.2$
$222.0 \quad 332.3$
$212.6 \quad 318.3$
$295.5 \quad 100.6$

Index $1966=100$

1977
1980
1983
1986
1966
1971
1976
615.3
170.7
$590.0 \quad 163.7$
550.0
152.6
508.0
140.9

1. Leavers with secondary school are roughly $16-19$ years old, while those with post-secondary education are 21-25. In the late 1970s and early 1980s, the number of $16-19$-year-olds will be declining while the number of $21-25-y e a r-o l d s$ continues to rise. Hence, the number leaving school with a secondary education (who are $16-19$ ) will be falling relative to the number leaving with post-secondary education (21-25-year-o1ds).

Chart - 20
Potential labour force entrants with secondary school graduation or less, Canada, selected years



LABOUR FORCE ENTRANTS WITH POST-SECONDARY COMPLETION

Throughout the reference period the greatest increase is among labour force entrants with bachelor's and first professional degrees - from 21,800 in 1966 to 50,300 in 1976 and a projected 54,200 by 1986. That is, they more than doubled between 1966 and 1976, and their numbers are expected to continue increasing slowly to a 1982 peak ( $10 \%$ above 1976) and then level off. Currently more than half of all labour force entrants who have completed a post-secondary program have a bachelor's or first professional degree. The annual number with certificates or diplomas also exploded, almost doubling to 39,500 in 1976 from 21,000 in 1966. They are projected to increase at a slightly faster rate than bachelor's degree leavers in the near future from 39,500 in 1976 to a plateau of approximately 46,000 (16.5\% above 1976) in 1980. A decline in the number of young job-seekers with either bachelor's degrees or college certificates or diplomas is expected after the mid-eighties.

As well as the effects of the baby boom and a general increase in participation, the growing desire of young women to attend university since the late sixties has added to the number of job-seekers armed with bachelor's degrees. The proportion of males in undergraduate programs has been decreasing since 1971, while that of females has been increasing. Chart 21 shows that in 1966, $36 \%$ of labour force entrants with bachelor's degrees were female. By 1971 this had increased to $40 \%$, and by 1976 almost $50 \%$. It is expected to remain at this level or rise slightly in the future. Also contributing to this phenomenon is the fact that while there are more male than female graduates with bachelor's degrees, a much larger proportion of the men continue to post-graduate studies, so fewer of them enter the labour market.

The supply of "new" manpower with certificates or diplomas has always been predominantly female ( $60 \%$ versus $40 \%$ in 1976), and this is expected to continue in the future. It is caused by the numerical prominence of predominantly female programs such as nursing, medical technology, secretarial science, and before the mid-seventies, teacher training in non-university institutions.

FIELDS OF SPECIALIZATION FOR BACHELOR'S AND FIRST PROFESSIONAL DEGREES

The major growth over the past ten years has been in bachelor's degrees, but no projections of labour force entrants by field of specialization have been produce. Therefore, to determine what type of degrees young job-seekers have, the next best approach is to examine degrees awarded over the past decade.

Chart 22 shows that the vast majority have graduated in arts or education. Throughout the sixties and early seventies approximately $42 \%$ obtained arts degrees, $20 \%$ education, ${ }^{1} 10 \%$ science, and the remaining $28 \%$ in all other fields (law, medicine, engineering, architecture, journalism, etc.).

Recently there has been a slight shift away from arts and education, but these two categories continue to predominate. In 1976 the distribution of degrees awarded was $35 \%$ in arts, $20 \%$ in education, $14 \%$ in science, and the remaining $31 \%$ in all other fields (Table IV-2).

Analysis by sex demonstrates that the preponderance of arts and education degrees is much more pronounced among female than male graduates. Through the sixties and early seventies roughly three-quarters of all degrees awarded to females were in arts or education, as opposed to half for males. Science and other specializations were much more popular among males than females. Again, a slight shift away from arts and education has been noted recently for both sexes. In 1976, 68\% of degrees awarded to females were in arts or education, compared with $44 \%$ for males (Chart 22).

As discussed in the enrolment chapter, the move away from arts and education is likely to continue, since these graduates are encountering the most difficulty in the labour market, nor is this employment situation apt to change in the near or medium-term future. Nonetheless, arts and education are currently so dominant that even if there is some shrinkage in enrolment, their numerical prominence is likely to persist. Attendance

[^18]
## hart - 22

Bachelor's and first professional degrees awarded:
Percentage distribution by broad field of specialization and sex, Canada, selected years


## Tab1e IV-2

## Bachelor's and first professional degrees, <br> by specialization, selected years



1961-62

| Both sexes | 40.1 | 15.0 | 55.1 | 8.4 | 36.5 | 100.0 | 22,836 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Male | 36.3 | 12.4 | 48.7 | 9.7 | 41.6 | 100.0 | 16,566 |
| Female | 49.8 | 21.9 | 71.7 | 5.0 | 23.3 | 100.0 | 6,290 |

1965-66

| Both Sexes | 44.6 | 17.3 | 61.9 | 9.5 | 28.6 | 100.0 | 37,858 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Male | 40.8 | 14.0 | 54.8 | 11.8 | 33.4 | 100.0 | 25,501 |
| Female | 52.3 | 24.3 | 76.6 | 4.7 | 18.7 | 100.0 | 12,357 |

1970-71

| Both sexes | 41.1 | 21.1 | 62.2 | 11.5 | 26.3 | 100.0 | 67,100 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Male | 37.4 | 15.6 | 53.0 | 14.5 | 32.5 | 100.0 | 41,596 |
| Female | 47.2 | 29.9 | 77.1 | 6.7 | 16.2 | 100.0 | 25,504 |

1975-76

| Both sexes | 35.5 | 20.3 | 55.8 | 13.5 | 30.7 | 100.0 | 83,276 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Male | 30.9 | 13.6 | 44.5 | 17.2 | 38.3 | 100.0 | 44,740 |
| Female | 40.8 | 28.0 | 68.8 | 9.2 | 22.0 | 100.0 | 38,536 |

[^19]Source: Education, Science and Culture Division, Statistics Canada
patterns of many students are not affected by labour market conditions, and those seeking a general education will probably continue to study arts, as will those preparing for other advanced degrees.

It is expected, then, that arts degrees will continue to predominate over the forecast period, but less so than at present. A1so, it is likely that the proportion of females in arts and education will continue to exceed that of males. Recent enrolment data do suggest, however, that other specializations are becoming more popular among females, notably commerce and business administration. Enrolment, and hence labour force entrants, will be somewhat more dispersed among science and the professional faculties in the future, but arts graduates will continue to be the largest single gro up available to the labour market.

## CHAPTER V

## SOME ASPECTS OF THE RELATIONSHIP BETWEEN SCHOOL LEAVERS AND

THE LABOUR FORCE

## INTRODUCTION

The number of former students who are apt to be seeking jobs over the next decade has been determined; the next question is, "What does it mean?" This chapter examines some of the implications of these findings for both the labour force as a whole and school leavers in particular. An understanding of current and recent events in the labour market provides a basis for speculation about the future.

Difficulties that plague such an analysis are manifold. Here, these are accentuated because this study is only one side of a two-sided coin: the projections deal almost exclusively with the manpower supply; no corresponding demand projections have been made. ${ }^{1}$

Nonetheless, changes in the manpower supply from the school system are so marked that they have obvious consequences.

The authors recognize that the study is somewhat narrow in that it views education strictly from a labour market point of view. They do not mean to imply that all education should be concerned solely, or even primarily, with the labour market. Education is a multi-faceted activity with purposes and objectives beyond those related to economics and careers. However, discussion of those objectives is far beyond the scope of this study. The intention is to point out several implications of the projected number and educational profile of school leavers, for the labour force and the leavers themselves. Moreover, it is possible that some current

[^20]difficulties stem from misunderstanding by students and others of the raison d'etre of higher education.

## IMPACT ON THE LABOUR FORCE

Since the education system is the primary source of new workers, variations in the number and educational level of persons leaving school will affect the size, age composition, and educational attainment of the labour force.

## Growth Rate

Constant expansion of the supply of labour from the education system, combined with increased female participation ${ }^{1}$ and high immigration, have resulted in rapid labour force growth: an annual average of $3.4 \%$ between 1965 and 1975. This is substantially above the rate in other industrialized countries (Chart 23). During this period employment also grew more quickly in Canada than in most western countries - an impressive $43 \%$ rise between 1963 and 1973 , compared with $26 \%$ in the U.S., $15 \%$ in Japan and $6 \%$ in Sweden.

However, at the same time Canada's unemployment rate was one of the highest. From 1967 to 1973 it exceeded that of other industrialized countries, and from 1974 to 1976 was surpassed only by the United States'. In 1977 Canada regained first place when unemployment rose to $8.1 \%$ (Chart 23 ).

As the number of entrants from the education system begins to decline in 1978 so will the labour force growth rate. A labour force projection that assumes moderately increasing participation ${ }^{2}$ results in a drop in the

1. The female participation rate (proportion of women in the labour force) rose from $38.3 \%$ in 1970 to $45.9 \%$ in 1977.
2. The projection is produced by applying projected participation rates for various age groups to the relevant source populations. The results are: the overall male participation rate rises from $77.7 \%$ in 1977 to $78.4 \%$ in 1986, and falls to $76.1 \%$ by 2000 ; the female rate increases steadily from $45.9 \%$ in 1977 to $53.3 \%$ in 1986 , and $54.5 \%$ by 2000 . The population projection on which the labour force projection was based incorporated assumptions of a 1.8 fertility rate and net annual migration of 100,000 throughout the forecast period.

Chart - 23
Labour Force Growth and Unemployment Rates in Selected Industrialized Countries, 1965-1977

(1) Data for some countries preliminary or estimated.

Source: Labour Force Statistics, Organization for Economic Co-operation and Development and Statistics Canada.
average annual rate of growth from $3.6 \%$ in the $1970-75$ period to $2.7 \%$ during $1975-80,2.1 \%$ during $1980-85$, and $1.2 \%$ during 1985-90 (Table v-1). Thus, the size of the labour force rises slowly from 10.1 million in 1975 to 11.5 million in $1980,12.8$ million in 1985 , and 13.7 million in 1990.

## Age Composition

However, the relative size of different age groups in the labour force will vary because of the rise and fall in the birth rate over the last 25 years. As the baby boom children mature, they "inflate" whatever age group they occupy. For example, between 1970 and 1975 many baby boom children

## Table V-1

> Average annual growth rate of the Canadian labour force,
> by age group, selected years

|  | 15-24* | 25-44 | 45-64 | $65+$ | Total |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1960-65 | 3.7\% | 1.0\% | 3.2\% | -0.7\% | 2.4\% |
| 1965-70 | 4.8 | 2.8 | 2.9 | -1.4 | 3.1 |
| 1970-75 | 5.2 | 4.3 | 1.7 | -2.2 | 3.7 |
|  | Projected**- |  |  |  |  |
| 1975-80 | 1.9 | 4.5 | 1.1 | -0.3 | 2.7 |
| 1980-85 | -0.7 | 4.4 | 0.7 | -0.4 | 2.1 |
| 1985-90 | -2.2 | 2.8 | 1.2 | 0.0 | 1.2 |
| 1990-95 | -0.5 | 0.8 | 2.6 | -0.8 | 1.0 |

* 1960 figure includes 14 -year-olds.
** See footnote on page 144 for the underlying assumptions.
entered the 15-24 age group. Hence, this sector of the labour force grew rapidly ( $5.2 \%$ a year), and by 1975 represented $27.2 \%$ of the total compared with $21.9 \%$ in 1960 (Table V-2).

After 1980, as the baby boom children mature, the major growth age group will be $25-44$, and the number of workers $15-24$ will actually decline (Chart 24). Between 1980 and 1985 the $25-44$ age group is expected to increase $4.4 \%$ annually while the number $15-24$ will drop approximately $0.7 \%$ a year.

The result is an ever-changing age profile of the total labour force. It is predominantly "young" when the large baby boom generation is young (as has been the case over the last decade), but will "age" when this numerically dominant generation matures. As a proportion of the total labour force, the young (15-24) were at their peak in 1975 constituting $27.2 \%$. This proportion is expected to decline steadily to $22.8 \%$ by 1985 and $17.5 \%$ by 1995. Conversely, the $25-44$ age group will grow to more than half the total. Currently (1977) constituting $45.2 \%$, they will increase steadily to an estimated $57 \%$ by 1990 (Chart 25 and Table V-2).

## Table V-2

Age composition of the Canadian labour force, 1960-2000


* Includes 14-year-olds.
** See footnote on page 117 for the underlying assumptions.

Chart - 24
Index of Canadian labour force growth, by age group, 1960-2000 (1960=100)


Chart - 25
Canadian Labour Force, by age group, 1960 to 1977 and projected to 2000


## Educational Attainment

The annual number of labour force entrants with "some" or completed post-secondary education has climbed rapidly over the past decade. In 1966 only $18.5 \%$ left the education system with at least some post-secondary training. By 1976 this percentage had increased to $35.9 \%$, and Projection " B " indicates that by 1986 it will reach $42 \%$. This massive increase in the relative number of post-secondary-educated entrants has altered the educational profile of the labour force. The change has been accentuated by retirement of older persons who generally have less education than young entrants.

To conduct a comprehensive analysis of the expected shift, it is necessary to know not only the number and attainment of labour force entrants from the school system, but also of those who enter from the household sector and via immigration, and of those who leave the labour force each year. Such analysis is not possible here, but the effect of the increase in school leavers' educational attainment can be estimated.

Table V-3 shows recent changes in the educational profile of the labour force. In 1972 about $22 \%$ had at least some post-secondary education; by 1977 this had increased to approximately $30 \%$. The proportion with elementary school declined from $24 \%$ to $18 \%$, and those with secondary from $54 \%$ to $51 \%$.

This rise in the educational level of Canadian workers will continue through at least the next decade. Projection "B" shows that from 1977 to 1986 , 2.17 million people will emerge from full-time study with at least "some" post-secondary education. However, adding annual school output does not result in a reliable cumulative total over many years. There is double-counting of those who leave, return, and leave again. If doublecounting is eliminated, ${ }^{1}$ the number of post-secondary leavers during the

1. Double-counting at the post-secondary leve 1 is estimated at 50,000 annually. Hence, double-counting would inflate the numbers by roughly 0.5 million over 10 years.
next decade is expected to be approximately 1.7 million. Assuming $85 \%$ to $90 \%$ of them enter the labour force, ${ }^{1}$ the cumulative total of labour force entrants to 1986 will be approximately 1.5 million.

As already noted, this is only the component entering the labour market directly from full-time study. While they are the major group, many with higher education come from the household sector and via immigration. ${ }^{2}$ Part-time study also tends to raise the labour force's educational level. Moreover, people leave the labour force. Since the educational attainment of those entering is almost certainly higher than those leaving, the net effect is positive.

Based on the estimated 1.5 million entrants from the school system, in the next decade about $50 \%$ more post-secondary-educated persons will join the labour force than are now in it. At the same time the labour force is expected to grow approximately $22 \%$. Thus, as a proportion of the total, the post-secondary-educated sector will rise from around $30 \%$ in 1977 to $36 \%$ to $40 \%$ by 1986.

But will the type of jobs available in the next ten years demand this level of education? If not, what will be the consequences? To explore these questions, it is necessary to look at the rate at which jobs requiring post-secondary certification have been increasing. In the following section recent employment growth in managerial and professional occupations is examined.

1. Based on special tabulations from the Labour Force Survey Division, Statistics Canada.
2. In 1973, 23\% of all degree-holders in Canada were foreign-born. (Statistics Canada, Education, Science and Culture Division, Foreignborn University Graduates in Canada, Service Bulletin, Catalogue 81-001, Vo1. 5, No. 5, June, 1976).

## Table V-3

Educational attainment of the Canadian labour force, 1961, 1972 and $1977^{*}$

Leve1 of schooling


Percentage distribution

| June, 1961 | 40.2 | 47.0 | 4.2 | 3.9 | 4.7 | 12.8 | 100.0 | 6,458 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Apri1, 1972 | 24.4 | 53.6 | 7.2 | 6.4 | 8.4 | 22.0 | 100.0 | 8,677 |
| Apri1, 1977 | 18.2 | 50.9 | 9.8 | 11.4 | 9.7 | 30.9 | 100.0 | 10,340 |

* The three years are not precisely comparable: 1961 data were collected by the Census, and 1972 and 1977 figures by the Labour Force Survey. A major revision of the Labour Force Survey in 1975 created discrepancies between the 1972 and 1977 statistics, probably exaggerating the growth of the proportion of the labour force with post-secondary education.
Source: 1961 Census, adjusted to accord with Labour Force data.
Labour Force Survey Division.


## Summary

By the target year, 1986, output from Canadian education systems will have had three effects on the national labour force.
(1) After a rapid rise, a decline in output will slow the labour force growth rate.
(2) With fewer young people entering, the labour force will "age".
(3) The leve 1 of education will rise.

## EMPLOYMENT GROWTH IN MANAGERIAL, PROFESSIONAL AND TECHNICAL OCCUPATIONS

The intent here is to determine to what extent recent rapid expansion in the number of highly educated job seekers has been paralleled by growth of employment opportunities in managerial, professional and technical occupations. The increase in such employment is used to approximate employment opportunities for post-secondary graduates. ${ }^{1}$ In general, these categories cover management, administration, and professional and technical occupations in the natural sciences, engineering, social sciences, religion, teaching, medicine and health, and arts and recreation. ${ }^{2}$ The 1973 Highly Qualified Manpower Survey ${ }^{3}$ demonstrated that $80.8 \%$ of young employed university graduates ( 28 or younger) were working in professional, managerial and technical

1. Not all managerial, professional and technical jobs require a degree, or even a college diploma or certificate. Nonetheless, growth of this occupational category approximates employment opportunities for postsecondary graduates.

As well, jobs available to graduates include not only new jobs but others vacated by persons leaving the labour force. Yet even without these more detailed statistics, a rough comparison of job creation and labour force entrants can be made.
2. The occupational classification used in the Labour Force Survey was altered in 1973. Previously, managerial, professional and technical occupations included owners and managers, office managers, engineers, scientists, teachers, health professionals, law professionals, journalists, architects, draftsmen, economists, mathematicians, technicians, photographers, etc. (from the 1961 Census Occupational Classification Manual). Since 1973 managerial and professional occupations include managers, administrators, natural scientists, architects, engineers, occupations in the life sciences, social sciences (social workers, lawyers, economists, sociologists, etc.), religion, teaching, medicine and health (including nurses), fine and commercial art, photography, and related fields (from the 1971 Census Occupational Classification Manua1).
3. Ministry of State for Science and Technology and Statistics Canada.
occupations. The remaining $20 \%$ were in clerical ( $7.4 \%$ ), non-professional sales ( $4.8 \%$ ), and other occupations ( $6.7 \%$ ). The major employment area was teaching, accounting for $36 \%$ of the young graduates.

Table V-4 shows that between 1966 and 1975, jobs in managerial, professional and technical fields grew at about 5\% a year: a very rapid rate compared with $2.9 \%$ overall during the same period. After 1975 the rate declined - to $3.5 \%$ in 1976 and $2.2 \%$ in 1977.

Employment grew quickly, but university and college output increased much faster, resulting in an imbalance between job opportunities and aspirants. The annual number of school leavers entering the labour force with post-secondary credentials rose a remarkable $12 \%$ per year between 1966 and 1971, although it fell to around $4 \%$ in the mid-seventies. Their numbers more than doubled from 45,000 in 1966 to almost 100,000 in 1976. If those with "some" post-secondary education are included with university and college graduates, the number more than tripled in the 1966-76 decade from 67,000 to 210,000 .

However, while the annual number of post-secondary-educated job-seekers tripled, creation of managerial, professional and technical jobs remained more or less constant - roughly 80,000 a year in the 1960 s, and about 87,000 a year in the early and mid-seventies (Table V-4).

A constant rate of job creation while the number of highly educated school leavers doubled or tripled has made it virtually impossible for all graduates in the mid- and late seventies to obtain jobs similar to those found by their counterparts in the mid-sixties.

Despite its shortcomings, this comparison does suggest that given the baby boom and the rapid rise in the proportion of young people in colleges or universities, the type of employment opportunities available to many post-secondary graduates was bound to change.

## "HIGHLY QUALIFIED MANPOWER" OCCUPATIONS

The major shortcoming of the managerial-professional-technical employment data is that jobs not requiring post-secondary education are included. This difficulty can be overcome by identifying occupations that demand two or more years of past-secondary education - highly qualified manpower (HQM) occupations. ${ }^{1}$

[^21]Table V-4

Annual growth of
employment in managerial, professional and technical occupations and labour force entrants from the post-secondary education system

|  | (1) <br> Emp1oyment in managerial, professional and technical occupations (000's) | (2) <br> Annual <br> increase <br> (000's) | (3) <br> Annual \% <br> increase <br> in <br> emp1oy- <br> ment $\frac{(2)}{(1)} \times 100$ | (4) <br> Number of <br> 1abour <br> force entrants with postsecondary graduation $(000 ' s)$ | (5) <br> Annual \% increase of labour force entrants with postsecondary graduation | (6) <br> Labour force entrants with "some" or completed postsecondary education (000's) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1961 | 1158 |  |  |  |  |  |
| 1962 | 1240 | 82 | 7.1 |  |  |  |
| 1963 | 1263 | 23 | 1.9 |  |  |  |
| 1964 | 1311 | 48 | 3.8 |  |  |  |
| 1965 | 1419 | 108 | 8.2 |  |  |  |
| 1966 | 1545 | 126 | 8.8 | 45.7 |  | 66.8 |
| 1967 | 1610 | 65 | 4.2 | n.a. | 1 Average | n.a. |
| 1968 | 1694 | 84 | 5.2 | n.a. | $12 \%$ | n.a. |
| 1969 | 1786 | 92 | 5.4 | n.a. | annually | n.a. |
| 1970 | 1856 | 70 | 3.9 | n.a. 79 |  | n.a. |
| 1971 | 1931 | 75 | 4.0 | 79.7 | $\frac{1}{9.2}$ | 150.2 |
| 1972 | 1997 | 66 | 3.4 | 86.9 | 9.2 | 162.2 |
| 1973) ${ }^{*}$ | 2088 | 91 | $4.6\}$ | 87.4 | 0.6 | 169.6 |
| 19733 | 1753 |  |  |  |  | 169.6 |
| 1974 | 1854 | 101 | 5.8 | 90.7 | 3.8 | 196.6 |
| 1975 | 2025 | 171 | 9.2 | 93.0 | 2.5 | 191.0 |
| 1976 | 2096 | 71 | 3.5 | 97.8 | 5.2 | 208.0 |
| 1977 | 2142 | 46 | 2.2 | 102.4 | 4.7 | 209.7 |

Source: Labour Force Survey Division, Statistics Canada

* The Occupational Classification System was revised in 1973, so the 1961-73 time series is not exactly comparable to that for 1973-77. Both classifications were used in 1973, resulting in two numbers for that year.

Approximately 1.2 million persons were employed in these occupations in 1971. The number increased about $4.0 \%$ to an annually estimated 1.4 million by 1975. This implies net growth between 1971 and 1975 of about 50,000 HQM jobs a year. (Replacement demand is excluded from this estimate). ${ }^{1}$ By the early 1970s approximately 90,000 persons with post-secondary training (a certificate, diploma or degree) were leaving school each year. The high rate of growth of the young population, combined with their increased participation in colleges and universities during the late sixties, resulted in more post-secondary graduates than jobs requiring that level of education.

Future prospects do not appear promising. While there are no published studies of demand growth for HQM occupations, a number of factors point to a slowdown:

1) The elementary-secondary enrolment decline will further reduce the need for teachers, most of whom are bachelor's degree graduates.
2) Similarly, the impending drop in post-secondary enrolment will lower teaching opportunities at this level, formerly a chief employment sector for master's and doctoral degree recipients.
3) Government attempts to restrain expenditures may limit public service hirings.

These factors will tend to reduce $H Q M$ employment growth in the public sector, a significant area of employment for graduates. ${ }^{2}$ Few studies or indicators are available to assess $H Q M$ employment prospects in the private sector. However, with less public sector growth, creation of jobs requiring post-secondary education will have to increase significantly in the private sector if the overall rate of HQM job creation is not to be lower between now and the mid-1980s than during the $1971-76$ period.

But the school leavers projection in chapter 4 indicates that the number of post-secondary graduates potentially available to the labour force will increase to an average 105,000 annually during $1976-85$ compared with 90,000 in the early 1970s. Hence, without an increase in the rate of $H Q M$ job creation, particularly in the private sector, the imbalance between job-seekers and available jobs requiring post-secondary certification may worsen over the next five to seven years. After the mid-eighties the number of highly educated labour force entrants will start to decline, perhaps significantly improving graduates' employment outlook.

1. Replacement demand refers to jobs vacated through resignation, dismissal, retirement and death. Therefore, more than $50,000 \mathrm{HQM}$ positions were available each year to new labour force entrants.
2. The 1973 Highly Qualified Manpower Survey indicates that approximately $45 \%$ of all employed university graduates held jobs in the public sector (including education $-34 \%$; and the federal $-5.5 \%$, provincial $-3.5 \%$, and local - $1 \%$, govts. If health and welfare were included, the proportion increases to $53 \%$ ). Similar data are not available for commity college graduates, although the percentage would likely be somewhat lower.

## SCHOOL LEAVERS AND UNEMPLOYMENT

When a large number of people enter the labour market, a high rate of job creation is necessary if unemployment is not to increase. Conversely, with a very small number of labour force entrants, it should be easier to reduce unemployment, assuming a substantial rate of job creation.

To demonstrate the relationship between labour force growth, job creation and unemployment, overall unemployment and youth unemployment are briefly examined.

## Labour Force ${ }^{1}$ Growth

The high labour force growth rate over the past 10 years (an annual average of $3.4 \%$ ) has been caused by the large numbers leaving school and seeking jobs combined with relatively high levels of immigration and female labour force participation. But during periods of high labour force growth, an equal rate of job creation is necessary if unemployment is not to increase. The Economic Council of Canada noted, "The Canadian economy has been unable to generate enough new jobs to match the total growth of the labour force and achieve the stipulated target of a lower unemployment through conventional means. ${ }^{2}$

A few basic statistics give a simplified picture of the relationship between labour force growth, job creation, and unemployment.

Between 1976 and 1977 the labour force grew from $10,308,000$ to $10,616,000$, an increase of 308,000 , or $3 \%$. However, only 182,000 "new" jobs were created. Hence, the number unemployed jumped from 736,000 to 862,000 , and the unemployment rate from $7.1 \%$ to $8.1 \%$.

1. A11 labour force statistics are annual averages, unless otherwise specified.
2. Economic Council of Canada, Into the 1980s, Fourteenth Annual Review (Ottawa: Minister of Supply and Services, 1977), p. 81.

The levels of job creation needed over the next few years to achieve certain rates of unemployment, given various labour force participation rates, are shown in a series of "exploratory" calculations. The first requirement for such a calculation is a labour force projection.

Labour force growth depends on the size of the working-age population (aged 15 and above) and the proportion who decide to seek work (i.e., the participation rate). Population is in turn affected by the birth rate and immigration. Participation rates are influenced by social and economic factors, including the disposable income of workers, whether one or two wage-earners in a family are necessary to maintain a desired standard of living, the increasing tendency for women to have a career, the difficulty in finding employment, general attitudes toward work and/or retirement, and so on.

Two projections are shown here. Both are based on a population projection that assumes annual net migration of 100,000 and a total fertility rate of 1.8 throughout the forecast period. The labour force participation rates chosen for the future distinguish the two projections.

Projection " A ", mentioned earlier in the chapter, assumes a continuation of recent trends in participation rates. The male rate, which has dropped slightly (from $78.7 \%$ in 1974 to $77.7 \%$ in 1977), remains constant to 1980 , and slowly rises thereafter to $78.4 \%$ in 1986. The female rate, which has grown remarkably in the past nine years ( +8.8 percentage points) from $37.1 \%$ in 1968 to $45.9 \%$ in 1977 , increases 7.4 percentage points in the next nine, reaching $53.3 \%$ by 1986 . $^{1}$

[^22]Projection " B ", somewhat lower, incorporates a male participation rate that declines slightly in the near future (from $77.7 \%$ in 1977 to $77.3 \%$ in 1982, returning to $77.7 \%$ by 1986), and a female rate that slowly "levels off $\mathrm{f}^{\prime \prime}$ (increasing 3.7 percentage points to $49.6 \%$ by 1986).

High unemployment and difficulty securing work tend to discourage some persons from job-seeking, thus excluding them from the labour force. ${ }^{1}$ This reduces participation rates. ${ }^{2}$ Current high unemployment, which is expected to persist in the next few years, may exert considerable downward pressure on participation rates. For these reasons, Projection "B" assumes slowed growth of the female participation rate.

On the basis of these labour force projections, the average annual number of jobs required each year to realize various hypothetical unemployment rates has been calculated. Three series of calculations are shown. The unemployment rates are not predictions or projections. They are simply hypothetical values chosen to put the required increase in employment (jobs) in context.

The "exploratory calculations" in Table $V-6$ demonstrate the following:
(1) For unemployment to drop from $8.1 \%$ in 1977 to $6.5 \%$ by 1980 and to $4.0 \%$ by 1986, average annual job creation would be $335,000-370,000$ to 1980 , $250,000-300,000$ to 1983 , and $230,000-270,000$ to 1986.
(2) For unemployment to drop from $8.1 \%$ in 1977 to $7.0 \%$ in 1980 , and to $5.0 \%$ by 1986 , average annual job creation would be $305,000-340,000$ to 1980 , and $230,000-270,000$ to 1986.

1. The labour force consists of all employed persons plus those unemployed and seeking work.
2. For example, since 1966 the participation rate for males has tended to rise during periods of low unemployment and drop during more difficult economic times. The correlation coefficient between the male participation rate and the unemployment rate for $1966-76$ is -.78 . This phenomenon seems to characterize the primary labour force age groups. The correlation coefficient for males aged $25-54$ is -.92 .
(3) For unemployment to remain at $8 \%$ until 1980, and decline to $6 \%$ by 1986 , average annual job creation would be $250,000-285,000$ to $1980,225,000-270,000$ to 1986.

Employment growth in recent years puts these numbers in context.
From fewer than 100,000 in 1970 annual job creation rose to 439,000 and 383,000 during the strong expansionary period of 1973 and 1974 - the highest rates since the early sixties. Then during the 1975-77 period, total employment increased by only an average 190,000 jobs a year. Thus, yearly growth since 1970 has been about 260,000 jobs (Table V-5).

An international comparison shows that Canada's rate of job creation in the 1970s has been highest of all major western industrialized countries (OECD countries). For example, between 1970 and 1976, the number of persons employed in Canada increased 20.9\%.

> Table V-5

Labour force, employment and the unemployment rate, 1963-76 -Annual averages-

|  | $\begin{aligned} & \text { Labour } \\ & \text { force } \end{aligned}$ | Employed | Annual <br> increase in employment | Unemployed | Unemployment rate |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1963 | 6811 | 6472 |  | 340 | 5.0\% |
| 1964 | 7015 | 6713 | 241 | 302 | 4.3 |
| 1965 | 7207 | 6949 | 236 | 259 | 3.6 |
| 1966 | 7494 | 7242 | 293 | 252 | 3.4 |
| 1967 | 7747 | 7451 | 209 | 296 | 3.8 |
| 1968 | 7951 | 7593 | 142 | 358 | 4.5 |
| 1969 | 8194 | 7832 | 239 | 362 | 4.4 |
| 1970 | 8396 | 7919 | 87 | 476 | 5.7 |
| 1971 | 8643 | 8107 | 188 | 536 | 6.2 |
| 1972 | 8918 | 8363 | 256 | 555 | 6.2 |
| 1973 | 9321 | 8802 | 439 | 519 | 5.6 |
| 1974 | 9704 | 9185 | 383 | 519 | 5.3 |
| 1975 | 10060 | 9363 | 178 | 697 | 6.9 |
| 1976 | 10308 | 9572 | 209 | 736 | 7.1 |
| 1977 | 10616 | 9754 | 182 | 862 | 8.1 |

Table V-6

Annual increase in employment needed to achieve different unemployment rates under two alternative labour force projections,* 1978-86
$\frac{\text { Projected }}{\underline{\text { 1abour }}}$

$\underline{\text { force }(1)}$$\quad \frac{\text { Unemployment }}{\text { rate }} \quad \underline{\text { Employed }} \quad$| Required annual |
| :--- |
| increase of |$\quad$| new jobs |
| :--- |

(Thousands) (Percent) (Thousands)

Calculation 1

|  | $\underline{A}$ | $\underline{B}$ |  | $\underline{A}$ | $\underline{B}$ | $\underline{Y e a r}$ | $\underline{A}$ | $\underline{B}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1978 | 10910 | 10860 | 8.2 | 10015 | 9970 |  |  |  |
| 1980 | 11511 | 11380 | 6.5 | 10760 | 10640 | $1978-80$ | 370 | 335 |
| 1983 | 12290 | 11990 | 5.0 | 11670 | 11390 | $1980-83$ | 300 | 250 |
| 1986 | 13000 | 12580 | 4.0 | 12480 | 12080 | $1983-86$ | 270 | 230 |

## Calculation 2

|  | $\underline{A}$ | $\underline{B}$ |  | $\underline{A}$ | $\underline{B}$ | $\underline{\text { Year }}$ | $\underline{A}$ | $\underline{B}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1978 | 10910 | 10860 | 8.2 | 10015 | 9970 |  |  |  |
| 1980 | 11511 | 11380 | 7.0 | 10700 | 10580 | $1978-80$ | 340 | 305 |
| 1983 | 12290 | 11990 | 6.0 | 11550 | 11270 | $1980-83$ | 280 | 230 |
| 1986 | 13000 | 12580 | 5.0 | 12345 | 11950 | $1983-86$ | 265 | 225 |

## Calculation 3

|  | $\underline{A}$ | $\underline{B}$ |  | $\underline{A}$ | $\underline{B}$ | $\underline{\text { Year }}$ | $\underline{A}$ | $\underline{B}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1978 | 10910 | 10860 | 8.2 | 10015 | 9970 |  |  |  |
| 1980 | 11511 | 11380 | 8.0 | 10590 | 10470 | $1978-80$ | 285 | 250 |
| 1983 | 12290 | 11990 | 7.0 | 11430 | 11150 | $1980-83$ | 280 | 225 |
| 1986 | 13000 | 12580 | 6.0 | 12220 | 11830 | $1983-86$ | 260 | 225 |

(1) The projections are described in the text. " A " assumes a continuation of recent trends. "B", a lower projection, assumes a slight decline in male labour force participation, and a slower rate of increase of female participation than in projection "A".
compared with $11.3 \%$ in the U.S.A., $9.0 \%$ in Australia, $6.1 \%$ in Sweden, and $2.3 \%$ in France. Even during the slower growth years of 1975 and 1976, only Norway and the U.S.A. (in 1976) had a higher rate of job creation. ${ }^{1}$

Based on the labour force projections, these calculations suggest that a large number of new jobs would have to be created over the next few years to significantly reduce unemployment. These calculations, of course, depend on the accuracy of the labour force projections. While events could occur that would result in a larger or smaller labour force than projected here, the calculations do provide "ball-park estimates" of future requirements.

When extended beyond the mid-eighties, the calculations indicate that 130,000-160,000 jobs a year would maintain a constant level of unemployment. Annual job-creation of $170,000-190,000$ would lower the unemployment rate $1 \%$ during the same period. From a historical perspective these are relatively moderate increases. The slowdown of labour force growth responsible for these lower levels of "new" jobs necessary to decrease unemployment in the late 1980s will continue into the 1990s. At that time the demand may be for more workers rather than more jobs.

However, the Economic Council does not believe that the possibility of reducing unemployment in the next few years is very great. One of the conclusions in its fourteenth annual review was:

> Even with the measures recently announced by the Minister of Finance, the unemployment rate will continue to be very high, despite a projected real growth rate (in the GNP) that, by international or historical standards, is quite good....
> The solution is more jobs.... The economy's natural advantage lies with resource-based industries, but these are not labour-intensive.... While manufacturing is more labour-intensive, employment there has in fact been diminishing.... the growing demand for services - the sector that has provided most of the new jobs over the past decades depends on continued increases in real incomes, which result mainly from rising productivity in the primary and secondary industries but also from government spending, which is now constrained.

[^23]2. Economic Council of Canada, Into the 1980 s, p. $81-82$.

## Youth Unemployment

Unemployment among the young has always been higher than among those 25 and older (Chart 26). In 1960 about $22 \%$ of the labour force was under 25 , but they made up $35 \%$ of the unemployed (Table $V-7$ ). And even in the mid-sixties when unemployment was low, the youth unemployment rate was approximately twice that of the $25+$ age group (in $1965,6.1 \%$ versus $2.8 \%$ ).

Since the late 1960 s, as the number of young job-seekers increased rapidly, unemployment among them rose faster than among older labour force members. Today $27 \%$ of the labour force is $15-24$, but almost half the unemployed ( $48 \%$ ) are in this age group (Chart 27). Their 1977 unemployment rate was $14.5 \%$, or two and a half times the $5.8 \%$ rate of those 25 and older. Much of this increase is due to growth in the number of 15-24-year-olds relative to the total labour force. The Economic Council noted this difference:

Compared with 1961 when unemployment rates were equally severe (as in 1977), the burden of today's unemployment lies less heavily on adult males, whose relative numbers have increased the least, and more on secondary earners - young entrants and women aged 25 and over - whose numbers in the labour force have increased the most. 1

Slow growth of employment among the young (an average 16,000 jobs a year from 1974 to 1977) at a time when the number of $15-24$-year-olds in the labour force has been rapidly expanding ${ }^{2}$ (an average 71,000 young people per year from 1974 to 1977) results in increasing unemployment. The rate for the $15-24$ age group rose from $9.4 \%$ in 1974 to $14.5 \%$ in 1977. During the past three years growth of the number of employed young people

1. Economic Council of Canada, Into the 1980 s, p. 9.
2. Not as fast as in the early 1970s: during 1971-74, the labour force aged 15-24 increased $19 \%$, employment among them, $21 \%$; during 1974-77, labour force growth of the same age group declined to $8 \%$, and their employment rose by only $2 \%$.

Unemployed 15-24-year-olds as percent of all unemployed, selected years Annual averages


Chart - 28
Canadian unemployment rate by selected age group, 1955-77


Chart - 27
Unemployed in 15-24 age group as a percent of all unemployed, Canada, 1955-77


Source: Labour Force Survey Division, Statistics Canada
(around 16,000 a year) has been about $8.4 \%$ of the total increase in employment (roughly 190,000 per year). Even in the early seventies when employment of the young expanded at a remarkably high rate - an annual average of 139,000 a year between 1971 and 1974 - 1abour force growth was such that their unemployment did not decline markedly (from $11 \%$ to $9.4 \%$ ).

Such a large number of young job-seekers inhibits successful labour market absorption and has no doubt been a major factor in youth unemployment. But when numbers start to decrease, as expected in the near future, the situation may change.

The previously mentioned long-term projection suggests the number of 15-24-year-o1ds in the labour force will peak around 1981 at 3,040,000, up from $2,865,000$ in 1977. The average annual growth rate of young labour force members between 1977 and 1981 will be $1.5 \%$, compared with $4.3 \%$ between 1970 and 1977. After 1981 the $15-24$ component is projected to decline at an average annual rate of $1.1 \%$, falling to $2,866,000$ by 1986 . That is, by 1986 the number of young people in the labour force will equal today's (1977) total. Beyond 1986 the number of young workers is projected to continue falling at roughly $2.0 \%$ per year to a low of $2,500,000$ in the early 1990 s. ${ }^{1}$ But how does this affect their employment prospects?

Calculations based on the "low" and "medium" labour force projections suggest that as the labour force aged 15-24 continues to grow to 1981, a substantial rate of job creation will be required to significantly reduce youth unemployment. If the projections are reasonable, maintaining the 15-24 unemployment rate around $14 \%$ to 1980 would require an annual increase in jobs for them of $30,000-50,000$. For their unemployment to drop to $12 \%$ by 1980 , the expansion in employment among 15-24-year-olds would have to

1. The rate of decline in the supply of young workers will vary by region. For example, in Quebec where the birth rate fell more rapidly than in the rest of Canada, so will the number of 15-24-year-olds in the labour force in the 1980s.
be $50,000-70,000$ jobs per year. To lower unemployment to $9 \%$ by 1980 , $80,000-100,000$ new jobs would be necessary. To put these calculations in context, the average annual growth in employment among 15-24-year-olds was an incredibly high 139,000 between 1971 and 1974, but plummetted to 16,000 a year between 1975 and 1977. Thus, the yearly average over the past decade was 66,000 .

In the early 1980s the ranks of 15-24-year-olds in the labour force will start to decline, but their numbers will still be considerable. As noted earlier, the total in the labour force in 1986 is expected to roughly equal what it is now; by the late 1980s they will be diminishing at a substantial rate (approximately $2.5 \%$ annually).

A decrease in new job-seekers could relieve youth unemployment, although the tendency for it to exceed that of adults may well persist. Such a contraction of the manpower supply is unprecedented in this century, so its impact on the economy is difficult to predict. It will certainly mean that with fewer young people entering most industries, the work force will be "older". It also seems reasonable to suggest that youth unemployment will be less of a problem. But whether available jobs will match the qualifications of young people seeking work is, of course, another question.

As the baby boom children mature, the employment difficulties many of them have had to confront may not totally disappear. Labour market competition among older people (e.g., 25-35) may be considerable as the number of workers of these ages swells. This could, for example, affect their unemployment rate. Moreover, it is possible that although securing employment may be easier for the young in the mid- to late eighties, ${ }^{1}$ the army of slightly older, experienced workers, who will be relatively well-educated, could inhibit young people's advancement.

[^24]THE RELATIONSHIP BETWEEN EDUCATION AND UNEMPLOYMENT

## Unemployment by Education

Statistics about youth unemployment disguise differences among young people. One factor of particular concern here is education.

Causal relationships between education and unemployment are difficult to trace because necessary data are often lacking, and relationships change with the supply of and demand for persons with specific levels of education. Moreover, the unemployment rate is a rather crude measure of the link between education and labour market experience. It indicates only whether people with a given level of education are employed, but provides no information about the type of jobs, salaries, and so on.

Traditionally, there has been a strong negative correlation between years of school and unemployment: the higher the level of education, the lower the unemployment rate. Table V-8 (also Chart 7 in chapter 1) indicates that this has been true in the recent past. For example, from 1974 to 1977 the average annual spring unemployment rate of workers with elementary education was highest: $10.1 \%$. The rate was lower for those with secondary education ( $8.2 \%$ ), and lowest for university degree-holders (2.5\%). Among the young (15-24) the pattern was similar, but all the unemployment rates were higher: $23.2 \%$ for those with elementary education, decreasing to a low of $5.4 \%$ for degree-holders.

The less educated have always had more severe employment problems than the highly educated. However, rapid expansion of the supply of highly educated job-seekers could affect this relationship.

Table V-8 shows that unemployment for every educational group rose between 1969 and 1977. But closer examination reveals a faster increase for some groups than others. Chart 28 shows relative "employability" according to education, i.e., the rate of increase of unemployment in each educationalgroup relative to the increase for the labour force as a whole.

## Table V-8

Spring unemployment rate by educational leve1, Canada, 1969-77

Elementary Secondary $\frac{\text { Some post- }}{\text { secondary }} \quad$\begin{tabular}{l}
Post-secondary <br>

| Diploma or |
| :--- |
| certificate |

\end{tabular}$\frac{\text { All Degree }}{\frac{\text { educational }}{\text { leve1s }}}$

Percent
A. Total labour force (all ages)

| Jan. 1969 | 9.6 | 5.1 | 2.4 | $--------0.7--------$ | 5.9 |  |
| :--- | ---: | ---: | :--- | :---: | :--- | :--- |
| April 1972 | 10.2 | 6.5 | 6.7 | 2.5 | 2.3 | 6.8 |
| April 1974 | 9.3 | 6.1 | 5.2 | 2.4 | 1.9 | 6.0 |
| April 1975 | 10.3 | 8.0 | 6.0 | 4.2 | 2.3 | 7.2 |
| April 1976 | 9.8 | 8.6 | 5.9 | 5.5 | 2.7 | 7.6 |
| April 1977 | 11.2 | 10.2 | 7.8 | 5.0 | 2.9 | 8.8 |
| Average |  |  |  |  |  |  |
| 1974-77 | 10.1 | 8.2 | 6.3 | 4.4 | 2.5 | 7.5 |

B. 15-24 age group

| Jan. 1969 | 18.3 | 8.9 | 4.3 |  |  | 9.6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| April 1972 |  |  | not | available |  |  |
| April 1974 | 18.1 | 10.6 | 8.9 | 4.4 | 5.7 | 10.4 |
| April 1975 | 26.5 | 13.1 | 7.9 | 6.2 | 4.8 | 12.3 |
| April 1976 | 23.9 | 14.0 | 8.3 | 6.8 | 4.7 | 12.8 |
| April 1977 | 25.0 | 16.0 | 12.6 | 7.9 | 7.3 | 15.1 |
| Average |  |  |  |  |  |  |
| 1974-77 | 23.2 | 13.5 | 9.5 | 6.3 | 5.4 | 12.7 |

C. Number unemployed, by educational leve1, Canada, April, 1977

Thousands

| Total labour <br> force (al1 ages), <br> April 1977 | 211 | 536 | 79 | 59 | 29 | 914 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 15-24 <br> age group, <br> April 1977 | 40 | 294 | 44 | 19 | 7 | 404 |

Unemployment among those with secondary school grew more quickly than overall unemployment between 1969 and 1977. Thus, their relative "employability" declined. In 1969 their unemployment rate was lower (.86) than the overall rate, but by 1977 it was 1.15 times the latter. ${ }^{1}$ Meanwhile, the relative "employability" of elementary-educated people, while still worst in the labour market, improved. In 1969 their unemployment rate was 1.6 times the overall rate, but declined to roughly 1.3 by 1977 , so that the positions of elementary- and secondary-educated persons have almost converged. This convergence may be the result of two phenomenon:
-displacement of the secondary-educated by persons with more education
in some types of jobs, and/or
-the rapidly decreasing proportion of the labour force with only
elementary education, which could improve their employment prospects.
This indicator of relative "employability" shows that the situation of the post-secondary-educated did not change, even though they became a larger proportion of the total labour force. ${ }^{2}$ This supports the earlier suggestion that many obtained jobs formerly filled by secondary-educated people. This would keep unemployment low among the highly educated, while worsening the relative position of those with secondary education.

Despite these shifts in the labour market circumstances of persons with varying levels of education, or in part because of them (e.g., possible displacement of secondary-educated job-seekers), the strong negative correlation between education and unemployment remains: the higher the education, the lower the unemployment rate.

[^25]2. The relative position of those with "some" post-secondary improved, declined for those with diplomas or certificates, while the position of university graduates remained at the highest level in the labour force during the 1970s.

(1) Ratio of unemployment rate for a particular educational level to rate for the labour force as a whole.

Readers are cautioned that these are general statements derived from analysis of large groups in broad education categories. For example, nothing can be said about unemployment among master's degree-holders compared with bachelor's degree-holders, B.A.'s in science compared with B.A.'s in arts, or secondary graduates with trades training compared with those without, since these distinctions have not been made in the data. The probability of a degree-holder being unemployed is, however, lower than the probability for a secondary-educated person. The increase of post-secondary graduates, and in particular graduates of "general" programs, has worsened their labour market chances. Nonetheless, they are still more able to find some sort of employment than the less highly educated. Their position may deteriorate somewhat in the near future (as data indicate it did in 1977), but their unemployment rate is not apt to rise to that of elementary- or secondary-educated persons. More likely, job displacement of the less educated by the more highly educated will continue. ${ }^{1}$

## Unemployed Ontario College and University Graduates

National data from the Statistics Canada Labour Force Survey do not allow comparisons of unemployment rates among more detailed education categories. But surveys of 1974 and 1975 Ontario college and university graduates collected information about unemployment by field of study. ${ }^{2}$ Similar

1. While the authors have no data to directly support this "displacement" hypothesis, the unemployment figures referred to here and salary and other survey results presented later in the report, as well as general observations, strongly support this hypothesis.
2. In spring 1976, approximately 16,0001974 graduates of Ontario's CAAT's (colleges of applied arts and technology) and universities were asked to indicate their labour force status, salary and type of job as of specified dates, including September, 1974 and September, 1975. The same methodology was used in the 1977 survey of 1975 graduates. The surveys were conducted by the Institutional and Agricultural Survey Methods Division of Statistics Canada for the Ontario Ministry of Colleges and Universities.

Canada-wide data are not currently available, but a national survey of 1976 graduates will be conducted in 1978.

The ex-students surveyed were divided into two groups: those who had twelve months or more continuous work experience before graduation, and those who did not. Only the latter group, the "new" labour force entrants, is considered here.

Table V-9 shows that of the 31,5001975 graduates without previous work experience, approximately $75 \%$ entered the labour force; the remaining $25 \%$ continued their education or for some other reason did not seek work. About $90 \%$ of the CAAT (college of applied arts and technology) graduates entered the labour force, while the proportion among bachelor's degreeholders was $64 \%$. More bachelor's degree graduates continued their education.

Unemployment varied by year of graduation, type of certification, and discipline (Tables $\mathrm{V}-10,11$ and 12 , and Chart 29). In general, unemployment was greater among 1975 than 1974 graduates (Table V-10). It was also higher for graduates with bachelor's degrees than for CAAT graduates (Table V-10). A year after graduation (September 1976), the unemployment rate among 1975 bachelor's graduates was $8.4 \%$ and $6.6 \%$ among CAAT graduates. ( 1975 master's degree-holders had an unemployment rate of $7.3 \%$ in September 1976).

The unemployment rate of CAAT and bachelor's degree graduates shortly after graduation (September, 1975) was higher than that of the 15-24 age group in Ontario. ${ }^{1}$ A year later, however, their unemployment rates had dropped below the 15-24 rate. In September 1975 unemployment of that year's CAAT graduates was $14.1 \%$; of bachelor's degree graduates, $10.0 \%$,

1. Unemployment rates calculated in this survey are not precisely comparable with the Labour Force Survey (e.g., among the 15-24 age group). While the general concept of unemployment is the same (i.e., the proportion of the labour force who are unemployed and seeking work), there are some differences in definitions and method of data collection. The major difference is that Labour Force Survey respondents answer questions about the week in which they are surveyed. Respondents to the graduate survey had to recall their labour force status as of a particular week in the past. However, general comparisons can be made.
and of $15-24$-year-o1ds, $9.7 \%$. By September 1976 their unemp1oyment rates had fallen: to $6.6 \%$ for 1975 CAAT graduates; to $8.4 \%$ for 1975 bachelor's degree graduates, and to $9.3 \%$ for the $15-24$ age group. Unemployment among 1975 graduates of master's, doctoral and professional programs combined was substantially lower at $5.5 \%$ in September 1975, and $4.8 \%$ in September 1976.

There was substantial variation in unemployment of 1975 CAAT graduates by field of study (Chart 29). In September just after graduation, rates varied from a high of $15 \%$ among graduates in community, social and

Table V-9
Destination of 1975 Ontario college and university graduates ${ }^{1}$, September, 1975

| Destination | $\frac{\text { CAAT }}{\text { graduates }}$ |  | University |  |  |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Bachelor's degrees |  | Post-grad. degrees |  | post-secondary |  |
|  | No. | $\begin{gathered} \% \\ \text { Dist. } \end{gathered}$ | No. | $\begin{gathered} \% \\ \text { Dist. } \end{gathered}$ | No. | $\begin{gathered} \% \\ \text { Dist. } \end{gathered}$ | No. | $\begin{gathered} \text { \% } \\ \text { Dist. } \end{gathered}$ |
| Not in labour force ${ }^{3}$ : | 1087 | 9.7 | 6517 | 36.1 | 263 | 11.6 | 7866 | 25.0 |
| In labour force: |  |  |  |  |  |  |  |  |
| Employed full-time | 7735 |  | 8902 |  | 1779 |  | 18412 |  |
| Employed part-time | 936 |  | 1476 |  | 113 |  | 2526 |  |
| Unemployed | 1419 |  | 1153 |  | 110 |  | 2682 |  |
| Sub-total | 10090 | 90.3 | 11531 | 63.9 | 2002 | 88.4 | 23620 | 75.0 |
| Total | 11174 | 100.0 | 18046 | 100.0 | 2265 | 100.0 | 31485 | 100.0 |

1. Only graduates with less than 12 consecutive months prior work experience.
2. Professional, master's and doctoral programs.
3. Not employed and not seeking work, including those continuing their education.

Table V-10

Unemployment rates of 1974 and 1975 Ontario college and university graduates ${ }^{1}$

| CAAT |  |  |
| :--- | :---: | :---: |
| graduates | University <br> Bachelor's <br> degrees | Post-grad <br> degrees ${ }^{2}$ | | $\frac{\text { Total }}{\text { post- }}$ |
| :--- |
| secon- |


| 1974 graduates <br> (in September, 1974) | 8.4\% | 10.0\% | 3.9\% | 8.7\% |
| :---: | :---: | :---: | :---: | :---: |
| 1975 graduates <br> (in September, 1975) | 14.1 | 10.0 | 5.5 | 11.4 |
| 1974 graduates <br> (in September, 1975) | 5.7 | 6.5 | 3.9 | 6.0 |
| 1975 graduates <br> (in September, 1976) | 6.6 | 8.4 | 4.8 | 7.5 |

1. Only graduates with less than 12 consecutive months' prior work.
2. Professional, master's and doctoral programs.
recreational services to lows of $8 \%$ and $7 \%$ respectively among technicians and technology graduates. ${ }^{1}$ Persistent unemployment (a year later) characterized graduates in creative and visual arts, education services, and community and social services. At $12 \%, 10 \%$ and $9 \%$ respectively, these unemployment levels were at or above that of the $15-24$ age group as a whole (9.3\%). Technologists, technicians, secretarial and health graduates fared best in the long run, with unemployment rates between $3.7 \%$ and $5.5 \%$.
3. The unemployment rate of health graduates was higher at $21.0 \%$, but most are nurses who graduate in late August. Hence, they had less time than other former students to find jobs.

Chart - 29
Unemployment rates by discipline for 1975 college and university graduates ${ }^{(1)}$ in Ontario


Table V-11

Unemployment rates by discipline for 1975 Ontario CAAT graduates ${ }^{1}$

| Discipline | Total graduates | Graduates in labour force ${ }^{2}$ | Unemployment rate ${ }^{3}$ |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | $\begin{aligned} & \text { September, } \\ & 1975 \end{aligned}$ | September, 1976 |
|  | Number |  | Percent |  |
| Technology - applied, natural \& physical sciences | 875 | 812 | 6.9 | 3.7 |
| Technicians, tradesmen, craftsmen | 1,292 | 1,169 | 8.0 | 4.2 |
| Secretarial \& clerical | 1,535 | 1,329 | 10.2 | 3.8 |
| Health disciplines | 3,031 | 2,873 | 21.7 | 5.5 |
| General arts \& science | 126 | * | * | * |
| Business \& accounting | 1,510 | 1,381 | 13.0 | 8.5 |
| Community, social \& recreational services | 1,290 | 1,141 | 15.4 | 9.0 |
| Education services | 491 | 458 | 10.5 | 10.2 |
| Creative \& visual arts | 972 | 801 | 12.9 | 12.1 |
| Household sciences | 58 | * | * | * |
| Total | 11,181 | 10,094 | 14.1 | 6.6 |

* Sample too small.

1. With less than 12 consecutive months' prior work experience.
2. September 1975.
3. These rates were not calculated on the same basis as those reported in Future Trends in Enrolment and Manpower Supply in Ontario. Graduates employed part-time were excluded from the Ontario study, but are included here to make rates comparable with Labour Force Survey.

Source: Survey of 1975 Ontario college and university graduates conducted by Statistics Canada for the Ontario Ministry of Colleges and Universities.

## Table V-12

Unemployment rates by discipline for
1975 Ontario university graduates ${ }^{1}$

| Discipline | Bachelor's degrees |  |  |  | Post-graduate degrees ${ }^{2}$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total graduate | Graduates in labour force ${ }^{3}$ | Unemp <br> rat <br> rat <br> September <br> 1975 | loyment <br> e <br> September 1976 | Total graduates | Graduates in 1abour force | Unemployment rate |  |
|  | Number |  | Percent |  | Number |  | Percent |  |
| Medical and health disciplines | 654 | 575 | 5.4 | 1.4 | 641 | 623 | 1.3 | 0.3 |
| Business admin. and management sciences | 985 | 820 | 9.5 | 2.2 | 328 | 309 | 5.8 | 4.2 |
| Engineering, arch. and applied sciences | 1,432 | 1,241 | 4.8 | 4.2 | 72 | 45 | 11.1 | 6.5 |
| Economics | 531 | 284 | 10.6 | 5.5 | 38 | 17 | * | * |
| Education | 3,782 | 3,158 | 4.0 | 6.1 | 27 | 15 | * | * |
| Math., natural and physical sciences | 2,687 | 1,643 | 12.2 | 7.1 | 109 | 82 | 14.6 | 12.1 |
| General arts \& science | 968 | 396 | 15.2 | 6.4 | - | - | - | - |
| Household sciences | 389 | 204 | 14.7 | 25.1 | - | - | - | - |
| Humanities, social and behavioural sciences | 4,256 | 1,960 | 20.1 | 12.6 | 939 | 837 | 5.3 | $6.8^{4}$ |
| Fine rts \& languages | 2,226 | 1,164 | 12.4 | 15.2 | 99 | 61 | 32.8 | 20.8 |
| Total | 18,051 | 11,533 | 10.0 | 8.4 | 2,266 | 2,005 | 5.5 | 4.8 |

## * Estimate not reliable

1. With less than 12 consecutive months' prior work experience.
2. Professional, master's and doctoral programs.
3. September 1975.
4. Not comparable with September 1975 rate because majority are lawyers taking bar examinations at this time, and hence not in labour force.

Similarly, there was a considerable range in unemployment among graduates with bachelor's degrees (Chart 29). Immediately following graduation and a year later, unemployment was highest among graduates of: (1) the humanities, social and behavioural sciences, and (2) fine arts and languages, at $20 \%$ and $12 \%$ respectively in September 1976. After more than a year in the labour force, graduates of these disciplines, along with those of household sciences, had an unemployment rate well above the $9.3 \%$ of the $15-24$ age group; it was the highest unemployment rate of all 1975 post-secondary graduates. Those with degrees in health areas, business, engineering and architecture were in the most advantageous situation, with unemployment rates between $1.4 \%$ and $4.2 \%$ in September 1976.

These data demonstrate that 1975 college and university graduates had more trouble locating employment than their 1974 counterparts. But perhaps more significant, the statistics clearly indicate that arts and social science graduates bear the brunt of unemployment. Graduates of disciplines related to the world of work such as technology, business and applied science were not, at the time of the survey, experiencing severe employment difficulties. However, unemployment rates indicate only if a person is working, and provide no information about the type of job. Employed graduates are not necessarily in positions related to their training.

## UNIVERSITY GRADUATES ON THE LABOUR MARKET

Even though the increase of professional, technical and managerial jobs was fast during the decade before 1975, it was far outstripped by the number of young people leaving college and university to seek work. While unemployment has become serious for graduates of some disciplines (e.g., humanities, social and behavioural sciences, fine arts, visual and applied arts, languages), highly educated young people still have lower unemployment than their contemporaries with less education. Available data will be examined to provide a more detailed analysis of the labour market conditions for university graduates.

## Job Applications and Hirings in the Federal Government

Data from the federal government's Post-secondary Recruitment Program reveal an increase in applications in relation to openings over the past few years. Chart 30 shows the number of recent university graduates who applied for professional, scientific and administrative positions, and the number hired in 1973, 1975 and 1977. ${ }^{1}$ From approximately 15,000 in 1973, the number of applicants jumped to 25,000 by 1977 , roughly a two-thirds increase in four years. During the same period, hirings hovered around 1,000 (961 in 1973; 1,060 in 1974; 1, 122 in 1975; 969 in 1976, and 1,008 in 1977). Hirings have declined since the 1975 peak of $1,122 .{ }^{2}$ The proportion of successful applicants fell from $6.4 \%$ in 1973 to $4.0 \%$ in 1977.

It is likely that the increase in applications in the past two or three years reflects the tighter labour market encountered by university graduates, perhaps motivating them to submit multiple applications.

The 1977 data show hirings by discipline. Of the 1,008 recent graduates hired, at least 676 received their degrees in 1977. The remainder graduated earlier. Table V-13demonstrates that in 1977 the federal government chose graduates with skills in specific areas: commerce and business administration, engineering, computer science, and so on. Almost half ( $47.6 \%$ ) of the 6761977 graduates had degrees in commerce, management or business administration. Engineering accounted for another $10 \%$, and computer science $6 \%$. The remainder were distributed among many disciplines. Only $3.8 \%$ were humanities graduates.

A comparison of the number hired with the number of graduates in each

1. The data cover the majority (approximately $80 \%$ ) of recent university graduates accepted for professional, scientific and administrative positions. However, some departments have delegated staffing authority that allows them to hire their own specialists. The data exclude the latter.
2. It is of interest to note that the total number hired from outside the federal government into all occupational categories at all levels dropped sharply from the 1974 peak of 46,600 to 22,400 in 1977.

## Chart - 30

Applicants for professional positions (requiring a degree) hired by the federal public service, ${ }^{(1)}$ 1973-77


Source: Public Service Commission
(1) Data refer to recent graduates hired through the post-secondary recruitment program. This covers most (perhaps 70\%-80\%) recent graduates who apply and are hired. However, others are hired directly by some government departments

Table V-13
1977 Graduates Hired by the Federal Government Through the Post-secondary
Recruitment Program ${ }^{(1)}$ by Discipline and Degree Type

| Disciplines |  | Degree | Type |  | Percentage <br> Distribu- <br> tion <br> (of Total) | Approximate Number Hired Per 1000 Graduates $\qquad$ <br> Bachelor's Degrees Only |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Bachelors | Masters | Doctorate | Total |  |  |
| Education | 2 | - | - | 2 | 0.3 | 0 |
| Fine and applied arts | 1 | 2 | - | 3 | 0.4 | 1 |
| Humanities and related | 11 | 14 | 1 | 26 | 3.8 | 1 |
| Social sciences (total) | 342 | 103 | 4 | 449 | 66.5 | 14 |
| -Commerce, management, business administration | 277 | 45 | - | 322 | 47.6 | 44 |
| -Economics | 26 | 40 | - | 66 | 9.8 | 14 |
| --Peography | 3 17 | 2 | 3 | 5 | 0.7 4.0 | 2 |
| -Psychology | 8 | 2 | - | 9 | 1.3 | 2 |
| -Sociology | 5 | 5 | 1 | 11 | 1.6 | 2 |
| -Other social sciences | 3 | 3 | - | 6 | 0.9 | 1 |
| Agricultural and biological sciences (total) | 7 | 7 | 2 | 16 | 2.4 | 2 |
| -Biology | 8 | 5 | 2 | 13 | 1.9 | 3 |
| -Other | 6 | 2 | 2 | 10 | 1.5 | 2 |
| Engineering and applied sciences (total) | 47 | 13 | 8 | 68 | 10.1 | 7 |
| -Engineering | 29 | 11 | 8 | 48 | $7.1$ | 7 |
| -Other | 7 | 2 | - | 9 | 1.3 | 8 |
| Health professions and occupations | 11 | - | - | 11 | 1.6 | 2 |
| Mathematics and physical sciences (total) | 75 | 22 | 8 | 105 | 15.6 | 18 |
| -Applied mathematics and computer science <br> -Physical sciences <br> -Other | 31 21 23 | 10 5 7 | 7 1 | 41 33 31 | 6.1 4.9 4.6 | 38 13 14 |
| Total | 491 | 161 | 24 | 676 | 100.0 |  |

(1) The majority (approximately $70 \%-80 \%$ ) of recent university graduates are hired through the program. However, some federal departments recruit new graduates directly, and they would be excluded from the data.
discipline also illustrates the extent of government selectivity. ${ }^{1}$ Calculation of the approximate number of bachelor's degree-holders hired per 1,000 graduates ${ }^{2}$ suggests that those from commerce, management and business administration had the best chance of a government job - 44 per 1,000 1977 graduates were hired. Other disciplines with relatively high rates were computer sciences at 38 per 1,000 , economics (14), the physical sciences (13), political science (11), and engineering (7). Disciplines with relatively few hirings were psychology, sociology, and geography, each at 2 per 1,000 graduates, and the humanities, fine and applied arts, and education at 1 or fewer per 1,000 graduates.

These observations refer only to the Post-secondary Recruitment Program, which accounts for about $80 \%$ of all recent graduates hired by the federal government. Of the approximately 60,0001977 university graduates who left school, about 14,000 or $23 \%$ applied for a federal government position Roughly 700 or $1.2 \%$ found a job through the Post-secondary Recruitment Program.

Other federal government data suggest that many job-hunters were forced to accept lower-paying, less demanding jobs. During the first half of 1977 about $30 \%$ of all applicants for clerical positions, the formal educational requirement of which is grade 10 , held university degrees or college diplomas or certificates.

## Starting Salaries in Industry

Starting salaries in industry also indicate a depressed labour market for university graduates. It seems likely that as the supply of highly qualified manpower increases, their competitive position in the labour

1. Ideally, the comparison should be between the number hired and the number of graduates entering the labour market, rather than total graduates, as many continue their education. The lack of appropriate data prevents such a comparison. Nonetheless, the data do give a general indication of the extent to which newly recruited graduates are concentrated in particular disciplines.
2. The number of 1977 graduates hired through the Post-secondary Recruitment Program in each discipline per 1,000 bachelor's degree graduates in that discipline.
market deteriorates. The objective here is to determine if relative starting salaries support such a hypothesis.

The starting salaries of university graduates with bachelor's degrees will be examined, since reasonably comprehensive data are available. It should be noted that these salaries: (1) are not those of all graduates hired, but are limited to salaries in positions requiring a degree, and (2) refer to industry only.

For recent years, starting salaries of bachelor's degree graduates in selected disciplines were obtained from the Pay Research Bureau's annual survey of 80 companies. ${ }^{1}$ Data for the 1960 s, summarized by the Pay Research Bureau, were taken from a similar Manpower and Immigration survey.

Table V-14 shows that monthly starting salaries have increased steadily since 1965 for graduates of all fields of study. A weighted average of the annual starting salary for bachelor's degree graduates in industry was computed. The number graduating in each field served as the weighting factor. This is not representative of the starting salary of all bachelor's degree graduates some disciplines and the important public sector are excluded, as are graduates employed in jobs not requiring a degree. But the measure is a consistent indicator of changes in industrial starting salaries.

Graduates' weighted average monthly starting salary more than doubled from \$435 in 1965 to $\$ 965$ in 1977 . However, their relative competitive position declined, as average earnings (wages and salaries) in industry almost tripled, from $\$ 394$ to $\$ 1086^{2}$ (Chart 31). The financial advantage of bachelor's degree-holders relative to all industrial workers rose during the 1960 s, peaked around 1968 , and declined quite rapidly in the 1970 s (Chart 32 ). Before 1972 the industrial starting salary for most degree-holders was above the average wage, but has since dropped below the average. ${ }^{3}$ The ratio of graduates' starting salaries to the average wage increased from 1.10 in

1. Canada Pay Research Bureau, Public Service Staff Relations Board, Ottawa.
2. The industrial composite of average earnings. Statistics Canada, Employment, Earnings and Hours, Catalogue 72-002.
3. This varies by discipline as shown in Chart 32. For example, starting salaries for engineers are still well above the average wage.

Table V-14

Average monthly starting salaries in industry, selected university bachelor's degree graduates, Canada, 1965-77

Field of study

| Engi- | Honours | Honours | Commerce | Pass | Weighted |
| :---: | :---: | :---: | :---: | :---: | :---: |
| neering | science | arts | \& bus. | arts or | average (1) |

Dollars per month

| 1965 | 485 | 465 | 436 | 445 | 412 | 435 |
| :--- | ---: | ---: | :--- | :--- | :--- | :--- |
| 1966 | 536 | 503 | 470 | 481 | 439 | 469 |
| 1967 | 585 | 555 | 524 | 523 | 486 | 518 |
| 1968 | 617 | 612 | 595 | 534 | 519 | 563 |
| 19692 | 676 | 627 | 623 | 585 | 562 | 599 |
| 19702 | 672 | 650 | 645 | 616 | 588 | 621 |
| 19712 | 695 | 663 | 645 | 628 | 613 | 637 |
| 19722 | 708 | 676 | 660 | 642 | 620 | 648 |
| 19732 | 741 | 722 | 678 | 666 | 643 | 673 |
| 19742 | 820 | 786 | 749 | 731 | 692 | 736 |
| 1975 | 983 | 912 | 800 | 826 | 767 | 824 |
| 1976 | 1069 | 994 | 887 | 916 | 834 | 901 |
| 1977 | 1166 | 1091 | 931 | 974 | 904 | 965 |

1. Weighting factor is number of persons graduating in each field of study. This weighted average is not the average starting salary of all bachelor's graduates, since only selected fields of study are included, and data refer to industry only.
2. Salaries estimated on basis of survey of anticipated recruiting salaries.

Source: Pay Research Bureau, Public Service Staff Relations Board, Survey of Actual and Anticipated Recruiting Salaries for University and College Graduates.

Department of Manpower and Immigration, Anticipated Requirements and Rates of Pay, and other Manpower data.

## Chart - 31

Index of salaries, (1965=100)


## Chart-32 <br> Average starting salaries of bachelor's degree graduates ${ }^{(1)}$ compared with average industrial earnings, Canada, 1965-77

Ratio(2)
1.5 -
$1.4-$


(1) Includes only graduates in selected disciplines who were employed in industry.
(2) Ratio of average starting salary for graduates to average earnings in industry (industrial composite)

Sources: Survey of Recruiting Rates for University and Community College Graduates. Pay Research Bureau,
Public Service Staff Relations Board. And Employment, Earnings and Hours. Statistics Canada (72-002).

Table V-15

Average monthly starting salaries in industry of selected bachelor's degree graduates compared with average earnings.
in industry and average earnings of 20-29-year-olds
in the labour force, Canada, 1965-77
A) Weighted average of starting salaries for selected graduates ${ }^{1}$
B) Average ${ }_{2}$ month1y ${ }^{2}$
earnings Ratio:
in
A/B
industry


| 1965 | 435 | 394 | 1.104 |  |  |
| :--- | ---: | ---: | ---: | :--- | :--- |
| 1966 | 469 | 417 | 1.125 |  |  |
| 1967 | 518 | 445 | 1.164 | 313 | 1.798 |
| 1968 | 563 | 476 | 1.182 | 337 | 1.777 |
| 1969 | 599 | 510 | 1.175 | 356 | 1.744 |
| 1970 | 621 | 549 | 1.131 | 1.659 |  |
| 1971 | 637 | 596 | 1.069 | 384 | 1.565 |
| 1972 | 648 | 647 | 1.001 | 414 | 1.479 |
| 1973 | 673 | 696 | 0.966 | 455 | 1.321 |
| 1974 | 736 | 772 | 0.953 | 557 | 1.32 |
| 1975 | 824 | 881 | 0.935 |  |  |
| 1976 | 901 | 989 |  |  |  |
| 1977 | 965 | $1086^{4}$ | 0.911 |  |  |

1. See footnote 1, Table V-13.
2. Factor of 4.333 used to convert weekly to monthly earnings.
3. Includes virtually all employed in Canada except those in Quebec who contribute to Quebec Pension Plan.
4. Estimate based on 11 months' data.

Source: Statistics Canada, Employment, Earnings and Hours, Catalogue 72-002
Canada Pension Plan Annual Review

1965 to 1.18 in 1968, and fell to 0.88 in 1977.
But how did bachelor's graduates fare compared with all other young people in the labour market? One of the few sources of data on income by age is the Canada Pension Plan. It includes virtually everyone working except those in Quebec who contribute to the Quebec Pension Plan. Between 1968 and 1974, the years for which data are available, average monthly earnings of the $20-29$ age group increased from $\$ 313$ to $\$ 557$. Salaries of new bachelor's graduates relative to those of all 20-29-year-olds peaked in 1968 at 1.8 times the average. However, by 1974 the ratio had declined to 1.3 . Hence, graduates were losing financial ground.

Chart 32 demonstrates that this pattern of an improving relative financial position in the 1960s and a decline in the 1970 s held for graduates of all fields of study. But in the last few years the position of engineers and honours science graduates seems to have stabilized, while that of arts students continues to decline.

These data suggest that when unprecedented numbers of degree-holders started entering the labour market in the 1970s, salaries employers were obliged to pay, while increasing, did not keep pace with the overall rise in wages.

## The Declining Demand for Teachers

Labour market conditions outlined in previous chapters for many college and university graduates, in particular the latter, are not promising. As already noted, the situation differs among graduates. While it is true that the number seeking work rose rapidly in most disciplines, some have been more easily absorbed by the labour market. The growth of employment in industries requiring specific types of graduates does, of course, influence labour market conditions.

Ideally, present and future prospects could be assessed by examining every employment sector to determine those in which jobs are likely to increase or decrease. This could then be related to the expected number of graduates of the type employed in each sector. Such an approach contains numerous problems, a major one being the "substitution" effect.

It cannot be assumed that graduates of certain disciplines will seek jobs in a particular industry or occupation. Much university education is not intended to eventuate in a specific type of employment, and hence, many graduates are available to work in several industries or occupations. This consideration is less important for community colleges, where training is more specialized and work-oriented.

Close examination of all major employment sectors for graduates is beyond the scope of this report. However, a brief look at the type of work they find, at least in Ontario, is possible. As well, the most important source of jobs for university graduates, education, can be considered.

The survey of 1975 Ontario college and university graduates determined the fields ${ }^{1}$ where they found full-time jobs. Other unpublished data suggest that the Ontario patterns resemble national ones.

The survey found that:

1. One-third of the bachelor's degree-holders employed full-time were working in education shortly after graduation, and more than $40 \%$ a year later. ${ }^{2}$
2. The next largest employment areas for bachelor's graduates were engineering and architecture (representing $11.5 \%$ of the full-time employed just after graduation), followed by economics, finance and accounting (8.8\%), and secretarial and clerical (7.5\%).
3. The health sector provided the most jobs for college graduates, ${ }^{3}$ employing one-quarter of them.
4. The classification is neither occupational nor industrial. In the survey they were called "activity categories", and more closely resemble occupational than industrial classifications.
5. The proportion probably increased because some graduates took a one-year teacher-training course and entered the labour market 12 months after receiving their bachelor's degrees.
6. Ontario has no university transfer programs; all college graduates have completed a terminal "career" program.

Tab1e V-16

1975 Ontario college and university graduates employed full-time by occupational sector, September, 1975 and 1976

|  | $\frac{\text { Bachelor's degree }}{\text { graduates }}$ |  | $\frac{\text { CAAT* }}{\text { graduates }}$ |  |
| :---: | :---: | :---: | :---: | :---: |
| Occupational sector |  |  |  |  |
|  | September 1975 | Septem- <br> ber 1976 | $\begin{aligned} & \text { Septem- } \\ & \text { ber } 1975 \end{aligned}$ | Septem- <br> ber 1976 |
|  | Percent |  | Percent |  |
| Natural resources | 1.7\% | 1.2\% | 1.9\% | 1.7\% |
| Education | 33.6 | 42.9 | 5.9 | 4.9 |
| Medicine \& health | 6.6 | 4.7 | 23.9 | 25.8 |
| Secretarial, clerical | 7.5 | 6.4 | 19.5 | 19.7 |
| Data processing | 2.3 | 2.4 | 2.6 | 2.6 |
| Management | 4.2 | 5.1 | 2.4 | 3.6 |
| Economics, finance, accounting | 8.8 | 8.3 | 3.4 | 3.3 |
| Purchasing \& sales | 3.5 | 3.0 | 6.4 | 5.4 |
| Life \& physical sciences, Mathematics | 5.3 | 4.5 | 1.4 | 1.3 |
| Engineering, architecture | 11.5 | 9.2 | 7.5 | 6.6 |
| Community \& social services, recreational | 3.5 | 2.9 | 3.6 | 3.6 |
| Journalism | 2.3 | 1.8 | - |  |
| Mechanical and electrical construction | - | - | 6.7 | 6.1 |
| All others | 9.2 | 7.6 | 14.8 | 15.4 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 |
| Total number | 8,904 | 11,824 | 7,739 | 9,070 |
| * Colleges of Applied Arts and Technology |  |  |  |  |
| Source: Preliminary tabulations graduates conducted by Colleges and Universiti | - Survey <br> Statistics <br> es. | Ontario 19 anada for | co11ege and Ontario Min | university stry of |

4. The next largest employment areas for college graduates were secretarial and clerical ( $19.5 \%$ ), followed by engineering and architecture ( $7.5 \%$ ), and mechanical and electrical construction ( $6.7 \%$ ). Only $5.9 \%$ were employed in education.

These data illustrate the tremendous importance of the education sector for university graduates. Rapidly increasing university enrolment in the 1960s was accompanied by equally rapid expansion of education as an employer perhaps up to one-half of bachelor's degree-holders became teachers. This burgeoning demand no doubt contributed significantly to the ease with which graduates in the humanities, behavioural sciences, and "general" areas found employment.

However, since 1970 the demand for teachers has fallen with elementarysecondary enrolment. The number hired directly from educational institutions peaked in 1969 at around $30,000,{ }^{1}$ and plummeted below 10,000 by $1976 .^{2}$ At the same time the annual number of bachelor's graduates potentially available to the labour force increased from around 32,000 to 50,000 (Chart 8, chapter 1). Hence, by 1976 hiring of new teachers was one-third what it had been in 1969, but the number of graduates seeking jobs was one and a half times the 1969 level. Decreasing demand in such a prominent employment sector, concurrent with an expanding manpower supply, is a major contributor to present employment difficulties.

Future prospects do not appear more promising. Elementary-secondary enrolment, and thus the demand for new teachers, will continue to decline until the mid-eighties. And throughout the remainder of the century, enrolment is not expected to regain the 1970 peak. So, while the demand for teachers could improve somewhat in the late 1980s, the situation is unlikely to resemble the high growth of the 1960 s

1. Not all 30,000 had bachelor's degrees. At that time, many entered the profession with diplomas or certificates from post-secondary non-university institutions. Today, virtually all new teachers have degrees.
2. Based on data from Elementary-secondary Teachers Survey, Education, Science and Culture Division, Statistics Canada.

As the need for teachers declined, the economic success associated with general degrees began to diminish. A considerable gap developed between students' expectations, perhaps based on opportunities in the sixties and early seventies, and labour market reality. More and more students continued to graduate, but the job market started to contract.

## FUTURE LABOUR MARKET PROSPECTS FOR SCHOOL LEAVERS

No rigorous analysis of the match between supply and demand for school leavers with various levels and types of education is offered here. Reliable demand projections are not available, so the analysis is admittedly one-sided, emphasizing possible implications of changes in the supply of manpower from the school system. However, today and in the recent past the large number of school leavers seeking jobs has been a major factor in unemployment and other labour market problems of the young. This increase in job-seekers is rooted in demography, for it reflects the rise in births up to 1960. Greater labour force participation by females has also added more job-seekers.

Beyond the sheer number of young people seeking work, this study is also concerned with their educational attainment. The rapid rise in the qualifications of young job-seekers has been noted. Unemployment was bound to grow simply because job-creation has not kept pace with the rise in the number of young workers. However, the increased tendency of the young to secure higher education at the same time that the baby boom generation swelled the $18-24$-year-old population has created a new phenomenon - labour market difficulties for some post-secondary graduates.

Yet, just as recent rapid expansion in the number of young job-seekers contributed to their employment problems, the expected decline in the midto late eighties may improve their situation. Nonetheless, such a generalization must be examined more carefully.

Projections in chapter 3 indicate that the annual number of school leavers with secondary graduation or less has started to decline after many decades of increase, and will continue to drop over the next 10 years. By 1986 the number entering the labour force will have fallen to the 1966
level. As well, persons retiring are more likely than young entrants to have no more than secondary education. The combination of these two factors could considerably deplete the supply of manpower with secondary school or less. This is already reflected in the shifting educational attainment of the labour force. A consequence of decreasing numbers seeking work in occupations that require less than a post-secondary education could be an improvement of their labour market position. In particular, persons with trades or vocational training might be in short supply. This possibility was not examined in detail because of a lack of appropriate data.

Speculation about the outlook for college graduates is difficult. Sufficient jobs have not been available for those in social services, and visual and applied arts. Graduates in business and technology currently enjoy considerable labour market success, and may continue to do so. Yet even for them there may be a danger. These programs have recently attracted growing enrolment. If many students choose a college route rather than university, be it in business, technology or other programs, large numbers of graduates could glut the labour market in some occupational areas. Ultimately, however, demography will reduce college output - the number of labour force entrants with diplomas or certificates is projected to start decreasing slowly in the mid-eighties.

Employment problems confronting university graduates of general programs have already been discussed. The combination of an increasing number of graduates and contraction of the largest employment sector - education will continue at least until the mid-eighties. The recent cutback in expenditures by government, another major employer, has aggravated university graduates' labour market difficulties.

In the longer term, the declining birth rate of the 1960 s will eventually manifest itself in the labour market. The supply of "new" manpower from the school system peaked in 1977, and will dwindle each year throughout the 1980s, perhaps helping to reduce unemployment. However, it may be the mid-1980s before their ranks drop to a level that can be readily absorbed, even by an expanding economy.

Meanwhile graduates may continue fo take work not requiring post-secondary education, thereby forcing the educational qualifications for many jobs upward.

## QUALIFICATION SPIRAL AND UNDEREMPLOYMENT

Because college and university graduates are so numerous, many may have to accept positions that formerly would have been filled by persons with less education. Underemployment and/or a qualification spiral are among the consequences of this situation.

The straightforward concept of being employed or unemployed provides no information on the type of jobs persons obtain relative to their skills, acquired formally (in the education system) or less formally (e.g., on the job). By contrast, underemployment focuses on the degree of skill utilization in work. It cannot be quantified, but it is too important to be ignored. In the context of this study, underemployment exists when the educational background of incumbents exceeds the academic prerequisites of their jobs.

It is beyond the scope of this report to explore underemployment and all its ramifications in depth. ${ }^{1}$ However, the results of this study, combined with data from other sources, can shed some light on the phenomenon.

A 1973 survey ${ }^{2}$ classified occupations as requiring "highly qualified manpower" (with at least two years of post-secondary education), or "nonhighly qualified manpower". Overall, $10 \%$ of degree-holders were in nonhighly qualified occupations, and $21 \%$ with general degrees were in such positions. Had the survey dealt only with the young, these figures would certainly be higher, since it is among recent graduates that underemployment has become an issue.

During the first half of 1977, $30 \%$ of all applicants for clerical jobs in the federal public service had a university degree or a college diploma. The educational prerequisite for clerical positions is grade 10.

[^26]In the United States, where demographic, enrolment and labour market trends have been similar to those in Canada over the past quarter century, ${ }^{1}$ a survey of 1975 university graduates attempted to measure underemployment. ${ }^{2}$ Underemployed graduates were defined as those working in occupations that generally do not demand a degree, and who reported that in their opinion, their job did not require a degree. ${ }^{3}$ One year after graduation (May 1976) a substantial proportion ( $25 \%$ ) of the employed graduates were underemployed. Variation by field of study was substantial. Few graduates in engineering and the health professions were underemployed ( $4 \%$ ). This rose to $16-21 \%$ for education, business and management, to $26 \%$ for biological and physical sciences, and to $38 \%-41 \%$ for psychology, the social sciences and the humanities. Salary and unemployment data from a survey of 1975 Ontario university graduates suggest the same ordering of disciplines in terms of labour market problems. Both unemployment and underemployment appear more serious among humanities and social science graduates than among those in engineering, health, business and other job-oriented programs.

Salary data from the Ontario survey provide another measure of the difficulty employed graduates encountered in the labour market. The minimum salary paid to inexperienced trainees in federal government positions requiring a college diploma or bachelor's degree is used as a bench mark. In 1975 minimum salaries of federal trainees ranged from $\$ 8,960$ for three-year B.A.'s to $\$ 11,230$ for those with applied science degrees. However, $24.1 \%$ of the Ontario bachelor's graduates surveyed in September, 1975 indicated they earned less than $\$ 9,000$ annually, the benchmark minimum. Minimum salaries paid to federal trainees who were college graduates ranged from $\$ 8,130$ for two-year administration graduates to $\$ 9,200$ for those from three-year science and technology programs. However, $42.7 \%$ of the CAAT graduates

1. See chapter 7.
2. Detailed data in Appendix F.
3. Specifically, respondents were said to be underemployed if (1) the jobs were classified as clerical, craftsman, labourer, sales, service or operative, and (2) the respondents stated that their jobs did not require a degree.
stated they earned less than $\$ 8,000$ annually as of September 1975; 28.9\% earned less than $\$ 7,000$. ${ }^{1}$

Hence, one-quarter or more of the Ontario post-secondary graduates earned less than what was considered an absolute minimum recruitment salary in the federal government. It seems likely that many persons receiving these low salaries were in positions that did not require their level of education. Nevertheless, even the educational prerequisites of a position may not accurately reflect the demands of the jobs.

Underemployment can prevail in jobs with fairly high formal academic criteria. This results from a "qualification spiral" which occurs when educational prerequisites for numerous positions increase, either formally or informally, without a corresponding change in the knowledge or skill needed to perform them. The recent rapid rise in the number with post-secondary credentials may have accelerated the process.

Throughout the first half of the century, secondary graduation was considered a reasonable education, and graduates could anticipate an equally high level of employment. By 1951 only about $11 \%$ of the population 15 and older were high school graduates. In fact, nearly $93 \%$ of the population had secondary graduation or less. However, as more people acquired diplomas and continued to the post-secondary level, educational requirements for jobs escalated.

To a great extent, the growing number of professional and white collar occupations heightened demand for workers with more education. As occupational requirements in industry changed because of technological advancement, demand for persons with specialized skills increased. But, it is likely that employers, confronted by an array of highly qualified applicants, began to use formal credentials to screen them in the belief that welleducated workers would be more productive, trainable and have more selfdiscipline. The result has been a qualifications spiral.

Available data and everyday observations suggest that underemployment could be a major problem. If many young people with high career expectations can get jobs that require much less education than they have and offer little hope for advancement, frustration may result.

[^27]The excess of persons with post-secondary education in relation to available jobs demanding that level of education could have broader implications. In the near future many different components of society, including students, graduates, employers, educational institutions, the labour force and the economy could be affected by the rising attainment of the young.

An exploration of possible implications is not the purpose of this report. Other authors have speculated on the consequences. Their interpretations, however, are numerous and often contradictory.

Richard Freedman and J. Herbert Holloman ${ }^{1}$ paint a gloomy employment picture for American college graduates. They conjecture that a reduction in public aid to education is possible. They also project a trend toward income levelling between blue- and white-collar occupations as a result of the relative surplus of highly educated people.

Similarly, another report suggests that distinctions between graduate and non-graduate jobs, except for the controlled and self-governing professions, may become blurred. ${ }^{2}$ And it is possible that some post-secondary graduates may have to acquire a trade or technical training to find employment.

While agreeing with several of these points, Brigitte Berger presents a slightly different case. ${ }^{3}$ It is unrealistic to expect post-secondary graduates to simply buckle under and adjust to a new economy by lowering their individual aspirations. Consequently, political pressure may cause government to expand job opportunities in fields such as health, education, recreation and the environment. She speculates that new employment areas related to special groups and purposes (e.g., the very old, community development, and so on) may open up. By contrast, Freedman and Holloman think it unlikely that government would respond by providing more jobs.

1. Richard Freedman and J. Herbert Holloman, "The Declining Value of College Going", Change, (September, 1975).
2. International Labour Office, World Employment Programme, Education and Employment Project (Industrialized Countries), Progress Report No. 1 (February, 1976), page 1.
3. Brigitte Berger, "The Coming Age of People Work", Change, (May, 1976) pp. 24-30.

Berger also argues for and suggests that there might be a "fundamental reconsideration of the goals and practices of the education system". The system might return to its traditional role as a tool for self-discovery and intellectual enlightenment. Other authors, too, advocate a shift in educational philosophy away from emphasis on economic returns, particularly in the universities. ${ }^{1}$

It seems likely that a liberal education will be viewed more in the traditional academic sense, by both potential students and educators. The link that some tended to form between an education in the humanities and career success and economic returns may weaken. A liberal education may be considered as an aspect of the improvement in the quality of life that can be afforded by the relatively affluent Canadian society.

Of course, as already noted, it is possible that the size and nature of post-secondary enrolment itself will change - students' awareness of the labour market difficulties could discourage them from enrolling in some university or college programs. A decline in the proportion of the young continuing to the post-secondary level, combined with the decreasing 18-24-year-old population, could produce a significant drop in "new" highly educated manpower in the mid- to late-eighties. It is also conceivable that for these and other reasons the mix of graduates by discipline could change radically. Such possibilities and their implications should not be totally ignored by planners looking into the 1980s.

The more immediate problems, however, are the many young people, specifically the increasing number of post-secondary graduates, who are unemployed or underemployed. The purpose of this report is to take a closer look at these issues, and add to information on (1) the nature of the problems, (2) some of the underlying causes, especially demographic influences, and (3) the extent to which current difficulties are short-term or long-term.

[^28]It is hoped that this information and analysis will give planners and policymakers a clearer understanding of some of the difficulties in the relationship between education and employment. It is also hoped that speculation about the future will draw attention to the influence that demography in particular will have on these difficulties. Most are not short-term and are unlikely to be solved or disappear in the immediate future. On the other hand, in the medium-term many problems will be influenced by demography, and no doubt, by changes in policy and public attitudes. In that sense they are not endemic to the labour market.

A clearer understanding of the issues in education and employment might be achieved by joint information and policy planning sessions involving persons from various sectors (universities, colleges, students, business, labour, media, and government). ${ }^{1}$ These conferences might be an opportunity to seek solutions that would incorporate many views, rather than each sector unilaterally seeking the appropriate adjustments in its own area.

[^29]
## CHAPTER VI

## ALTERNATIVE PROJECTIONS

## INTRODUCTION

The purpose of this chapter is to contrast alternative projections of population, enrolment and school leavers, and offer some guidance for their selection. Instead of a single projection based on only one set of assumptions, others were prepared to indicate both the uncertainty associated with all projections and possible alternative trends. The alternatives are not bounds within which values will necessarily fall - rather they represent general trends that would result if the underlying assumptions were realized. The authors have based these projections on assumptions that seemed credible in 1977, but subsequent events could send population, enrolment and school leavers above or below the level of any projection.

The intention is to allow users to choose a series based on assumptions that match their own understanding of conditions. As well, alternatives with which the reader does not necessarily agree can help put the projections in context. For example, if a reader believes the 1.8 total fertility rate assumption to be most likely, the alternatives of 1.6 and 2.1 do provide valuable information. They show the effect on elementary enrolment, for instance, should 1.8 turn out to be wrong and the rate fall or rise. That is, the alternatives indicate how sensitive the projected variables population, enrolment, graduates and school leavers - are to changes in other independent variables, such as fertility or enrolment rates.

Summary tables of the alternative projections are included in this chapter. Detailed statistical tables are available in Appendix E.

## POPULATION

On the basis of unrevised 1975 estimates, three population projections to 2001 have been produced. These projections show the effect different fertility rates would have on the size of the $5-13,14-17$ and 18-24 age groups, those relevant for elementary, secondary and post-secondary enrolment. Since fertility is the major component of population change, it alone was manipulated to arrive at the three projections. Assumptions concerning migration and death are identical in the three projections.

Alternative population projections do not affect enrolment until 1982, as all the children who will start school before then have been born. From 1982 to 1986, the major forecast period, only elementary enrolment can be influenced by fertility trends. Beyond the late 1980s, secondary enrolment, and ultimately post-secondary, can be influenced by the unknown fertility rates of the near future. Differences between projections, however, are in magnitude only. Whether the fertility assumptions are high or low, a wave pattern characterizes each age group.

A number of factors, alone or in concert, might influence fertility:
$\rightarrow$ women's rising educational attainment and labour force participation, both of which are associated with declining fertility;
-greater use of reliable contraceptives;
-liberalized abortion laws;
-economic conditions (in the past, fertility has dropped during times of depression and recession), and
-postponement of having children.
The fertility rate assumptions for each projection are shown in Chart 33, and are:

[^30]Chart - 33
Total Fertility Rate(1) 1921 to 1975, and Projected to 2001, Projections A, B and C


Chart - 34
Live Births in Canada, 1921 to 2001, Projections A, B and C


The number of births under each of the three assumptions is shown on Chart 34. With a slowly increasing fertility rate (Projection "A" to 2.1 by 1990) births in 1986 are $12 \%$ or 50,000 above the " $B$ " projection (fertility rate -1.8 ). The low projection, with a rate declining to 1.6 by 1990 , shows births at $10 \%$ or 40,000 below "B"'s 410,000 in 1986.

## Five to 13 Age Group (Chart 35)

The effect of different fertility assumptions shows up first in the size of the 5-13 age group. After having peaked in 1970 at $4,130,000$ in all projections, the cohort hits a low of $3,270,000$ in 1981. The number then rises: under " C ", $3.7 \%$ to $3,390,000$ in 1994 ; under " B ", $13.8 \%$ to $3,720,000$ in 1995, and under "A", 27.8\% to $4,180,000$ in 1997. By 1986 the spread between " C " and " A " is only 100,000 children, or about a $3.5 \%$ difference in the size of the age group. The divergence widens with time, however, and by the mid-nineties there is a $22 \%$ difference between Projections "C" and "A".

## Fourteen to 17 Age Group (Chart 35)

Differences in the number of 14-17-year-olds do not appear until 1991. At that time the age group is on the upturn after a low of $1,449,100$ in 1989. Projection "C" allows only a $6.6 \%$ gain to $1,544,900$ in 2000. However, under " B " and " A " the cohort continues to grow: the totals in 2001, 1,694,000 and $1,871,100$, represent gains of $16.9 \%$ and $29.1 \%$.

## Eighteen to 24 Age Group (Chart 35)

A11 projections show a 1982 high of $3,396,600$ for the $18-24$ age group followed by a steady decline. The projections are identical until 1994, falling to $2,673,400$. Variations in the fertility rate have no impact on the 18-24 age group until that time. Beyond 1994 the " C " population drops to $2,663,000$ in 1996 (a $21.6 \%$ decrease from 1982), while " $B$ " and " $A$ " both

Chart - 35
Alternative projections ${ }^{(1)}$ of selected school-age populations, Canada, 1961-2001

bottom out at 2,668,400 a year earlier (down 21.4\%). The "C" population then rises only $3.1 \%$ to $2,746,600$ in 2001 , while " B " increases $8.2 \%(2,886,500)$ and "A", $11.9 \%(2,987,200)$.

ENROLMENT

Three projections of elementary-secondary enrolment and four of fulltime post-secondary enrolment have been developed. The three elementarysecondary projections are based on different fertility assumptions, whereas variations in the tendency of young people to continue to post-secondary studies distinguish projections at that level.

## Elementary-Secondary

Each of the three elementary-secondary projections is based on a different population projection. Hence, they illustrate only how future enrolment would be affected by variations in the fertility rate. All other factors in the three projections were identical (e.g., between-grade transition ratios ${ }^{1}$ ). Because school attendance is compulsory until age 15 or 16 , elementary and secondary enrolment trends in the three projections closely resemble those of the relevant age groups shown in Chart 35.

Projection "A" is derived from the population projection that incorporates a fertility rate of 2.1 by 1990; "B" a rate of 1.8 , and "C" a rate of 1.6 . The medium projection, " B ", was considered most reasonable and used throughout the study.

No difference in projected enrolment appears until 1982. The low point for " A " and " B " occurs one year later. " B " decreases $12.8 \%$ from $5,492,900$ in 1976 to $4,788,400$ in 1983. The high projection, "A", drops a $12.6 \%$ to $4,801,800$. Under " $C$ " enrolment declines for another year to $4,751,600$ in 1984 - a $13.5 \%$ loss. A11 projections show a rise in the late 1980s: fairly steep for "A" - to 4,919,800 (2.5\%) by 1986; almost imperceptible for "C" - to 4,764,700 (0.3\%) by 1986. Detailed statistics are available in Appendix E.

1. Enrolment in each grade expressed as a percentage of enrolment in the previous grade one year earlier.

## Post-secondary

Because of the uncertainty associated with future post-secondary enrolment, four projections were made, incorporating different assumptions about the tendency of young people to enrol in college or university. All four are based on elementary-secondary projection "B".

Projection "A" (High)

Projection "A" assumes that a larger proportion of the 18-24 age group will attend post-secondary institutions full-time in the future. Numbers entering universities and colleges directly from high school will rise in the immediate future, as will the number of undergraduates who decide to proceed to the graduate level. Factors that may promote such a trend include:
-an escalating qualification spiral that would make at least some post-secondary training essential to compete on the labour market;
-encouragement from parents whose own level of educational attainment is high;
-smaller families in the future, so that more economic resources would be available to support children's post-secondary education.

The authors consider this projection highly unlikely. Short-term indicators suggest that the enrolment rate will level off or decline, at least in universities.

Projection "B" (Medium)

The medium projection, " B ", was judged most probable and used in the main body of the report. It is based on the assumption of diminishing demand by the young for post-secondary education in the near future, so that the gross enrolment rate falls throughout the forecast period. Such a downturn occured in universities in 1977. Several conditions might contribute to this situation:
-difficulties many graduates, especially those with general arts degrees, are having in the labour market;
-continued decline in the proportion of government expenditures devoted to education (it fell from $22.2 \%$ in 1970 to $17.0 \%$ in 1975);
-a reconsideration of the objectives of university education, resulting in more emphasis on its traditional academic orientation and less on job preparation.

Projection "C" (Bench Mark)

Projection "C" is a bench mark intended to isolate the effects of demography on enrolment. The enrolment rate is more or less constant. Thus, enrolment parallels the $18-24$ age group.

Projection "D" (Low)

Projection "D" is based on an enrolment rate that drops more sharply than that of Projection "B", though for the same reasons. As potential students perceive the employment difficulties encountered by graduates, demand for post-secondary education may decrease rapidly.

Comparison of the Projections

Table VI-1 and Chart 36 give projected enrolments as a proportion of the 18-24 age group

## Tab1e VI-1

Post-secondary enrolment as a percentage of the 18-24 age group (enrolment rates)

|  | A | B | C | D |
| :--- | :--- | :---: | :---: | :---: |
|  |  |  |  |  |
|  |  |  |  |  |
| 1971 | 18.5 | 18.5 | 18.5 | 18.5 |
| 1976 | 19.4 | 19.4 | 19.4 | 19.4 |
|  |  |  |  |  |
| 1977 | 19.4 | 19.3 | 19.5 | 19.2 |
| 1982 | 19.8 | 18.0 | 19.5 | 16.7 |
| 1986 |  | 17.4 | 18.6 | 16.0 |

Chart - 36
Full-time Post-secondary Enrolment as a Percentage of Selected Age Groups,
Projections "A", "B", "C", "D", Canada, 1961 to 1986
(Gross Enrolment Rates)


In 1975-76 the enrolment rate was $19.6 \%$. The rate in the bench mark projection, "C", hovers around $19.5 \%$ until 1982. The enrolment rate for "B" declines almost steadily, so that by 1986 it is $17.4 \%$, a level comparable to 1969. "D" falls even more steeply to $16.0 \%$ at the end of the reference period, lower than it has been since 1967. By contrast, under Projection " $A$ " the rate rises to $20.2 \%$ in 1981. It is of interest to note that this is still 3.6 percentage points lower than the comparable 1976 enrolment rate in the United States.

## 1) Peak enrolment

Depending on the projection and type of institution, peak enrolments occur in different years and cover a wide spectrum of values (Chart 37). Projections "B" and "D" show maximum total post-secondary enrolment in 1977, while "A" and "C" have it in 1982. Highs range from "D"'s 612,200 to "A"'s 687,800 , increases of $1.1 \%$ and $13.6 \%$ respectively over the 605,700 full-time students in 1976. All projected enrolments decline steadily after reaching their peaks: A, $8.3 \%$ by 1986 ; B, $10.6 \%$, and D, $17.1 \%$. Table VI-2 summarizes these fluctuations.

## Table VI-2

Total full-time post-secondary enrolment, selected years

Enrolment

Index (1976=1.00)
(change from 1976)

|  | A | B | C | D | A | B | C | D |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | -- --Thousands $-\cdots----$ |  |  |  |  |  |  |  |
| 1971 | 496.8 | 496.8 | 496.8 | 496.8 | 0.84 | 0.84 | 0.84 | 0.84 |
| 1976 | 605.7 | 605.7 | 605.7 | 605.7 | 1.00 | 1.00 | 1.00 | 1.00 |
|  |  |  |  |  |  |  |  |  |
| 1977 | 623.5 | 617.0 | 622.2 | 612.2 | 1.03 | 1.02 | 1.03 | 1.01 |
| 1982 | 687.8 | 612.0 | 662.2 | 566.3 | 1.14 | 1.01 | 1.09 | 0.93 |
| 1986 | 630.6 | 551.4 | 592.1 | 507.8 | 1.04 | 0.91 | 0.98 | 0.84 |

Chart - 37
Total Full-time Post-secondary Enrolment, Projections "A", "B", "C", "D" Canada, 1961-62 to 1986-87


Maximum university enrolment occurs a different year in each projection. The earliest is "D"'s 376,900 in 1976 , after which numbers drop $13.2 \%$ by the end of the forecast period. University enrolment in the other projections does not peak until the early eighties. "B" rises from 376,900 to 383,900 in 1981 and then falls $7.3 \%$ by 1986. In 1982 " A " crests at 424,300 , a $12.6 \%$ rise from 1976, and subsequently drops only $4.9 \%$ by 1986. The bench mark projection, "C", is last to reach its high - 414,400 in 1983; three years later it has fallen $8.2 \%$ to 380,400 .

The top enrolment years of non-university institutions are 1977 for Projections "B" and "D", 1981 for "C", and 1982 for "A". From 228,700 in 1976, "D" rises $5.5 \%$ to 241,300 in 1977, while "B" increases $6.5 \%$ to 243,500 . By contrast, the effect of demography alone (Projection "C") would cause non-university enrolment to reach 249,000 in 1981 , an $8.8 \%$ rise, and realization of Projection " $A$ " would produce an enrolment of 263,400 in $1982,15.2 \%$ above that of 1976.

After the high points, college enrolment in each projection declines to 1986 . " D " decreases $25.2 \%$ and " B " $19.7 \%$. The drops of " C " and " A " are less precipitous: $14.9 \%$ (to 211,700 ) and $13.7 \%$ ( 227,200 ), respectively.

In all projections, non-university enrolment peaks earlier in Quebec than in the other nine provinces. This happens for two reasons. First, Quebec college students are younger than those in most other provinces, since they enter after grade 11. The impending decline in the college-age population will appear sooner among younger (17-19) Quebec students, than among older (20-21) students in the rest of the country. Second, the change in Quebec's elementary-secondary structure causes artificially high college enrolment in 1977, after which numbers drop.

Because more than half Canada's full-time non-university students are in Quebec, trends in that province skew national totals. Thus, in Projection "B", Quebec's and Canada's college enrolment peaks in 1977, but the maximum in the other nine provinces occurs in 1982.

It is possible that the university-college mix of post-secondary students could favour the college sector more than indicated in any projection, at least in the short-term. Students' concern with career prospects might cause many to enrol in colleges rather than university.

POTENTIAL LABQUR FORCE ENTRANTS

Four projections of school leavers (by educational attainment) have been developed from the four post-secondary enrolment projections. They reflect the impact of variations in the post-secondary enrolment rate on school leavers' educational attainment.

Since the number of young people available to the labour force is primarily a function of population size, the total number of potential labour force entrants does not differ significantly among the four projections, as illustrated in Table VI-3.

Table VI-3

## Potential labour force entrants <br> from the education system, selected years

A B C D
$\frac{\begin{array}{c}\text { Percent } \\ \text { difference }\end{array}}{(A-D)}$
-------------T housands
1
( $\mathrm{A}-\mathrm{D}$ )

1966
1976
1977
1986

| 360.5 | 360.5 | 360.5 | 360.5 | 0.0 |
| :--- | :--- | :--- | :--- | :--- |
| 579.6 | 579.6 | 579.6 | 579.6 | 0.0 |
|  |  |  |  |  |
| 609.9 | 615.3 | 611.1 | 619.3 | 1.5 |
| 515.4 | 508.0 | 514.7 | 500.4 | 2.9 |

The peak year for all projections is 1977, with "D" showing the largest number of entrants. For reasons just discussed, the peak occurs earlier in Quebec. The number of school leavers will probably continue to increase slowly until around 1980 in the other nine provinces. By 1986, all projections indicate drops averaging around 100,000 , but "A" shows the most labour force entrants and "D" the fewest.

Because the projections vary in the proportion of young people attending college or university, the real difference between them is the distribution of labour force entrants by level of schooling (Chart 38).

Table VI-4

Potential labour force entrants from the education system, selected years (percentage distribution by leve 1 of schooling)

|  | jection | Secondary graduation or less | Post-secondary (some or completed) | Total |
| :---: | :---: | :---: | :---: | :---: |
| 1966 |  | 81.5 | 18.5 | 100.0 |
| 1976 |  | 64.1 | 35.9 | 100.0 |
| 1981 | A | 60.5 | 39.5 | 100.0 |
|  | B | 62.9 | 37.1 | 100.0 |
|  | C | 61.0 | 39.0 | 100.0 |
|  | D | 64.3 | 35.7 | 100.0 |
| 1986 | A | 54.3 | 45.7 | 100.0 |
|  | B | 58.2 | 41.8 | 100.0 |
|  | C | 55.8 | 44.2 | 100.0 |
|  | D | 60.9 | 39.1 | 100.0 |

Projections "A" and "C", with relatively high post-secondary enrolment rates, have larger proportions of school leavers with post-secondary education in 1986 than "B" or "D". "A" and "C" show $44 \%$ and $46 \%$ of all school leavers with "some" or completed post-secondary education in 1986; Projections "D" and "B", $39 \%$ and $42 \%$.

Even with the rapid decline in the proportion of young people attending college or university assumed in Projection " $D$ ", the percentage of leavers


Post-secondary (some or completed)

with post-secondary education continues to increase to 1986. This is because of shifts in the relative size of the secondary and post-secondary school-age populations. The $14-17$ age group (secondary) has already started to decline (1977), but the 18-24 age group (post-secondary) will continue to increase until the early 1980s. Hence, post-secondary enrolment will rise rapidly vis-a-vis secondary enrolment simply because of population shifts. The number of leavers will follow the same pattern. The impact of the different projections on the educational attainment of school leavers is shown on Chart 36.

## CHAPTER VII

## A COMPARISON OF CANADIAN AND AMERICAN TRENDS

## INTRODUCTION

In recent years demography has exerted a disruptive influence on the Canadian education systems and labour force. As a consequence of the postwar baby boom, enrolment expanded rapidly in the 1960s, and large numbers of young people entered the labour market in the 1970s. Declining fertility after 1960 meant declining elementary enrolment in the seventies, with secondary and post-secondary soon to follow. In the eighties a diminishing number of young workers will join the labour force.

But these changes are not unique to Canada. Demographic trends have been similar in most industrialized countries, particularly in North America. Despite some historical differences, the Canadian and American experiences have been remarkably alike. These similarities mean that many difficulties that stem from increasing numbers of young people or declining enrolment have been common to both countries.

This chapter briefly compares American trends with some of those that were examined in detail for Canada.

## POPULATION

## Total Fertility (Chart 39)

Canadian and American fertility trends have been almost parallel during this century. However, until late in the 1960s Canada had a consistently higher total fertility rate - for example, in the peak year of 1959

Chart - 39
Canadian and American total fertility rates ${ }^{(1)}$, 1921 to 1975

(1) Average number of children expected to be born, per 1,000 women of child-bearing age (15-49)

Chart - 40
Live births in Canada and the U.S.A., 1921 to 1975

the Canadian rate was an average 3.94 children per woman; the American rate, 3.64. The decline of the sixties was somewhat steeper in Canada, so that the gap between the two was eliminated. In 1975 the Canadian rate was 1.86 , the American 1.77. Since then, the Canadian rate has continued to decline (final 1977 figures are not available). At the same time, in the United States there was a slight increase to 1.8 , but by early 1978 monthly estimates suggest that fertility is falling again.

## Births (Chart 40)

The pattern of births in Canada and the U.S. is similar, although numbers differ by about a factor of 10 . However, chart 40 shows that the postwar baby boom in Canada was more pronounced than in the U.S., and the ensuing decline sharper. Hence, the waves in the age groups (e.g., $14-17$ or $18-24$ ) are more extreme in Canada.

## Immigration (Chart 41)

On a per capita basis, Canada has a higher level of immigration than the U.S. Policies in the two countries reflect differences in their approach to immigration. Canada has long practiced "selective recruitment": immigrants have been actively sought to meet the manpower requirements of the economy. By contrast, American immigration regulations perform a "gatekeeping" function. ${ }^{1}$ Hence, a larger proportion of Canadian population growth is due to migration, as opposed to natural increase. In 1976 only three times more people immigrated to the U.S. than to Canada ( 430,000 versus 150,000 ), while the total population was about ten times greater.

[^31]Chart - 41
Immigration to Canada ${ }^{(1)}$, and the United States ${ }^{(2)}$, 1947 to 1976


## Selected Age Groups (Chart 42)

Historical and projected trends in Canada and the United States are similar for all school-age population groups. In the past the number of Americans in the three age groups was almost ten times the number of Canadians. But as a result of Canada's bigger baby boom, the size of the young population has increased relative to that of the United States. The more exaggerated ups and downs in Canada produce relatively faster rates of enrolment increase and decline.

The profections of Chart 42 are probably high, as they incorporate a high fertility rate: in both countries the total fertility rate is assumed to rise gradually to 2.1. Although the 1975 rate in the United States was 1.77, some American demographers believe it will rise to 2.1 by 2000 , and hence their projection incorporates this assumption.

A lower rate seemed more reasonable for Canada. Thus, the principal population projection used throughout the report assumes 1.80 rate (see Chart 9, chapter 2).

## ENROLMENT

## Elementary and Secondary Enrolment

In Canada and the United States young people are obliged to attend school until the age of 15 or 16 , and the majority remain until the end of secondary school. Hence, elementary and secondary enrolment parallel the $5-13$ and $14-17$ age groups in both countries. Historical trends are similar, and under the assumption of the same total fertility rate, projections also resemble each other. Naturally, if the fertility rates were to differ significantly in the future, these trends would diverge. As previously noted, it is likely that the 2.1 fertility assumption is high for Canada, at least in the short-term.

Chart-42
Selected age group population relevant to school enrolment in Canada and the U.S.A., 1960 to 2000
Canada
Millions
4.2 -
3.3

## Post-secondary Enrolment

Canadian and American post-secondary enrolment are not strictly comparable owing to structural differences in the systems - not only between Canada and the U.S., but also among the provinces. Hence, all comparisons should be considered "ball-park" estimates.

Because this study is intended for the Canadian education community, the statistical tables employ Canadian terminology. The following is a list of Canadian terms and their American equivalents used in this study:

Post-secondary education in Canada
Higher education in the United States

Institutions:

| university | 4-year institution of higher education |
| :--- | :--- |
| non-university (college) | 2-year institution of higher education |
|  | (includes junior and community colleges) |

Enrolment: ${ }^{1}$

| rsity 1 | degree-credit enrolment in 2- or 4-year institutions |
| :---: | :---: |
| -in universities - - - - - | -in 4-year institutions |
| -transfer in non-universities | -in 2 -year institutions |
| graduate - - - | -graduate enrolment in 4-year |
|  | institutions |
| non-university level - - - - | non-degree-credit enrolment in 2- or 4-year institutions |
| -in universities | -in 4-year institutions |
| -career in non-universities - | -in 2-year institutions |

Basically, American post-secondary education is conducted in twoand four-year institutions of higher education, both public and private. Before 1975 full-time students were categorized as being in a degree-credit (i.e., leads to a degree) or non-degree credit program (i.e., leads to some other form of certification such as a diploma). For statistical purposes, this distinction was abolished in 1975.

1. For the sake of simplicity, enrolment in institutions of higher education is often referred to as "post-secondary".

The equivalencies in the previous table are only approximate, as there are real differences between the systems. For example, excluded from the American data is enrolment in "proprietary" schools - private profit-making institutions that offer post-secondary "career" programs. The Canadian system has no equivalent to this type of institution. Because of this exclusion, American post-secondary enrolment is underestimated.

Furthermore, education in Quebec and Ontario varies considerably from any forms in the United States. In the Quebec CEGEP system, students enter college programs after 11 years of school, rather than 12 as in the U.S. Ontario, on the other hand, has a thirteenth secondary year, but no university transfer programs.

As well, comparisons at the post-secondary level can be made for fulltime enrolment only, as data about Canada's part-time college enrolment are insufficient. It is, however, possible to compare full-time and parttime graduate enrolment.

But even comparisons of aggregate figures at the total post-secondary leve 1 must be considered approximate.

1) Total full-time post-secondary enrolment

Table VII-1 demonstrates that during 1970-76 total post-secondary enrolment increased faster in Canada than in the United States. Full-time enrolment grew $27 \%$ in Canada, $15 \%$ in the United States. Female enrolment rose more quickly than male in both countries. The number of women increased $46 \%$ in Canada, $30 \%$ in the U.S.; the number of males, $15 \%$ in Canada, $6 \%$ in the United States. More rapid expansion of Canadian enrolment was probably due in part to continued evolution of the college systems during the early 1970s; the American system was well developed at that time. Faster growth of the Canadian 18-24 age group could also have contributed to the difference.

Table VII-1

Total Canadian and American full-time post-secondary enrolment,
1968-76
Canadian*


| 1968 | 241.7 | 153.7 | 395.4 | $38.9 \%$ | 3168.8 | 2041.4 | 5210.2 | $39.2 \%$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1969 | 267.2 | 169.7 | 436.9 | 38.8 | 3335.8 | 2163.1 | 5498.9 | 39.3 |
| 1970 | 288.9 | 186.6 | 475.5 | 39.2 | 3504.1 | 2312.2 | 5816.3 | 39.8 |
| 1971 | 300.7 | 196.1 | 496.8 | 39.5 | 3629.3 | 2447.9 | 6077.2 | 40.3 |
| 1972 | 305.3 | 208.1 | 513.4 | 40.5 | 3557.4 | 2515.0 | 6072.4 | 41.4 |
| 1973 | 312.6 | 221.0 | 533.6 | 41.4 | 3578.6 | 2610.9 | 6189.5 | 42.2 |
| 1974 |  |  |  |  |  |  |  |  |
| 1975 | *** | 317.5 | 242.5 | 559.9 | 43.3 | 3646.5 | 2723.8 | 6370.3 |
| 1976 | 330.0 | 263.4 | 593.4 | 44.4 | 3926.8 | 2914.5 | 6841.3 | 42.8 |
| 192.6 | 332.6 | 273.1 | 605.7 | 45.1 | 3703.6 | 3013.4 | 6717.1 | 44.9 |

\% change
1970-76
$15.1 \% \quad 46.4 \% \quad 27.4 \%$
$5.7 \% \quad 30.3 \% \quad 15.5 \%$

* Includes all university and non-university (college) full-time enrolment in Canada.
** Includes all full-time degree- and non-degree-credit enrolment in public and private two- and four-year institutions of higher education in the United States.
*炈 American analysts suspect accuracy of high U.S. enrolment figures for 1975.

2) Non-degree-credit enrolment (in terminal career or technical programs) 1

A comparison of enrolment in terminal certificate or diploma programs, primarily in colleges, is difficult. American "higher education" statistics indicate that in 1968 roughly $5 \%$ of full-time students were registered in such programs, compared with $26 \%$ in Canada. In the U.S. the proportion

1. In Canada this includes all "career, professional, or technical" enrolment in colleges and technical institutes, plus nursing enrolment in hospital schools where it still exists. University transfer enrolment is excluded. In the U.S.A., it includes all enrolment in non-degree-credit programs in two and four-year institutions of higher education.
increased to $10 \%$ by 1975 , but this was still substantially lower than in Canada where the proportion dropped slightly to $25 \%$.

However, this comparison is misleading, because much of what would be called post-secondary education in Canada is conducted in proprietary schools in the United States. These profit-making establishments do not meet the criteria to be classified institutions of higher education, and so statistics about them are not collected. But in 1975 an estimated $1,100,000$ students were doing post-secondary level work in proprietary institutions. If these students are counted as part of the post-secondary total, the proportion in non-degree credit programs rises to approximately $23 \%$, a figure more comparable with the Canadian $25 \%$.

## 3) Degree-credit Enrolment

Three-quarters of the full-time post-secondary students in Canada and $90 \%$ of those in higher education in the U.S. are taking programs that culminate in a degree. In Canada this covers enrolment in university programs leading to a degree, plus transfer enrolment in colleges, including the academic CEGEP enrolment in Quebec. In the U.S. this consists of enrolment in degree-credit programs in two and four-year institutions of higher education.

Basic trends in the two countries are the same. Table VII-2 shows that enrolment growth was more rapid in Canada during 1970-75 rising $24 \%$ as opposed to $12 \%$ in the U.S. Growth in both countries can be attributed primarily to women. Female enrolment in Canada increased $43 \%$, compared with $13 \%$ for males; in the U.S., $20 \%$ for women, $6.7 \%$ for males. While women continue to constitute a slightly higher proportion of degree-level enrolment in the U.S., the gap has narrowed considerably. In 1968, 34.2\% of Canadian enrolment was female, compared with $39.3 \%$ in the U.S. By 1975 the proportion had risen in both countries - to $41.5 \%$ in Canada and $42.7 \%$ in the United States.

Table VII-2
Full-time degree-credit enrolment ${ }^{*}$, by sex, Canada and the United States, 1968-75**

Canada

| Male Female Total | Female <br> as \% of | Male Female Total | Female |
| :--- | :--- | :--- | :--- |
| ------Thousands------- | Thousands------- | as of |  |
| total |  |  |  |


| 1968 | 193.1 | 100.3 | 293.4 | $34.2 \%$ | 2997.9 | 1939.2 | 4937.2 | 39.3 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1969 | 215.0 | 115.1 | 330.1 | 34.9 | 3178.7 | 2075.0 | 5253.8 | 39.5 |
| 1970 | 228.6 | 128.2 | 356.7 | 35.9 | 3303.0 | 2187.0 | 5490.0 | 39.8 |
| 1971 | 233.7 | 135.8 | 369.5 | 36.7 | 3389.2 | 2287.3 | 5676.5 | 40.3 |
| 1972 | 239.9 | 143.4 | 383.3 | 37.4 | 3312.3 | 2334.5 | 5646.8 | 41.3 |
| 1973 | 245.2 | 153.7 | 398.9 | 38.5 | 3293.2 | 2389.8 | 5683.1 | 42.1 |
| 1974 | 249.2 | 168.1 | 417.4 | 40.3 | 3336.6 | 2480.7 | 5817.4 | 42.6 |
| 1975 | 259.2 | 183.6 | 442.8 | 41.5 | 3522.8 | 2624.4 | 6147.2 | 42.7 |
| \% change |  |  |  |  |  |  |  |  |
| $1970-75$ | $13.4 \%$ | $43.2 \%$ | $24.1 \%$ |  | $6.7 \%$ | $20.0 \%$ | $12.0 \%$ |  |

[^32]4) Graduate Enrolment

A comparison of graduate enrolment is meaningful only on a per capita basis. The 23-27-year-old population has been chosen, somewhat arbitrarily, as the population base. The comparison is complicated by the fact that part-time enrolment is a significant proportion of total graduate enrolment, but the full-time/part-time enrolment mix is very different in the two countries. Almost two-thirds of all graduate enrolment in the U.S. is part-time, only $40 \%$ in Canada. Full-time graduate enrolment related to the 23-27 age group is $2.0 \%$ in Canada, $2.6 \%$ in the United States. Total graduate enrolment, including part-time, represents $3.4 \%$ of the same age group in Canada, $7.4 \%$ in the U.S.

Nonetheless, since 1970 graduate enrolment has grown more rapidly in Canada: a $43 \%$ rise overall, while the American gain was only $28 \%$. The faster increase can be attributed solely to part-time students. In both countries the number of full-time graduate students increased $22 \%$, but Canada's part-time enrolment jumped $92 \%$ compared with $32 \%$ in the United States.
Graduate enrolment, Canada and the United States, 1968 - 76

Canada United States

Full-time \begin{tabular}{c}
Part-time <br>
(Thousands)

$\quad$ Total Full-time 

Part-time Total <br>
(Thousands)
\end{tabular}

| 1968 | 26.1 | 10.5 | 36.6 | 337.0 | 548.0 | 885.0 |
| :--- | :--- | :--- | :--- | :--- | :--- | ---: |
| 1969 | 30.2 | 13.7 | 43.9 | 363.7 | 591.7 | 955.4 |
| 1970 | 33.2 | 14.4 | 47.6 | 378.8 | 652.0 | 1030.8 |
| 1971 | 35.9 | 18.0 | 53.9 | 388.0 | 623.7 | 1011.7 |
| 1972 | 37.5 | 20.5 | 58.0 | 393.3 | 672.5 | 1065.8 |
| 1973 | 37.1 | 23.5 | 60.6 | 409.3 | 714.2 | 1123.5 |
| 1974 | 37.8 | 24.5 | 62.3 | 427.6 | 761.9 | 1189.5 |
| 1975 | 39.9 | 26.9 | 66.8 | 453.0 | 805.8 | 1258.8 |
| 1976 | 40.6 | 27.7 | 68.3 | 463.7 | 869.6 | 1333.3 |
| \% change |  |  |  |  |  |  |
| \% <br> 1970-76 | $22.3 \%$ | $92.4 \%$ | $43.5 \%$ | $\mathbf{2 2 . 4 \%}$ | $33.4 \%$ | $29.3 \%$ |

5) Enrolment Rates

Since attendance is compulsory up to 15 or 16 , virtually all children are enrolled in school. Enrolment rates at older ages are lower. Chart 43 demonstrates that, in general, a larger proportion between 16 and 21 attend school in the United States than in Canada: roughly $89 \%$ of $16-17$-year-olds,

Chart - 43
Full-time enrolment rates, Canada and the United States, 1968-69, 1972-73 and 1975-76 (elementary-secondary and post-secondary levels)


[^33]compared with $76 \%$. About $45 \%$ of Americans and $38 \%$ of Canadians aged 18-19 are enrolled; rates among 20-21-year-olds are approximately $28 \%$ for Americans compared with $18 \%$ for Canadians.
a) The American post-secondary (higher education) enrolment rate ${ }^{1}$

The total post-secondary enrolment rate is a measure of the propensity to enrol. In the United States two groups of $18-24$-year-olds may be used as the base for this rate - the total or the civilian population. The latter excludes military personnel. There are, then, two American enrolment rates. The difference between the two has been $1 \%$ to $2 \%$, the "civilian" rate being higher.

Recent declines in the male civilian rate are more apparent than real.
With large numbers of young men in the armed forces during the Vietnam War, and therefore not counted in the civilian population, male enrolment relative to the civilian male population was quite high. However, as the conflict was scaled down and selective service abolished in 1973, the number of males in the army fell. Their return to civilian life "increased" the civilian population and the enrolment rate dropped from $34.4 \%$ in 1969 to $29.4 \%$ in 1974 , a decline of five percentage points. But there was little "real" change in the proportion of the young enrolled. During the same period the male enrolment rate based on the total population fell only one percentage point from $27.9 \%$ to $26.9 \%$ (Chart 44).

In the past, the enrolment rate based on the civilian population was often reported. Consequently, the decline of participation in American colleges and universities is exaggerated. For Canadian-American comparisons, the rate employing total population will be used.

1. The ratio of full-time enrolment in institutions of higher education to the 18-24 age group. Excludes proprietary school enrolment.
Full-time post-secondary male enroiment as a percentage of the civilian and total male 18-24 age groups, United States, 1968-75
34 _-_

During the Vietnam war, a significant proportion of 18-24 year-old males served in the armed forces and were not counted as part of the civilian population. Thus, in relation to the civilian population, male post-secondary enrolment rates were high.

As troops were gradually withdrawn from Vietnam, and especially when selective service ended (January 27, 1973), the civilian male population increased. Consequently, the differencs between enrolment rates based on the civilian and total populations diminished.

Total full-time post-secondary enrolment as a percentage of the civilian and total 18-24 age groups, United States, 1968-75

b) Comparison of Canadian and American post-secondary enrolment rates (Chart 45)

Since the late 1960s post-secondary enrolment rates in Canada and the United States have tended to follow the same pattern, but the American rate has been consistently higher. Male rates in both countries peaked in 1969 - $22.0 \%$ in Canada, $27.9 \%$ in the U.S. - and have since declined slightly. The 1976 figures are $21.1 \%$ in Canada, $26.1 \%$ in the United States. Throughout the 1970s female rates continued to rise - in Canada from 14.3\% in 1970 to $17.7 \%$ in 1976 , and in the U.S.A. from $18.9 \%$ to $21.6 \%$.

Increasing female post-secondary enrolment pushed the total Canadian rate from $18.1 \%$ in 1970 to $19.4 \%$ in 1976. Because the total American rate did not grow to the same extent (from $23.6 \%$ in 1970 to $23.8 \%$ in 1976), the gap has narrowed. The Canadian and American rates were separated by 6.4 percentage points in 1968; by 1976 the difference had been reduced to 4.4 percentage points. ${ }^{1}$
6) Foreign Students

Foreign students represent a larger proportion of total post-secondary enrolment in Canada than in the United States. Table VII-5 indicates that in 1976 persons granted student visas constituted $6.4 \%$ of Canada's fulltime post-secondary enrolment. In the U.S. foreign students made up $2.9 \%$ of the full-time total. During the 1973-76 period roughly the same number of Canadians were studying in the U.S. as there were Americans in Canadian institutions. The number of Canadians enrolled in the U.S. increased sharply in 1976, somewhat offsetting this balance.

1. As already noted, this calculation excludes post-secondary enrolment in American proprietary schools. If the estimated $1,100,000$ students are included, the American post-secondary enrolment rate increases to around $27 \%$ in 1976 , compared with $19.4 \%$ in Canada.

Chart - 45
Full-time post-secondary enrolment as a percentage of the 18-24 age group, by sex, Canada and United States, 1968-75


## Table VII-4

$$
\frac{\text { Post-secondary enrolment rates } * \text {, by sex, }}{\text { Canada and the United States, } 1968-76}
$$

Male \begin{tabular}{ccccc}
Female \& Canada <br>
(Percent)

$\quad$ Total Male 

Female <br>
(Percent)
\end{tabular}$\quad$ Total

| 1968 | 19.9 | 12.8 | 16.4 | 27.5 | 18.0 | 22.8 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1969 | 22.0 | 13.5 | 17.3 | 27.9 | 18.4 | 23.2 |
| 1970 | 21.9 | 14.3 | 18.1 | 28.2 | 18.9 | 23.6 |
| 1971 | 22.3 | 14.6 | 18.5 | 28.0 | 19.1 | 23.6 |
| 1972 | 21.8 | 14.9 | 18.4 | 27.3 | 19.5 | 23.4 |
| 1973 | 22.0 | 15.8 | 18.9 | 27.0 | 19.9 | 23.5 |
| 1974 | 21.5 | 16.7 | 19.1 | 26.9 | 20.4 | 23.7 |
| $1975 * *$ | 21.6 | 17.6 | 19.6 | 28.2 | 21.3 | 24.8 |
| 1976 | 21.1 | 17.7 | 19.4 | 26.1 | 21.6 | 23.8 |

[^34]
## Table VII-5

Foreign students in Canada and the United States, 1973-76
A. Foreign students* as a proportion of total full-time post-secondary enrolment, Canada and the United States, 1973-76 **

Canada

Foreign \% of full- Foreign \% of fullstudents time enrolment

Number

21,271
4.0

27,625 $\quad 4.9$
34,615 $\quad 5.8$
38,582
6.4
U.S.A. students time enrolment

Number

| 125,116 | 2.0 |
| :--- | :--- |
| 154,580 | 2.4 |
| 179,340 | 2.7 |
| 203,070 | 2.9 |

B. Canadian students in American post-secondary institutions

Number

$$
\begin{array}{r}
8,747 \\
8,430 \\
9,540 \\
11,120
\end{array}
$$

American students in Canadian post-secondary institutions

Number
8,129
8,803
8,871
8,316

* Includes part-time students.
** Calendar year in Canada; academic year beginning in year indicated in U.S.

Source: Canada - Department of Manpower and Immigration
U.S.A. - Institute of International Education, Open Doors (New York)

## Degrees

A comparison of the number of degree recipients in Canada and the United States is meaningful only on a per capita basis. The numbers granted at the end of the 1975-76 academic year have been related to the 1976 population aged 20-29. Table VII-7 shows that per capita roughly 1.3 times as many bachelor's degrees, 3 times as many master's degrees, and 2.2 times as many doctorates were conferred in the United States. This American numerical superiority holds for all disciplines shown in Table VII-7 except medical doctors and theologians. In 1976, 1.3 times as many physicians graduated per capita in Canada as in the U.S.

Table VII-6

Bachelor's, master's and doctoral degrees granted in Canada and the United States, 1975-76

## Canada

United States

| NumberPer 100,000 | Number | Per 100,000 |
| :---: | :---: | :---: |
| population aged |  |  |
| $20-29$ |  | population aged |
| $20-29$ |  |  |


| Bachelor's and |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: |
| $\quad$ first professiona1 | 83,276 | $2,017.9$ | 988,395 | $2,640.2$ |
| Master's | 11,555 | 280.0 | 311,771 | 832.8 |
| Doctorate | 1,693 | 41.0 | 34,064 | 91.0 |
| 20-29 age group |  |  |  |  |
| $(1976)$ | $4,126,800$ |  | $37,436,000$ |  |

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Sources: Canada - Education, Science and Culture Division, Statistics Canada,
                                    preliminary tabulations
United States - National Centre for Education Statistics,
                                    preliminary figures.
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Table VII-7
Degrees granted per 100,000 population aged $20-29$, by discipline, Canada and the United States, 1975-76

| Canada United States | Ratio of degrees |
| :---: | :---: |
|  | granted in |
| (Per 100,000 population | United States to |
| aged 20-29) | Canada (per |
|  | capita) |


| Total bachelor's and <br> first professional | $2,017.9$ | $2,640.2$ | 1.3 |
| :--- | ---: | ---: | ---: |
| Total master's | 280.0 | 832.8 | 3.0 |
| Total earned doctorate | 41.0 | 91.0 | 2.2 |
| All degrees ${ }^{1}$ | $2,338.8$ | $3,564.0$ | 1.5 |
|  |  |  |  |
| Discipline ${ }^{2}$ : |  |  |  |
| Social sciences | 492.4 | 727.7 | 1.5 |
| Humanities | 280.3 | 469.8 | 1.7 |
| Total sciences: | 401.3 | 562.7 | 1.4 |
| Agriculture | 28.3 | 56.3 | 2.0 |
| Biological sciences | 106.2 | 164.9 | 1.6 |
| Engineering | 138.2 | 178.9 | 1.2 |
| Math, stats, computer sci. | 69.9 | 81.9 | 1.4 |
| Physical sciences | 58.7 | 80.7 | 1.6 |
| Total health professions : | 150.4 | 233.9 | 1.2 |
| Dentistry | 11.9 | 13.9 | 0.8 |
| Medical doctor | 46.9 | 36.9 | 2.0 |
| Other health prof. | 91.6 | 183.4 |  |
| Accounting, business, |  |  | 2.4 |
| management | 197.7 | 467.7 | 1.5 |
| Education | 535.7 | 799.4 | 1.2 |
| Law | 65.7 | 81.5 | 0.9 |
| Theology | 14.5 | 12.4 |  |

[^35]
## LABOUR FORCE

## Surveys of 1975 University Graduates

In May 1976 a national survey of bachelor's and master's degree graduates ${ }^{1}$ of the 1974-75 academic year was conducted in the United States by Mark Borinsky and A. Stafford Metz of the National Center for Education Statistics. Following are a few major observations from that survey. More detailed tables are provided in Appendix E.

Similar Canadian data have not been collected, ${ }^{2}$ but some general comparisons can be made with a survey of 1974-75 graduates of Ontario universities. This survey is discussed more extensively in chapter 5.

## 1) Unemployment

As of May 1976, about a year after graduation, the unemployment rate among 1975 bachelor's graduates in the U.S. was $7 \% .^{3}$ Approximately 15 months after graduation (September 1976), $8.4 \%$ of the 1975 Ontario bachelor's degree graduates were unemployed. In both cases the rate was below that for the $15-24$ age group as a whole ( $14.7 \%$ in the U.S., $11.2 \%$ in Ontario). However, the Americans appeared to enjoy a relative employment advantage. There was more difference between the unemployment rates of bachelor's degree graduates and all $15-24$-year-olds -7.7 percentage points versus 2.8 percentage points in Ontario.
2) Underemployment

In the American survey, if the graduates were working in an occupation

1. From a nationally representative sample of 209 colleges and universities, 4,700 bachelor's graduates and 1,100 master's graduates were selected. The overall response rate was $80 \%$.
2. Statistics Canada will conduct a nationwide survey of 1976 graduates in the summer of 1978.
3. The unemployment rate is the proportion of all graduates in the labour force who were unemployed and seeking work. Graduates not working and not looking for work are not in the labour force.
classified as clerical, craftsman, labourer, sales, service or operative, and they stated that their jobs did not require a degree, they were designated underemployed. By this definition $24 \%$ of the bachelor's graduates were underemployed. The difference between males ( $24 \%$ ) and females ( $23 \%$ ) was minor. Furthermore, underemployment was not a significant problem for master's graduates - only $4 \%$ fell in this category. Comparable data are not available for Ontario or Canada.

## 3) Variations by major field of study for bachelor's graduates

In both the American and Ontario surveys bachelor's graduates in the humanities and social and behavioural sciences experienced the most labour market difficulty. Those in engineering, the health professions, and business and management fared best.

In the U.S. engineers enjoyed the highest salaries and lowest level of underemployment (average salary as of May $1976-\$ 13,400 ; 3 \%$ underemployment), followed by the health professions ( $\$ 10,600$ and $4 \%$ ), and business and management ( $\$ 10,500$ and $21 \%$ ). Social science graduates had relatively low salaries and a high rate of underemployment ( $\$ 9,200$ and $38 \%$ underemployed). Psychology graduates had the second lowest average salaries and high underemployment ( $\$ 8,500$ and $38 \%$ ), but worst off were humanities graduates with average salaries of $\$ 8,000$ and $41 \%$ underemployment.

The pattern in the Ontario survey was more or less the same. Because underemployment was not calculated, unemployment by discipline and salary data ${ }^{1}$ were used as approximate measures. Engineering and architecture graduates had the highest average salaries and third lowest unemployment (average salary of $\$ 15,000$, unemployment rate of $4.2 \%$ in September 1976). Also in apparently good positions were graduates in the health professions ( $\$ 13,500$ and $1.4 \%$ ) and business administration and management ( $\$ 12,600$ and $2.2 \%$ ). As in the United States, employment problems were more severe among social and behavioural science graduates whose average salaries were second

1. Average salaries in Ontario were significantly higher than in the United States.
lowest ( $\$ 11,000$ ) and unemployment second highest ( $12.6 \%$ ). Graduates in the humanities - fine arts, languages and literature - fared worst with the lowest salaries and highest unemployment ( $\$ 10,700$ and $15.2 \%$ ). It is interesting to note that 1976 salaries reported by Ontario graduates in virtually all disciplines were higher than those in the United States.

The data suggest that while some bachelor's graduates entered the labour market successfully, many have encountered severe problems. Unemployment was $12 \%$ to $15 \%$ for Ontario graduates in the behavioural sciences and humanities, even after 16 months in the labour force. Those rates were above the $11.2 \%$ annual rate for the $15-24$ age group. Low salaries and underemployment around $40 \%$ for American graduates of the same disciplines indicate similar problems.

## 4) Type of Employer

In the U.S. the private sector (excluding teachers in private elementary and secondary schools), absorbed around $62 \%$ of all bachelor's degree graduates who were employed full-time. The three levels of government (federal, state, and municipal, but excluding public school teachers) hired the next largest group ( $21 \%$ ), followed by teaching ( $17 \%$ ). The private sector and teaching each employed approximately $36 \%$ of the master's graduates who were working full-time. The three levels of government absorbed the other $28 \%$.

According to the survey, the American federal government hired 59,000 of the 1974-75 graduates - about $7 \%$ of those who were employed.

## Unemployment in Canada and the United States (Chart 46)

Canadian and American unemployment rates have more or less paralleled each other over the past 25 years. At times the Canadian rate has been higher, as is currently the case (1977 and 1978), while during other periods unemployment has been more serious in the United States (1974-1976).

Chart - 46
Unemployment rate, total and 14-24 age group: U.S. and Canada, 1953-77



Chart - 47
14-24 age group as percentage of labour force and unemployed: U.S. and Canada, 1953-77


## 1) Youth Unemployment

Unemployment was always much higher for the $14-24$ age group than the labour force as a whole (Chart 46), but since 1970 youth unemployment has become a major issue in both countries. During the past seven years it has been above $10 \%$ in Canada and the U.S.

Recent rapid growth of the number of young people in the labour force has contributed to their unemployment. In both countries roughly a quarter of the labour force is 24 or under, while approximately half the unemployed are in this age group. From around $35 \%$ of unemployed Americans in the early 1960s, those 24 or younger swelled to more than $50 \%$ between 1968 and 1974 . They still represent around $47 \%$.

The trend was similar in Canada. Since the early 1970s about 48\% of all the unemployed have been 24 or younger. As in the U.S. this percentage was much lower in the early 1960 s (about $35 \%$ - Chart 47).

Until 1977 the rate had been consistently higher among American than Canadian youth. That year, however, it was $14.5 \%$ for $15-24$-year-olds in Canada, and $13.4 \%$ for $16-24$-year-olds in the United States.

Unemployment among young non-whites in the United States has been particularly severe, contributing greatly to the overall youth unemployment rate. In 1977 unemployment of the $16-24$ age group was $11.7 \%$ for whites, but $28.1 \%$ for non-whites.

## 2) Education and unemployment

The negative correlation between educational attainment and unemployment in Canada was discussed in chapter 5. More or less the same relationship exists in the United States - the higher the level of education, the lower the unemployment rate. Table VII-8 displays average 1974-1977 spring unemployment rates by educational attainment in the two countries. For the labour force as a whole, unemployment rates vary from a high among elementaryeducated workers ( $10.1 \%$ in Canada, $9.4 \%$ in the U.S.) to a low among those with post-secondary education ( $4.4 \%$ in Canada, $4.3 \%$ in the U.S.). The pattern holds for the young: from a high among workers with elementary education ( $23.2 \%$ in Canada, $25.5 \%$ in the U.S.) to a low among post-secondaryeducated workers ( $7.8 \%$ in Canada, $8.1 \%$ in the U.S.).

## Table VII-8

Spring ${ }^{1}$ unemployment rates, by educational level, Canada and the United States, 1974-77 average

A. Total labour force

| Elementary | 10.1 | 9.4 |
| :--- | ---: | ---: |
| Secondary $^{2}{ }^{3}$ | 8.2 | 9.3 |
| Post-secondary | 4.4 | 4.3 |
| All educational leve1s | 7.5 | 7.8 |

B. $15-24$ age group ${ }^{4}$

Elementar y
23.2
25.5

Secondary ${ }^{2}$
13.5
16.8

Post-secondary ${ }^{3}$
7.8
8.1

A11 educational levels
12.7
14.7

1. April in Canada; March in the United States.
2. Other data indicate a major difference in unemployment among workers with "some" secondary education and those who completed secondary school the rate among the former resembles that of the elementary-educated; among the latter, that of the post-secondary-educated.
3. Includes those with "some" or a completed post-secondary education.
4. 16-24 for the United States.

Source: Canada - Labour Force Survey Division, Statistics Canada, special tabulation.
U.S.A. - U.S. Dept. of Labour, Bureau of Labour Statistics, Special Labour Force Reports, Educational Attainment of Workers.

## Educational Attainment of the Labour Force

As in Canada the number of young people attending American colleges and universities increased at a remarkable rate during the 1960 s and early 1970s. Hence, young labour force entrants in the seventies generally have had a much higher level of education than their counterparts in earlier years. And like Canada, this, combined with retirement of relatively less educated older workers, has resulted in a dramatic change in the educational profile of the American labour force.

## Table VII-9

## Educational attainment of the American labour force,

$$
16 \text { and over, March, 1969-77 }
$$

| $1969 *$ | 18.6 | 56.2 | 12.6 | 7.5 | 5.1 | 25.2 | 100.0 | 76,748 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 1972 | 14.9 | 57.9 | 13.6 | 8.2 | 5.4 | 27.2 | 100.0 | 85,410 |
| 1974 | 12.7 | 57.3 | 15.1 | 8.9 | 6.1 | 30.1 | 100.0 | 89,633 |
| 1975 | 11.7 | 57.2 | 15.4 | 9.4 | 6.3 | 31.1 | 100.0 | 91,273 |
| 1976 | 10.6 | 56.9 | 16.0 | 9.9 | 6.6 | 32.5 | 100.0 | 93,063 |
| 1977 | 10.1 | 56.6 | 16.3 | 10.0 | 6.9 | 33.3 | 100.0 | 95,766 |

* 18 and older

[^36]In the eight years between 1969 and 1977, the proportion of the American labour force with at least some college rose from $25.2 \%$ to $33.3 \%$. This shift toward more education will almost certainly continue over the next five to ten years, just as is expected in Canada. Population and enrolment trends have been similar in the two countries.

A larger proportion of the American labour force has "some" or a completed post-secondary education - 33.3\% in March 1977 compared with $30 \%$ in Canada. This difference is not surprising since a larger proportion of American youth attends college or university. In fact, the disparity could be greater than suggested by these figures, because different definitions of "postsecondary" may render the Canadian figure artificially high relative to the American.

Although exact numbers may be in some dispute, it is certain that the educational characteristics of both countries' labour forces are undergoing radical change. Potential implications for Canada have been discussed in chapter 5. It is likely that the effects will be more or less the same in the United States.

## Conclusion

The theme of this chapter is that despite differences of magnitude, general trends of population, enrolment and the labour market over the past quarter century have been similar in Canada and the United States.

Given the countries' proximity and overlapping communications networks, it is not unusual that social attitudes toward child-bearing, post-secondary participation, etc. have been analogous. There are, of course, many other connections, not least of which is the interrelated economies. This parallel movement in social and economic areas has resulted in similar population, enrolment and labour market trends.

It is also likely that issues related to these trends will confront both Canadian and American policy-makers.

## APPENDIX A <br> CANADIAN POPULATION STATISTICS

The following data are from a special population projection produced for this study. It is not an official Statistics Canada projection. Data up to and including 1975 are historical (actual or inter-censal estimates -1972-1975 are unrevised estimates), and from 1976, projected. The key assumptions are:

$$
\text { total fertility rate: constant at } 1.80 \text { after } 1978
$$ annual net migration: 100,000

Two alternative profections with lower (1.6) and higher (2.1) total fertility rates are in Appendix E, Alternative Projections.

## List of Tables in Appendix A

## Table

## Title

5. Historical and projected school age population groups, 1971 to 1986.
6. Historical and projected population by age, 1971 to 1986

TABLE 5. HISTORICAL AND PROJECTED SCHOOL POPULATION AGE GROUPS, 1971 TO 1986(1).


HISTCRICAL

| 1971 | 797.2 | 3,702.5 | 1,765.8 | 6.265.5 | 1.552.0 | 1.136.9 | 2,688.9 | 8,954.4 | 21,568.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1972 | 746.5 | 3.658.2 | 1,785.6 | 6.19C. 3 | 1,645.1 | 1,146.4 | 2.791.5 | 8.981.8 | 21,820.5 |
| 1973 | 717.6 | 3,592.3 | 1,820.4 | 6,130.3 | 1.680 .5 | 1,142.9 | 2,823.4 | 8,953.7 | 22,094.7 |
| 1974 | 725.9 | 3.501.7 | 1.849.4 | 6, C 77.0 | 1,747.6 | 1,183.3 | 2.930.9 | 9.007.9 | 22,446.3 |
| 1975 | 734.5 | 3.410 .7 | 1.877.9 | 6, 223.1 | 1,797.3 | 1.231 .9 | 3,029.2 | 9,052.3 | 22.799.6 |
| PROJECTED |  |  |  |  |  |  |  |  |  |
| 1976 | 720.6 | 3,317.7 | 1,889.6 | 5, 427.9 | 1,835.0 | 1.281.5 | 3.116.5 | 9,044.4 | 23,079.0 |
| 1977 | 709.3 | 3,213.8 | 1.904.2 | $5,827.3$ | 1.856.3 | 1.338.9 | 3.195.2 | 9.022.5 | 23.364.3 |
| 1978 | 702.3 | 3,110.2 | 1.900.9 | 5,713.4 | 1.883 .0 | 1,380.4 | 3,263.4 | 8,976.8 | 23,653.C |
| 1979 | 694.8 | 3,017.1 | 1,881.2 | 5,593.1 | 1.907 .9 | 1,408.9 | 3,316.8 | 8,909.9 | 23.946.8 |
| 1980 | 702.9 | 2.952.2 | 1.832.1 | 5,487.2 | 1.919.9 | 1,426.4 | 3.346.3 | 8,833.5 | 24.247.4 |
| 1981 | 721.1 | 2,909.5 | 1,752.6 | $5,383.2$ | 1.934 .0 | 1,445.2 | 3,379.2 | 8,762.4 | 24,553.7 |
| 1982 | 734.8 | 2,902.3 | 1,657.7 | 5.294.8 | 1.931 .0 | 1,465.9 | 3.396.9 | 8,691.7 | 24.864.6 |
| 1983 | 748.4 | 2.905.7 | 1,571.9 | $5,226.0$ | 1.911 .2 | 1,481.8 | 3,393.0 | 8,619.0 | 25,178.1 |
| 1984 | 765.7 | 2,906.8 | 1,528.2 | 5.200 .7 | 1,862.4 | 1,489.7 | 3,352.1 | 8,552.8 | 25,491.9 |
| 1985 | 783.8. | 2.919.8 | 1.504.1 | 5.207.7 | 1,783.0 | 1,496.4 | 3.279.4 | 8,487.1 | 25,8C3.2 |
| 1986 | 799.8 | 2,951.8 | 1,495.7 | 5.247.3 | 1.688.6 | 1,488.5 | 3,177.1 | 8,424.4 | 26,110.3 |

[^37]SOURCE: POPULATION ESTIMATES ANC FROJECTIONS DIVISION, STATISTICS CANADA.

TABLE 5. HISTORICAL AND PROJECTED SCHOOL POPULATION AGE GROUPS. 1971 TO $1986(1)$.

| YEAR | 4-5 | 6-13 | 14-17 | 4-17 | 18-21 | 22-24 | 18-24 | 4-24 | total POPULATION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | (THOUSANDS) |  |  |  |  |

HISTORICAL

| 1971 | 407.c | 1.894.9 | 900.8 | 3,202.7 | 781.2 | 564.4 | 1,345.6 | 4,548.3 | 10,795.4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1972 | 382.4 | 1,870.9 | 911.6 | 3,164.9 | 830.3 | 569.0 | 1,399.3 | 4.564.2 | 10.913 .7 |
| 1973 | 366.6 | 1,838.0 | 930.0 | ミ.134.6 | 850.2 | 571.0 | 1.421.2 | 4,555.8 | 11,044.2 |
| 1974 | 371.2 | 1,790.9 | 945.1 | 3,107.2 | 886.6 | 593.1 | 1,479.7 | 4,586.9 | 11,216.9 |
| 1975 | 375.7 | 1,744.7 | 959.7 | 3, 180.1 | 912.1 | 618.1 | $1.53 \mathrm{C}$. | 4,610.3 | 11.385 .9 |
| PROJECTED |  |  |  |  |  |  |  |  |  |
| 1976 | 369.7 | 1,697.0 | 965.7 | 3, 132.4 | 933.5 | 644.5 | 1,578.0 | 4,610.4 | 11.52C.8 |
| 1977 | 364.5 | 1,643.7 | 973.9 | 2.982.1 | 945.1 | 675.9 | 1,621.0 | 4,603.1 | 11,658.3 |
| 1978 | 360.8 | 1.592.5 | 971.2 | 2,524.5 | 959.8 | 699.1 | 1.658.9 | 4,583.4 | 11.797.0 |
| 1979 | 356.7 | 1.544.0 | 963.0 | 2.863.7 | 973.0 | 714.8 | 1,687.8 | 4,551.5 | 11.937 .8 |
| 1980 | 360.5 | 1.513.4 | 936.3 | 2.810.2 | 979.1 | 725.0 | 1,704.1 | 4,514.3 | 12,081.7 |
| 1981 | 369.8 | 1.491.2 | 896.1 | 2,757.1 | 987.1 | 734.7 | 1,721.8 | 4.478.9 | 12.228.0 |
| 1982 | 376.9 | 1,488.5 | 848.0 | 2,713.4 | 984.5 | 746.6 | 1,731.1 | 4,444.5 | 12,376.3 |
| 1983 | 383.9 | 1,490.7 | 802.6 | 2,677.2 | 976.3 | 754.3 | 1,730.6 | 4,407.8 | 12,525.6 |
| 1984 | 392.8 | 1.492.0 | 781.9 | 2,666.7 | 949.8 | 758.8 | 1.708.6 | 4,375.3 | 12,674.6 |
| 1985 | 402.1 | 1,499.1 | 768.8 | 2, 670.0 | 909.6 | 762.1 | 1,671.7 | 4,341.7 | 12,822.0 |
| 1986 | 410.3 | 1.515.1 | 765.9 | 2.691.3 | 861.8 | 757.8 | 1,619.6 | 4,310.9 | 12.966.9 |

[^38]TABLE 5. HISTORICAL AND PROJECTED SCHOOL POPULATION AGE GROUPS, 1971 TO 1986(1).

| YEAR | $4-5$ | $6-13$ | $14-17$ | $4-17$ | $18-21$ | $22-24$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |

## HISTORICAL

| 1971 | 390.2 | 1,807.6 | 865.0 | 3.C62.8 | 770.8 | 572.5 | 1,343.3 | 4,406.1 | 10.772.9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1972 | 364.1 | 1,787.3 | 874.0 | 3,025.4 | 814.8 | 577.4 | 1.392.2 | 4,417.6 | 10,906.8 |
| 1973 | 351.0 | 1.754.3 | 890.4 | 2.995.7 | 830.3 | 571.9 | 1.402.2 | 4.397.9 | 11.050 .5 |
| 1974 | 354.7 | 1.710 .8 | 904.3 | 2.969.8 | 861.0 | 590.2 | 1,451.2 | 4,421.0 | 11,229.4 |
| 1975 | 358.8 | 1.666.0 | 918.2 | 2.943.0 | $885 \cdot 2$ | 613.8 | 1.499.0 | 4,442.0 | 11.413 .7 |
| PROJECTED |  |  |  |  |  |  |  |  |  |
| 1976 | 350.9 | 1.620.7 | 923.9 | 2.895.5 | 901.5 | 637.0 | 1.538.5 | 4,434.0 | 11,558.2 |
| 1977 | 344.8 | 1.570.1 | 930.3 | 2.845.2 | 911.2 | 663.0 | 1.574.2 | 4,419.4 | 11,706.C |
| 1978 | 341.5 | 1,517.7 | 929.7 | 2,788.9 | 923.2 | 681.3 | 1,604.5 | 4.393.4 | 11,856.0 |
| 1979 | 338.1 | 1,473.1 | 918.2 | 2,729.4 | 934.9 | 694.1 | 1.629.0 | 4.358.4 | 12,009.0 |
| 1980 | 342.4 | 1,438.8 | 895. 8 | 2,677.0 | 940.8 | 701.4 | 1,642.2 | 4,319.2 | 12,165.7 |
| 1981 | 351.3 | 1.418.3 | 856.5 | 2, 626.1 | 946.9 | 710.5 | 1,657.4 | 4,283.5 | 12,325.7 |
| 1982 | 357.9 | 1.413 .8 | 809.7 | 2.581.4 | 946.5 | 719.3 | 1,665.8 | 4.247.2 | 12,488.3 |
| 1983 | 364.5 | 1,415.0 | 769.3 | 2,548.8 | 934.9 | 727.5 | 1,662.4 | 4.211.2 | 12,652.5 |
| 1984 | 372.9 | 1,414.8 | 746.3 | 2.534.0 | 912.6 | 730.9 | 1,643.5 | 4,177.5 | 12,817.3 |
| 1985 | 381.7 | 1,420.7 | 735.3 | 2.537.7 | 873.4 | 734.3 | 1,607.7 | 4,145.4 | 12.981.2 |
| 1986 | 389.5 | 1.436 .7 | 729.8 | 2,556.0 | 826.8 | $730 \cdot 7$ | 1.557.5 | 4.113.5 | 13,143.4 |

[^39]TABLE 6. HISTORICAL(1) AND PROJECTED(2) POPULATION BY AGE(3), 1971 TO 1986.

| SINGLE $\underset{\text { AND SEX }}{2}$ |  |  |  |  |  |  |
| :---: | :--- | :--- | :--- | :--- | :--- | :--- |
| OF AGE | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |

NO.

## ---BOTH SEXES---



5 YEARS.............. 411.3
6 YEARS.................
7 YEARS...............
8 YEARS................
9 YEARS
10 YEARS
11 YEARS
12 YEARS.
13 YEARS
14 YEARS.
15 YEARS.
16 YEARS.
17 YEARS.
18 YEARS.
19 YEARS.
20 YEARS
21 YEARS.
22 YEARS
23 YEARS
24 YEARS 25-29 YEARS......... OVER 30 YEARS....... TOTAL............... $21,568.321,820.522,094.722,446.322,799.623,079.0$
(1) OFFICIAL STATISTICS CANADA POPULATION ESTIMATES FOR 1971-1975 (UNREVISED).
(2) A SPECIAL POPULATION PROJECTION IS USED FOR $1976-1986$ WITH 1975 POPULATION ESTIMATES AS THE BASE.

ASSUMPTIONS: TOTAL FERTILITY RATE 1.80 BY 1978 NET ANNUAL MIGRATION 100,000
(3) AS OF JUNE 1.

SOURCE: POPULATION ESTIMATES \& PROJECTIONS DIVISION, STATISTICS CANADA

TABLE 6. HISTORICAL(1) AND PROJECTED(2) POPULATION BY AGE(3), 1971 TO 1986.

| 1977 | 1978 | 1979 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |  |  |  |  |  |  |  |  |

TABLE 6. HISTORICAL(1) AND PROJECTED(2) POPULATION BY AGE(3), 1971 TO 1986.

| SINGLE YEAR OF AGE | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

NO.
--MALE---
(THOUSANDS)

0 YEARS.................
182.
184.6182.
185.
181.
183. 198. 220. 227. 232. 236. 238. 239. 239.4 237.9 234.8 230.7 225.9 220.2 214.7 209.8 205.4 200.4 195.1 189.7 184.2 $837.6 \quad 889.1 \quad 926.5 \quad 970.8 \quad 1,005.5$
25-29 YEARS
OVER 30 YEARS
TOTAL. $\qquad$

[^40](3) AS OF JUNE 1.

SOURCE: POPULATION ESTIMATES \& PROJECTIONS DIVISION, STATISTICS CANADA

TABLE 6. HISTORICAL(1) AND PROJECTED(2) POPULATION BY AGE(3), 1971 TO 1986.

| 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

(THOUSANDS)
NO.

| 184.1 | 187.1 | 191.1 | 196.0 | 200.4 | 204.3 | 207.2 | 209.0 | 209.4 | 208.9 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 180.6 | 184.7 | 187.7 | 191.7 | 196.6 | 201.0 | 204.9 | 207.8 | 209.6 | 210.0 | 2 |
| 176.0 | 181.3 | 185.3 | 188.4 | 192.4 | 197.3 | 201.7 | 205.5 | 208.4 | 210.2 | 3 |
| 178.2 | 176.6 | 181.9 | 186.0 | 189.0 | 193.0 | 197.9 | 202.3 | 206.2 | 209.0 | 4 |
| 181.3 | 178.7 | 177.2 | 182.5 | 186.5 | 189.6 | 193.6 | 198.5 | 202.9 | 206.7 | 5 |
| 183.2 | 182.1 | 179.5 | 178.0 | 183.3 | 187.3 | 190.3 | 194.3 | 199.2 | 203.6 | 6 |
| 187.9 | 184.0 | 182.8 | 180.2 | 178.7 | 184.0 | 188.0 | 191.1 | 195.1 | 200.0 | 7 |
| 190.7 | 188.5 | 184.6 | 183.4 | 180.9 | 179.4 | 184.6 | 188.7 | 191.7 | 195.7 | 8 |
| 186.9 | 191.3 | 189.1 | 185.2 | 184.0 | 181.5 | 180.0 | 185.2 | 189.3 | 192.3 | 9 |
| 188.6 | 187.4 | 191.8 | 189.6 | 185.7 | 184.5 | 182.0 | 180.5 | 185.7 | 189.8 | 10 |
| 203.2 | 189.1 | 187.9 | 192.2 | 190.1 | 186.2 | 185.0 | 182.5 | 181.0 | 186.2 | 11 |
| 213.5 | 203.6 | 189.5 | 188.4 | 192.7 | 190.6 | 186.6 | 185.5 | 182.9 | 181.4 | 12 |
| 234.3 | 213.9 | 204.0 | 190.0 | 188.8 | 193.1 | 191.0 | 187.1 | 185.9 | 183.4 | 13 |
| 238.6 | 234.7 | 214.3 | 204.4 | 190.3 | 189.2 | 193.5 | 191.4 | 187.5 | 186.3 | 14 |
| 245.0 | 238.9 | 235.0 | 214.7 | 204.8 | 190.7 | 189.6 | 193.9 | 191.7 | 187.8 | 15 |
| 241.8 | 245.4 | 239.3 | 235.4 | 215.1 | 205.2 | 191.1 | 190.0 | 194.3 | 192.2 | 16 |
| 244.1 | 242.3 | 245.9 | 239.8 | 235.9 | 215.6 | 205.7 | 191.7 | 190.5 | 194.8 | 17 |
| 243.0 | 244.6 | 242.8 | 246.4 | 240.3 | 236.5 | 216.2 | 206.3 | 192.3 | 191.1 | 18 |
| 238.9 | 243.7 | 245.3 | 243.5 | 247.1 | 241.0 | 237.2 | 216.9 | 207.0 | 193.0 | 19 |
| 238.4 | 239.9 | 244.6 | 246.2 | 244.4 | 248.0 | 241.9 | 238.1 | 217.8 | 208.0 | 20 |
| 234.3 | 239.9 | 241.3 | 246.1 | 247.6 | 245.9 | 249.4 | 243.4 | 239.5 | 219.3 | 21 |
| 233.5 | 236.3 | 241.8 | 243.3 | 248.0 | 249.6 | 247.8 | 251.4 | 245.3 | 241.5 | 22 |
| 234.0 | 235.7 | 238.6 | 244.1 | 245.5 | 250.3 | 251.9 | 250.1 | 253.6 | 247.6 | 23 |
| 225.0 | 236.2 | 237.9 | 240.8 | 246.3 | 247.8 | 252.5 | 254.1 | 252.3 | 255.8 | 24 |
| 216.9 | 227.2 | 238.3 | 240.1 | 242.9 | 248.5 | 249.9 | 254.6 | 256.2 | 254.4 | 25 |
| 1,018.1 | 1,040.7 | 1,075.4 | 1,118.4 | 1,157.4 | 1,193.1 | 1,224.4 | 1,247.0 | 1,263.2 | 1,279.2 | 26 |
| 5,318.2 | 5,443.3 | 5,564.7 | 5,687.0 | 5,813.1 | 5,943.5 | 6,081.7 | 6,228.1 | 6,383.4 | 6,538.4 | 27 |
| ,658.3 | ,797.0 | 11,937.8 | 12,081.7 | 12,228.0 | 12,376.3 | 12,525.6 | 2,674.6 | 12,822.0 | 2,966.9 | 28 |

TABLE 6. HISTORICAL(1) AND PROJECTED(2) POPULATION BY AGE(3), 1971 TO 1986.

| SI NGLE YEAR OF AGE | 1971 | 1972 | 1973 | 1974 | 1975 | 1976 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | AND SEX

No.

## ---FEMALE--

1
2
3
4
5
6
7
8
9
10
11
12
13

## 14

15
16
17
18
0 YEAR
1 YEAR



4
6 YEARS.
7 YEARS
7 YEARS
8 YEARS
9 YEARS
10 YEARS
11 YEARS
12 YEARS
13 YEARS
14 YEARS

2 YEARS
3 YEARS
4 YEARS
5 YEARS
6 YEARS.

15 YEARS
16 YEARS
17 YEARS
18 YEARS
19 YEARS
20 YEARS
21 YEARS
22 YEARS

24 YEARS
25-29 YEARS
$\qquad$

| 173.7 | 168.0 |
| :--- | :--- |
| 176.5 | 173.7 |
| 173.0 | 177.0 |

167.9

## (THOUSANDS)

            15 YEARS........... \(217.5 \quad 221.0\)
                \(217.5 \quad 216.8\)
                    211.6
                221.3
                166.2
                165.8
            170.9
            2 YEARS.............. 173.0 177.0
    168.6
168.9167.3 166.5
S.................. 175.7173 .5 174.4 170.0 $170.6 \quad 168.0$ 177.7 175.8
171.9 171.2 S............... $187.7 \quad 176.1$ 174.3
179.1
177.8
172.4
202.5188 .0
176.7
175.6
181.0
178.5
$\qquad$ $216.5 \quad 210.4$
188.6
178.0
$177.4 \quad 181.6$
225.2217 .1
203.5
189.8
179.7
178.0
$229.8 \quad 222.0$
217.4
204.6
191.4
180.2
$227.6 \quad 225.6$
$226.0 \quad 218.6$
206.1
191.9
$230.5 \quad 227.7$
230.6
227.0
220.0
206.6
$228.2 \quad 228.7$
228.3
231.6
228.4
220.5
$225.8 \quad 228.6$
231.2
229.2
232.7
228.8
$224.0 \quad 227.2$
228.7
232.0
230.3
233.1
$220.8 \quad 224.6$
226.4
229.5
233.1
230.6
S...............
$\begin{array}{ll}217.5 & 216.8 \\ 209.2 & 211.6\end{array}$
224.4
227.0
230.5
233.5
221.3
225.3
228.1
231.0
218.3
222.5
226.5
228.8
201.3207 .3
218.6
219.9
224.0
227.5
194.4204 .7
210.8
220.8
221.9
225.2
$\qquad$
$189.8 \quad 202.6$
203.6
213.5
223.1
223.7
$\begin{array}{llllll}185.3 & 200.2 & 197.3 & 206.8 & 216.2 & 225.1\end{array}$
$\begin{array}{llllll}185.4 & 197.4 & 193.3 & 200.6 & 209.8 & 218.7\end{array}$
23 YEARS........... 187.8193 .2
189.2196 .8
203.9
212.2
$199.3 \quad 186.8$
189.4192 .8
200.1 206.1
783.4823 .0
884.7929 .8
$969.41,006.2$
OVER 30 YEARS..... $4,884.5$ 4,974.0 $5,079.3$ 5,197.7 $5,326.7 \quad 5,441.5$
TOTAL............... $10,772.9$ 10,906.8 $11,050.511,229.411,413.711,558.2$

[^41](3) AS OF JUNE 1.

SOURCE: POPULATION ESTIMATES \& PROJECTIONS DIVISION, STATISTICS CANADA

TABLE 6. HISTORICAL(1) AND PROJECTED(2) POPULATION BY AGE(3), 1971 TO 1986.


## APPENDIX B

## DETAILED ENROLMENT STATISTICS

The tables include historical data and Projection "B". Alternative projections of elementary-secondary and post-secondary enrolment, discussed in chapter 6, can be found in the tables of Appendix E, Alternative Projections.

Coverage - full-time enrolment in all elementary-secondary schools, public, private, and federal; full-time enrolment in all public and private universities or non-university institutions. Universities are degree-granting institutions, and non-university institutions include all community colleges, technical institutes, Ontario's CAAT's, Quebec CEGEPs, and other institutions where the programs require secondary school graduation or its equivalent for admission, and last at least one year.
7. Enrolment by institutional level, 1971-72 to 1986-87.
8. Enrolment by institutional level as a percentage of relevant age group population, 1971-72 to 1986-87 (gross enrolment rates).
9. Estimated enrolment rates by single year of age for all education levels, 1971 to 1986.
10. Estimated enrolment in all educational levels by single year of age, 1971-72 to 1986-87.
11. Canada elementary-secondary enrolment by grade, 1971-72 to 1986-87.
12. Elementary-secondary enrolment by grade, nine provinces and territories, 1966-67.
13. Quebec elementary-secondary enrolment by grade, 1966-67 to 1976-77.
14. Estimated elementary-secondary enrolment by single year of age, 1970-71 to 1986-87.
15. Estimated elementary-secondary enrolment rates by single year of age, 1971-72 to 1986-87 (net enrolment rates).
16. Secondary school students proceeding directly to post-secondary institutions, 1971-72 to 1986-87.
17. Non-university enrolment, 1971-72 to 1986-87.
18. University enrolment, 1971-72 to 1986-87.
19. Estimated post-secondary enrolment by single year of age, 1971-72 to 1986-87.
20. Estimated post-secondary enrolment rates by single year of age 1971-72 to 1986-87 (net enrolment rates).

TABLE 7. ENROLMENT BY INSTITUTIONAL LEVEL, 1971-72 TO 1986-87(1).


[^42]Note: See Appendix E for alternative enrolment projections.

TABLE 7. ENROLMENT BY INSTITUTIONAL LEVEL, 1971-72 TO 1986-87(1), CONCLUDED.

```
1978-79 1979-80 1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87
```

| $2,484.2$ | $2,419.1$ | $2,356.4$ | $2,299.8$ | $2,256.2$ | $2,228.8$ | $2,221.1$ | $2,226.2$ | $2,239.2$ | 4 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $2,358.3$ | $2,300.4$ | $2,244.3$ | $2,194.2$ | $2,153.5$ | $2,129.7$ | $2,122.7$ | $2,127.7$ | $2,140.0$ | 5 |
| $4,842.5$ | $4,719.5$ | $4,600.7$ | $4,494.0$ | $4,409.7$ | $4,358.5$ | $4,343.7$ | $4,353.9$ | $4,379.2$ | 6 |


| $2,678.5$ | $2,615.6$ | $2,558.1$ | $2,507.7$ | $2,470.3$ | $2,449.5$ | $2,450.1$ | $2,463.4$ | $2,483.8$ | 7 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $2,542.2$ | $2,486.4$ | $2,435.7$ | $2,391.5$ | $2,356.4$ | $2,338.9$ | $2,340.1$ | $2,352.9$ | $2,372.1$ | 8 |
| $5,220.7$ | $5,102.0$ | $4,993.8$ | $4,899.2$ | $4,826.7$ | $4,788.4$ | $4,790.1$ | $4,816.3$ | $4,855.9$ | 9 |


| 123.1 | 118.5 | 116.1 | 115.9 | 115.1 | 110.6 | 103.6 | 97.9 | 96.0 | 10 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 120.2 | 116.7 | 114.2 | 113.8 | 113.4 | 110.4 | 105.7 | 101.6 | 99.5 | 11 |
| 243.4 | 235.2 | 230.2 | 229.7 | 228.5 | 221.0 | 209.3 | 199.5 | 195.5 | 12 |


| 181.9 | 184.5 | 185.9 | 186.2 | 185.6 | 185.2 | 181.7 | 175.3 | 168.0 | 13 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 150.1 | 153.5 | 155.1 | 156.1 | 155.5 | 154.7 | 151.8 | 146.7 | 141.6 | 14 |
| 332.0 | 338.0 | 341.0 | 342.4 | 341.1 | 339.9 | 333.4 | 321.9 | 309.6 | 15 |


| 27.8 | 27.9 | 27.9 | 28.2 | 28.5 | 28.9 | 29.5 | 30.1 | 30.5 | 16 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 12.5 | 12.6 | 13.0 | 13.3 | 13.9 | 14.5 | 14.9 | 15.4 | 15.8 | 17 |
| 40.3 | 40.5 | 40.9 | 41.5 | 42.3 | 43.4 | 44.4 | 45.5 | 46.3 | 18 |


| 209.7 | 212.4 | 213.8 | 214.4 | 214.1 | 214.1 | 211.2 | 205.3 | 198.4 | 19 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 162.6 | 166.1 | 168.1 | 169.4 | 169.4 | 169.2 | 166.7 | 162.1 | 157.5 | 20 |
| 372.3 | 378.5 | 381.9 | 383.9 | 383.5 | 383.3 | 377.8 | 367.4 | 355.9 | 21 |


| 332.8 | 330.9 | 329.9 | 330.3 | 329.2 | 324.7 | 314.8 | 303.3 | 294.4 | 22 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 282.8 | 282.8 | 282.2 | 283.3 | 282.8 | 279.5 | 272.3 | 263.7 | 257.0 | 23 |
| 615.6 | 613.7 | 612.1 | 613.6 | 612.0 | 604.3 | 587.1 | 566.9 | 551.4 | 24 |


| $3,011.3$ | $2,946.5$ | $2,888.0$ | $2,838.0$ | $2,799.5$ | $2,774.3$ | $2,764.8$ | $2,766.7$ | $2,778.2$ | 25 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $2,825.0$ | $2,769.2$ | $2,717.9$ | $2,674.8$ | $2,639.2$ | $2,618.4$ | $2,612.4$ | $2,616.5$ | $2,629.1$ | 26 |
| $5,836.3$ | $5,715.7$ | $5,605.9$ | $5,512.8$ | $5,438.7$ | $5,392.7$ | $5,377.2$ | $5,383.2$ | $5,407.3$ | 27 |

TABLE B. ENROLMENT BY INSTITUTIONAL LEVEL AS A PERCENTAGE OF RELEVANT AGE GROUP POPULATION(1), 1971-72 TO 1986-87(2). (GROSS ENROLMENT RATES)


TABLE 8. ENROLMENT BY INSTITUTIONAL LEVEL AS A PERCENTAGE OF RELEVANT AGE GROUP POPULATION(1), 1971-72 TO 1986-87(2), CONCLUDED. (GROSS ENROLMENT RATES〕


## TABLE 9. ESTIMATED ENROLMENT RATES(1) BY SINGLE YEAR OF AGE FOR ALL EDUCATION LEVELS(2), 1971-72 TO 1986-87(3) (NET ENROLMENT RATES)

$\begin{array}{lllllllll}\text { SEX AND AGE } & 1971-72 & 1972-73 & 1973-74 & 1974-75 & 1975-76 & 1976-77 & 1977-78\end{array}$ (4)

NO.
(PER CENT)

## ---BOTH SEXES--

| 1 | 4 | YEARS AND LESS(5) | 16.7 | 22.4 | 25.5 | 28.8 | 30.5 | 29.7 | 30.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 5 | YEARS............. | 83.3 | 83.8 | 87.8 | 93.0 | 92.2 | 93.7 | 93.9 |
| 3 | 6 | YEARS............. | 97.8 | 93.8 | 97.9 | 100.3 | 101.0 | 100.0 | 100.9 |
| 4 | 7 | YEARS.............. | 99.6 | 98.0 | 97.4 | 98.1 | 100.8 | 101.2 | 100.6 |
| 5 | 8 | YEARS............. | 99.8 | 100.8 | 97.9 | 97.3 | 98.5 | 101.2 | 101.1 |
| 6 | 9 | YEARS............. | 100.9 | 101.7 | 100.1 | 98.2 | 97.5 | 98.6 | 101.2 |
| 7 | 10 | YEARS............. | 100.8 | 101.4 | 100.0 | 99.7 | 98.2 | 97.4 | 98.6 |
| 8 | 11 | YEARS............. | 101.6 | 101.7 | 100.9 | 99.9 | 100.0 | 98.0 | 97.4 |
| 9 | 12 | YEARS............. | 101.0 | 101.3 | 100.6 | 100.7 | 100.4 | 99.9 | 98.0 |
| 10 | 13 | YEARS.............. | 99.8 | 100.2 | 100.6 | 100.2 | 100.7 | 100.2 | 99.8 |
| 11 | 14 | YEARS............. | 100.0 | 99.5 | 100.2 | 99.9 | 99.1 | 99.3 | 98.5 |
| 12 | 15 | YEARS............ | 95.6 | 95.8 | 95.0 | 96.2 | 95.9 | 94.8 | 94.3 |
| 13 | 16 | YEARS............ | 85.6 | 86.5 | 85.5 | 84.1 | 86.2 | 86.0 | 83.8 |
| 14 | 17 | YEARS............ | 69.9 | 69.4 | 67.3 | 65.8 | 65.9 | 67.0 | 65.9 |
| 15 | 18 | YEARS............ | 46.1 | 45.9 | 43.1 | 42.5 | 42.4 | 41.6 | 40.3 |
| 16 | 19 | YEARS............ | 31.5 | 30.2 | 29.4 | 29.0 | 29.4 | 29.0 | 27.9 |
| 17 | 20 | YEARS............ | 24.0 | 23.4 | 23.2 | 23.3 | 23.4 | 23.1 | 22.7 |
| 18 | 21 | YEARS............. | 16.7 | 15.9 | 16.7 | 16.7 | 17.2 | 16.5 | 17.5 |
| 19 | 22 | YEARS............ | 11.6 | 11.0 | 11.6 | 12.3 | 12.7 | 12.1 | 12.1 |
| 20 | 23 | YEARS............ | 7.9 | 7.5 | 7.7 | 8.1 | 8.6 | 8.4 | 8.0 |
| 21 | 24 | YEARS............. | 5.6 | 5.3 | 5.2 | 5.6 | 5.8 | 6.0 | 5.4 |
| 22 | 25 | - 29 YEARS....... | 2.8 | 2.7 | 2.5 | 2.6 | 2.8 | 2.7 | 2.5 |

[^43]TABLE 9. ESTIMATED ENROLMENT RATES(1) BY SINGLE YEAR OF AGE FOR ALL EDUCATION LEVELS(2), 1971-72 TO 1986-87(3). (NET ENROLMENT RATES)

```
1978-79 1979-80 1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87
```


## (PER CENT)

NO.


# TABLE 9. ESTIMATED ENROLMENT RATES(1) BY SINGLE YEAR OF AGE FOR ALL EDUCATION LEVELS(2), 1971-72 TO 1986-87(3) (NET ENROLMENT RATES) 

SEX AND AGE $\quad 1971-72 \quad 1972-73 \quad 1973-74 \quad 1974-75 \quad 1975-76 \quad 1976-77 \quad 1977-78$ (4)

NO.
(PER CENT)
---MALE---

| 1 | 4 | YEARS AND LESS(5) | 16.6 | 22.4 | 25.4 | 28.8 | 30.3 | 29.7 | 30.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 5 | YEARS............. | 83.7 | 83.6 | 87.6 | 92.6 | 92.1 | 93.5 | 93.7 |
| 3 | 6 | YEARS.............. | 97.7 | 93.9 | 97.7 | 100.6 | 100.6 | 100.0 | 101.3 |
| 4 | 7 | YEARS. | 99.7 | 98.2 | 97.8 | 98.0 | 101.0 | 101.2 | 100.6 |
| 5 | 8 | YEARS. | 99.7 | 100.5 | 97.4 | 97.7 | 98.4 | 101.3 | 101.0 |
| 6 | 9 | YEARS | 101.2 | 101.8 | 100.1 | 98.0 | 98.0 | 98.4 | 101.3 |
| 7 | 10 | VEARS............. | 100.9 | 101.4 | 100.0 | 100.0 | 98.1 | 97.7 | 98.3 |
| 8 | 11 | YEARS............. | 101.8 | 101.8 | 100.8 | 99.9 | 100.1 | 97.8 | 97.7 |
| 9 | 12 | YEARS............. | 101.1 | 101.4 | 100.6 | 100.9 | 100.3 | 99.9 | 97.7 |
| 10 | 13 | YEARS.............. | 99.8 | 100.0 | 100.1 | 100.2 | 100.7 | 100.2 | 99.8 |
| 11 | 14 | YEARS............ | 100.4 | 99.4 | 99.8 | 100.3 | 99.5 | 99.6 | 98.5 |
| 12 | 15 | YEARS............ | 96.0 | 95.8 | 94.8 | 96.8 | 96.5 | 95.3 | 94.6 |
| 13 | 16 | YEARS............. | 86.0 | 86.4 | 84.5 | 83.5 | 85.8 | 85.4 | 83.9 |
| 14 | 17 | YEARS........ | 71.7 | 70.6 | 67.9 | 65.8 | 65.8 | 67.3 | 65.8 |
| 15 | 18 | YEARS............ | 49.6 | 49.0 | 46.0 | 44.4 | 44.2 | 43.1 | 40.5 |
| 16 | 19 | YEARS............ | 35.4 | 32.9 | 32.1 | 30.7 | 30.6 | 29.8 | 27.9 |
| 17 | 20 | YEARS............. | 27.9 | 26.8 | 25.9 | 25.7 | 24.9 | 24.2 | 23.9 |
| 18 | 21 | YEARS............. | 21.1 | 20.0 | 20.5 | 19.8 | 19.7 | 18.6 | 19.2 |
| 19 | 22 | YEARS............ | 17.1 | 15.6 | 16.0 | 16.1 | 16.1 | 15.2 | 14.8 |
| 20 | 23 | YEARS............ | 12.4 | 11.3 | 11.2 | 11.4 | 11.8 | 11.1 | 10.6 |
| 21 | 24 | YEARS............ | 9.1 | 8.1 | 7.8 | 8.0 | 8.3 | 8.2 | 7.4 |
| 22 | 25 | - 29 YEARS. | 4.3 | 4.1 | 3.9 | 3.8 | 4.0 | 3.7 | 3.3 |

[^44]TABLE 9. ESTIMATED ENROLMENT RATES(1) BY SINGLE YEAR OF AGE FOR ALL EDUCATION LEVELS(2), 1971-72 TO 1986-87(3). (NET ENROLMENT RATES)

```
1978-79 1979-80 1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87
```

(PER CENT)
NO.

| 30.6 | 31.7 | 34.0 | 34.6 | 35.7 | 36.9 | 38.9. | 40.4 | 41.7 | 1 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 94.1 | 95.2 | 96.0 | 96.5 | 96.5 | 97.0 | 97.0 | 97.0 | 97.0 | 2 |
| 98.3 | 98.3 | 98.8 | 100.2 | 99.4 | 99.4 | 99.9 | 100.2 | 100.2 | 3 |
| 101.9 | 98.8 | 98.8 | 99.2 | 100.7 | 99.9 | 99.8 | 100.4 | 100.7 | 4 |
| 100.4 | 101.7 | 98.6 | 98.6 | 99.0 | 100.4 | 99.7 | 99.6 | 100.2 | 5 |
| 100.9 | 100.4 | 101.6 | 98.6 | 98.6 | 98.9 | 100.4 | 99.6 | 99.5 | 6 |
| 101.2 | 100.9 | 100.4 | 101.5 | 98.5 | 98.5 | 98.9 | 100.3 | 99.5 | 7 |
| 98.3 | 101.2 | 100.8 | 100.3 | 101.5 | 98.5 | 98.4 | 98.8 | 100.3 | 8 |
| 97.7 | 98.2 | 101.0 | 100.7 | 100.2 | 101.4 | 98.3 | 98.3 | 98.7 | 9 |
| 97.7 | 97.6 | 98.1 | 101.0 | 100.6 | 100.1 | 101.3 | 98.2 | 98.2 | 10 |
| 98.0 | 96.0 | 96.0 | 96.7 | 99.6 | 99.4 | 98.9 | 100.1 | 97.1 | 11 |
| 94.2 | 93.4 | 90.7 | 90.6 | 91.3 | 94.4 | 95.3 | 95.3 | 96.5 | 12 |
| 83.4 | 82.9 | 82.2 | 79.9 | 79.9 | 80.5 | 83.0 | 83.8 | 83.7 | 13 |
| 63.9 | 63.2 | 62.7 | 62.3 | 60.6 | 60.7 | 60.9 | 62.8 | 63.3 | 14 |
| 39.5 | 38.2 | 37.8 | 37.2 | 37.1 | 36.0 | 37.0 | 37.2 | 38.7 | 15 |
| 27.2 | 26.6 | 25.9 | 25.7 | 25.4 | 25.5 | 24.7 | 25.5 | 25.7 | 16 |
| 23.0 | 22.7 | 22.2 | 21.8 | 22.0 | 21.5 | 21.5 | 21.0 | 22.1 | 17 |
| 18.6 | 18.4 | 18.5 | 18.1 | 17.9 | 17.9 | 17.2 | 17.0 | 16.5 | 18 |
| 14.2 | 14.0 | 13.8 | 14.0 | 13.7 | 13.7 | 13.6 | 13.1 | 12.9 | 19 |
| 9.8 | 9.7 | 9.7 | 9.7 | 9.7 | 9.6 | 9.5 | 9.4 | 9.0 | 20 |
| 6.9 | 6.6 | 6.6 | 6.6 | 6.5 | 6.6 | 6.5 | 6.4 | 6.3 | 21 |
| 3.2 | 3.1 | 3.0 | 2.9 | 2.8 | 2.8 | 2.7 | 2.6 | 2.5 | 22 |

## TABLE 9. ESTIMATED ENROLMENT RATES(1) BY SINGLE YEAR OF AGE FOR ALL EDUCATION LEVELS(2), 1971-72 TO 1986-87(3) (NET ENROLMENT RATES)

$\begin{array}{llllllllll}\text { SEX AND AGE } & 1971-72 & 1972-73 & 1973-74 & 1974-75 & 1975-76 & 1976-77 & 1977-78\end{array}$

NO.
(PER CENT)

## ---FEMALE--

| 2 | 5 | YEARS.............. | 82.8 | 84.1 | 88.0 | 93.4 | 92.2 | 93.9 | 94.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | 6 | YEARS.............. | 98.0 | 93.6 | 98.1 | 100.1 | 101.5 | 100.0 | 100.6 |
| 4 | 7 | YEARS.............. | 99.6 | 97.8 | 97.0 | 98.4 | 100.6 | 101.3 | 100.6 |
| 5 | 8 | YEARS . . . . . . . . . . . | 100.0 | 101.1 | 98.4 | 96.9 | 98.7 | 101.1 | 101.2 |
| 6 | 9 | YEARS.............. | 100.5 | 101.6 | 100.0 | 98.4 | 97.1 | 98.8 | 101.1 |
| 7 | 10 | YEARS.............. | 100.8 | 101.5 | 100.0 | 99.4 | 98.3 | 97.0 | 98.8 |
| 8 | 11 | YEARS. | 101.4 | 101.7 | 101.0 | 99.9 | 99.8 | 98.3 | 97.1 |
| 9 | 12 | YEARS............. | 100.9 | 101.2 | 100.6 | 100.4 | 100.4 | 99.9 | 98.2 |
| 10 | 13 | YEARS............. | 99.8 | 100.5 | 101.1 | 100.2 | 100.6 | 100.2 | 99.9 |
| 11 | 14 | YEARS............. | 99.7 | 99.5 | 100.6 | 99.4 | 98.7 | 99.0 | 98.4 |
| 12 | 15 | YEARS............. | 95.1 | 95.8 | 95.3 | 95.7 | 95.2 | 94.4 | 93.9 |
| 13 | 16 | YEARS. | 85.1 | 86.6 | 86.5 | 84.7 | 86.6 | 86.8 | 83.8 |
| 14 | 17 | YEARS............ | 68.2 | 68.0 | 66.7 | 65.7 | 66.0 | 66.7 | 66.0 |
| 15 | 18 | YEARS............. | 42.5 | 42.7 | 40.1 | 40.5 | 40.5 | 40.1 | 40.0 |
| 16 | 19 | YEARS............. | 27.6 | 27.4 | 26.7 | 27.2 | 28.2 | 28.3 | 27.9 |
| 17 | 20 | YEARS............. | 20.1 | 19.9 | 20.4 | 20.9 | 21.8 | 21.9 | 21.5 |
| 18 | 21 | YEARS. | 12.3 | 11.8 | 12.9 | 13.5 | 14.7 | 14.3 | 15.7 |
| 19 | 22 | YEARS. | 7.0 | 7.3 | 8.0 | 9.3 | 10.1 | 9.7 | 9.8 |
| 20 | 23 | YEARS........... | 3.9 | 4.1 | 4. 8 | 5.2 | 5.8 | 5.9 | 5.5 |
| 21 | 24 | YEARS............. | 2.4 | 2.6 | 2.8 | 3.4 | 3.6 | 4.0 | 3.4 |
| 22 | 25 | - 29 YEARS | 1.2 | 1.2 | 1.2 | 1.5 | 1.7 | 1.8 | 1.7 |

[^45]
## TABLE 9. ESTIMATED ENROLMENT RATES(1) BY SINGLE YEAR OF AGE FOR ALL EDUCATION LEVELS(2), 1971-72 TO 1986-87(3). (NET ENROLMENT RATES)

```
1978-79 1979-80 1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87
```

(PER CENT)
NO.

| 31.2 | 31.8 | 33.0 | 34.9 | 36.0 | 37.2 | 39.4 | 41.0 | 42.3 | 1 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 94.1 | 95.0 | 96.4 | 96.5 | 96.5 | 97.0 | 97.0 | 97.0 | 97.0 | 2 |
| 98.3 | 97.9 | 99.2 | 100.8 | 99.3 | 99.2 | 99.8 | 100.1 | 100.1 | 3 |
| 101.2 | 98.8 | 98.4 | 99.7 | 101.3 | 99.8 | 99.7 | 100.3 | 100.6 | 4 |
| 100.6 | 101.1 | 98.8 | 98.3 | 99.6 | 101.2 | 99.7 | 99.7 | 100.2 | 5 |
| 101.3 | 100.6 | 101.1 | 98.8 | 98.3 | 99.6 | 101.2 | 99.7 | 99.7 | 6 |
| 101.1 | 101.2 | 100.6 | 101.2 | 98.8 | 98.3 | 99.6 | 101.2 | 99.7 | 7 |
| 98.9 | 101.2 | 101.3 | 100.6 | 101.2 | 98.8 | 98.3 | 99.6 | 101.2 | 8 |
| 97.0 | 98.7 | 101.0 | 101.1 | 100.6 | 101.1 | 98.8 | 98.3 | 99.6 | 9 |
| 98.2 | 96.9 | 98.7 | 100.9 | 101.1 | 100.5 | 101.1 | 98.7 | 98.3 | 10 |
| 98.2 | 96.7 | 95.6 | 97.5 | 99.8 | 100.1 | 99.6 | 100.3 | 98.1 | 11 |
| 94.1 | 94.1 | 92.5 | 90.7 | 93.4 | 96.2 | 97.0 | 96.8 | 97.8 | 12 |
| 84.3 | 84.3 | 83.5 | 81.9 | 80.5 | 83.2 | 86.5 | 87.3 | 87.1 | 13 |
| 63.1 | 63.3 | 63.2 | 62.6 | 61.7 | 60.7 | 62.6 | 65.0 | 65.5 | 14 |
| 39.3 | 38.7 | 39.2 | 38.9 | 39.1 | 38.8 | 38.8 | 40.0 | 41.6 | 15 |
| 28.0 | 27.9 | 27.4 | 27.6 | 27.3 | 27.4 | 27.2 | 27.5 | 28.5 | 16 |
| 21.2 | 21.4 | 21.4 | 21.2 | 21.5 | 21.3 | 21.3 | 21.3 | 21.7 | 17 |
| 15.5 | 15.4 | 15.5 | 15.5 | 15.2 | 15.4 | 14.9 | 14.9 | 14.9 | 18 |
| 9.8 | 9.7 | 9.7 | 9.9 | 10.0 | 9.9 | 9.9 | 9.5 | 9.5 | 19 |
| 5.3 | 5.3 | 5.3 | 5.5 | 5.6 | 5.6 | 5.5 | 5.5 | 5.3 | 20 |
| 3.3 | 3.2 | 3.2 | 3.3 | 3.4 | 3.4 | 3.4 | 3.4 | 3.3 | 21 |
| 1.7 | 1.6 | 1.6 | 1.6 | 1.6 | 1.5 | 1.5 | 1.5 | 1.4 | 22 |

TABLE 10. ESTIMATED ENROLMENT IN ALL EDUCATIONAL LEVELS BY SINGLE YEAR OF AGE(1), 1971-72 TO 1986-87(2)


TABLE 10. ESTIMATED ENROLMENT IN ALL EDUCATIONAL LEVELS BY SINGLE YEAR OF AGE (1), 1970-71 TO 1986-87(2).
$\begin{array}{llllllllll}1977-78 & 1978-79 & 1979-80 & 1980-81 & 1981-82 & 1982-83 & 1983-84 & 1984-85 & 1985-86 & 1986-87\end{array}$
(THOUSANDS)
NO.

| 107.7 | 107.4 | 109.8 | 119.3 | 126.4 | 132.4 | 139.8 | 151.5 | 160.8 | 169.2 | 1 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 334.4 | 333.5 | 332.1 | 333.8 | 344.8 | 352.4 | 359.9 | 367.5 | 376.7 | 385.0 | 2 |
| 370.4 | 351.5 | 348.9 | 346.9 | 349.9 | 356.4 | 364.0 | 371.9 | 380.8 | 390.3 | 3 |
| 375.3 | 373.9 | 354.8 | 352.1 | 350.0 | 353.0 | 359.4 | 367.0 | 374.9 | 383.8 | 4 |
| 369.4 | 375.8 | 374.5 | 355.3 | 352.6 | 350.5 | 353.5 | 359.9 | 367.5 | 375.4 | 5 |
| 373.7 | 370.3 | 376.8 | 375.4 | 356.2 | 353.5 | 351.4 | 354.4 | 360.8 | 368.4 | 6 |
| 389.9 | 374.6 | 371.2 | 377.7 | 376.3 | 357.1 | 354.4 | 352.3 | 355.3 | 361.7 | 7 |
| 409.7 | 390.9 | 375.6 | 372.1 | 378.7 | 377.3 | 357.9 | 355.3 | 353.1 | 356.1 | 8 |
| 445.9 | 410.1 | 391.3 | 375.9 | 372.5 | 379.1 | 377.7 | 358.4 | 355.8 | 353.7 | 9 |
| 467.1 | 446.3 | 410.6 | 391.6 | 376.3 | 372.9 | 379.6 | 378.2 | 359.0 | 356.3 | 10 |
| 471.1 | 459.6 | 439.9 | 405.2 | 387.2 | 372.5 | 369.6 | 376.3 | 375.2 | 356.3 | 11 |
| 445.8 | 451.2 | 439.8 | 418.8 | 384.1 | 368.8 | 356.8 | 357.0 | 365.1 | 364.6 | 12 |
| 400.9 | 397.3 | 401.4 | 389.6 | 370.9 | 340.6 | 327.7 | 318.1 | 318.5 | 325.5 | 13 |
| 312.7 | 304.4 | 300.5 | 303.1 | 294.7 | 281.2 | 258.9 | 248.3 | 240.7 | 240.7 | 14 |
| 188.7 | 187.7 | 184.6 | 183.6 | 183.7 | 180.4 | 172.6 | 161.9 | 155.8 | 151.9 | 15 |

TABLE 10. ESTIMATED ENROLMENT IN ALL EDUCATIONAL LEVELS BY SINGLE
YEAR OF AGE(1), 1971-72 TO 1986-87(2)

| NO. SEX AND AGE |  |  | 1971-72 | 1972-73 | 1973-74 | 1974-75 | 1975-76 | $\begin{gathered} 1976-77 \\ (3) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | (THOUSANDS) |  |  |  |
| 1 | 4 | YEARS AND LESS.... |  | 32.8 | 41.3 | 46.3 | 53.9 | 56.5 | 54.2 |
| 2 | 5 | YEARS...... | 174.8 | 165.9 | 161.4 | 170.3 | 174.4 | 175.1 |
| 3 | 6 | YEARS. | 224.5 | 206.7 | 194.7 | 186.8 | 186.8 | 190.1 |
| 4 | 7 | YEARS. | 233.5 | 222.9 | 205.1 | 196.4 | 189.4 | 188.6 |
| 5 | 8 | YEARS.............. . | 240.3 | 233.5 | 224.7 | 206.1 | 198.9 | 190.6 |
| 6 | 9 | YEARS . . . . . . . . . . . . | 241.3 | 240.6 | 235.6 | 227.3 | 208.4 | 199.4 |
| 7 | 10 | YEARS.............. | 242.8 | 241.7 | 242.1 | 236.4 | 229.1 | 208.3 |
| 8 | 11 | YEARS.............. | 244.0 | 243.7 | 241.1 | 242.9 | 238.1 | 228.8 |
| 9 | 12 | YEARS. | 238.3 | 242.9 | 242.9 | 242.3 | 245.1 | 238.0 |
| 10 | 13 | YEARS............... | 234.5 | 237.8 | 240.5 | 242.6 | 242.9 | 245.3 |
| 11 | 14 | YEARS.............. | 231.0 | 233.4 | 235.6 | 241.9 | 241.9 | 240.5 |
| 12 | 15 | YEARS. | 218.5 | 220.9 | 223.1 | 229.2 | 233.6 | 232.1 |
| 13 | 16 | YEARS. | 194.9 | 195.2 | 194.7 | 197.0 | 203.9 | 207.0 |
| 14 | 17 | YEARS............... | 155.0 | 155.5 | 154.9 | 152.1 | 155.9 | 160.2 |
| 15 | 18 | YEARS. | 102.5 | 105.1 | 104.5 | 101.7 | 102.4 | 102.4 |
| 16 | 19 | YEARS. | 69.7 | 69.1 | 69.7 | 70.1 | 70.3 | 69.3 |
| 17 | 20 | YEARS | 53.3 | 55.0 | 53.8 | 56.2 | 57.2 | 56.1 |
| 18 | 21 | YEARS............... | 39.3 | 40.1 | 40.7 | 41.7 | 43.4 | 43.2 |
| 19 | 22 | YEARS. | 31.7 | 30.5 | 30.9 | 32.5 | 34.3 | 33.8 |
| 20 | 23 | YEARS.. | 23.4 | 21.4 | 21.1 | 22.5 | 24.2 | 23.9 |
| 21 | 24 | YEARS.............. | 17.4 | 15.0 | 14.7 | 15.5 | 16.6 | 17.0 |
| 22 | 25 | - 29 YEARS......... | 34.6 | 34.1 | 34.4 | 35.0 | 38.5 | 37.1 |
| 23 | 30 | AND OVER .......... | 15.0 | 14.3 | 14.6 | 14.3 | 14.5 | 16.2 |
| 24 |  | total | 3,291.1 | 3,264.8 | 3,225.6 | 3,212.8 | 3,204.7 | 3,155.4 |

[^46]TABLE 10. ESTIMATED ENROLMENT IN ALL EDUCATIONAL LEVELS BY SINGLE YEAR OF AGE(1), 1970-71 TO 1986-87(2).
$\begin{array}{llllllllll}1977-78 & 1978-79 & 1979-80 & 1980-81 & 1981-82 & 1982-83 & 1983-84 & 1984-85 & 1985-86 & 1986-87\end{array}$
(THOUSANDS)
NO.

| 55.0 | 54.7 | 56.2 | 62.1 | 64.5 | 67.6 | 71.4 | 77.2 | 81.9 | 86.3 | 1 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 171.7 | 171.3 | 170.8 | 170.9 | 176.8 | 180.8 | 184.6 | 188.5 | 193.3 | 197.5 | 2 |
| 190.3 | 180.8 | 179.7 | 178.0 | 179.1 | 182.9 | 186.8 | 190.9 | 195.5 | 200.3 | 3 |
| 191.9 | 192.1 | 182.5 | 181.3 | 179.5 | 180.6 | 184.4 | 188.4 | 192.4 | 197.0 | 4 |
| 188.8 | 192.1 | 192.3 | 182.7 | 181.5 | 179.7 | 180.8 | 184.6 | 188.6 | 192.6 | 5 |
| 191.0 | 189.1 | 192.5 | 192.6 | 183.0 | 181.8 | 180.1 | 181.2 | 185.0 | 188.9 | 6 |
| 199.8 | 191.4 | 189.5 | 192.9 | 193.0 | 183.4 | 182.2 | 180.4 | 181.5 | 185.4 | 7 |
| 208.7 | 200.2 | 191.8 | 189.9 | 193.3 | 193.4 | 183.8 | 182.6 | 180.8 | 181.9 | 8 |
| 229.0 | 208.9 | 200.4 | 191.9 | 190.1 | 193.5 | 193.6 | 183.9 | 182.7 | 181.0 | 9 |
| 238.2 | 229.2 | 209.1 | 200.6 | 192.1 | 190.3 | 193.6 | 193.8 | 184.1 | 182.9 | 10 |
| 241.4 | 234.1 | 225.6 | 206.1 | 198.0 | 189.9 | 188.4 | 191.7 | 191.9 | 182.3 | 11 |
| 228.8 | 231.1 | 223.5 | 213.4 | 194.8 | 187.3 | 180.5 | 181.0 | 185.2 | 185.412 |  |
| 204.7 | 202.0 | 203.8 | 197.2 | 188.4 | 172.2 | 165.5 | 159.2 | 159.6 | 163.113 |  |
| 159.8 | 156.2 | 153.5 | 154.6 | 149.8 | 143.4 | 131.3 | 125.7 | 120.8 | 121.0 | 14 |
| 96.8 | 96.2 | 93.6 | 92.0 | 91.8 | 89.5 | 85.5 | 80.2 | 77.1 | 74.7 | 15 |
| 66.6 | 65.2 | 65.1 | 63.8 | 62.7 | 63.1 | 61.6 | 58.9 | 55.5 | 53.5 | 16 |
| 56.1 | 55.1 | 54.7 | 54.6 | 54.1 | 54.0 | 53.7 | 52.4 | 50.2 | 48.4 | 17 |
| 44.8 | 44.0 | 44.6 | 45.0 | 44.9 | 44.8 | 44.3 | 43.2 | 41.7 | 39.9 | 18 |
| 34.6 | 33.5 | 33.4 | 33.8 | 34.3 | 34.3 | 34.6 | 34.0 | 33.1 | 32.0 | 19 |
| 23.9 | 23.2 | 23.1 | 23.3 | 23.8 | 24.0 | 24.3 | 24.2 | 23.6 | 22.9 | 20 |
| 16.1 | 15.7 | 15.7 | 15.8 | 16.1 | 16.2 | 16.5 | 16.6 | 16.3 | 15.9 | 21 |
| 33.4 | 32.9 | 32.9 | 33.1 | 33.6 | 33.7 | 33.7 | 33.6 | 33.1 | 32.5 | 22 |
| 13.3 | 13.2 | 13.1 | 13.1 | 13.3 | 13.6 | 13.7 | 13.6 | 13.5 | 13.4 | 23 |

TABLE 10. ESTIMATED ENROLMENT IN ALL EDUCATIONAL LEVELS BY SINGLE YEAR OF AGE(1), 1971-72 TO 1986-87(2)
$\begin{array}{lllllllll}\text { SEX AND AGE } & 1971-72 & 1972-73 & 1973-74 & 1974-75 & 1975-76 & 1976-77 \\ \text { (3) }\end{array}$

## NO. <br> ---FEMALE--

| 1 | 4 | YEARS AND LESS.... | 31.7 | 39.4 | 44.5 | 51.6 | 54.5 | 51.4 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | 5 | YEARS.............. | 167.7 | 158.1 | 155.5 | 163.9 | 166.9 | 167.6 |
| 3 | 6 | YEARS... | 212.1 | 196.8 | 185.1 | 178.1 | 180.0 | 181.6 |
| 4 | 7 | YEARS............... | 224.3 | 212.4 | 197.3 | 186.7 | 180.9 | 180.3 |
| 5 | 8 | YEARS. | 229.7 | 224.5 | 213.9 | 198.3 | 189.0 | 182.2 |
| 6 | 9 | YEARS .............. | 228.8 | 229.1 | 226.0 | 215.0 | 200.1 | 189.5 |
| 7 | 10 | YEARS.............. | 232.3 | 231.1 | 230.6 | 225.6 | 216.3 | 200.4 |
| 8 | 11 | YEARS . . . . . . . . . . . | 231.5 | 232.6 | 230.7 | 231.3 | 227.9 | 216.7 |
| 9 | 12 | YEARS.............. | 227.8 | 231.3 | 232.6 | 230.1 | 233.6 | 228.7 |
| 10 | 13 | YEARS | 223.6 | 228.4 | 231.2 | 232.4 | 231.7 | 233.5 |
| 11 | 14 | YEARS.............. | 220.1 | 223.5 | 227.7 | 228.2 | 230.0 | 228.4 |
| 12 | 15 | YEARS.............. | 206.9 | 211.7 | 213.8 | 217.2 | 219.4 | 220.5 |
| 13 | 16 | YEARS.............. | 185.2 | 187.7 | 191.4 | 190.8 | 197.6 | 200.4 |
| 14 | 17 | YEARS............. | 142.7 | 143.9 | 145.5 | 146.2 | 149.5 | 152.7 |
| 15 | 18 | YEARS | 85.6 | 88.6 | 87.7 | 89.0 | 90.7 | 91.2 |
| 16 | 19 | YEARS.............. | 53.7 | 56.0 | 56.2 | 60.1 | 62.6 | 63.7 |
| 17 | 20 | YEARS.............. | 38.1 | 40.4 | 41.6 | 44.6 | 48.7 | 48.9 |
| 18 | 21 | YEARS.............. | 22.7 | 23.6 | 25.5 | 27.9 | 31.7 | 32.1 |
| 19 | 22 | YEARS.............. | 13.0 | 14.4 | 15.4 | 18.6 | 21.1 | 21.3 |
| 20 | 23 | YEARS.............. | 7.3 | 8.0 | 9.0 | 10.3 | 11.8 | 12.6 |
| 21 | 24 | YEARS . . . . . . . . . . . | 4.7 | 4.9 | 5.3 | 6.6 | 7.2 | 8.2 |
| 22 | 25 | - 29 YEARS........ | 9.7 | 10.2 | 11.0 | 13.7 | 16.6 | 18.0 |
| 23 | 30 | AND OVER . . . | 9.4 | 9.2 | 10.2 | 11.2 | 12.6 | 14.8 |

24 TOTAL $3,007.6 \quad 3,004.8 \quad 2,986.5 \quad 2,976.3 \quad 2,979.2 \quad 2,943.2$

## (THOUSANDS)

(3)

[^47]TABLE 10. ESTIMATED ENROLMENT IN ALL EDUCATIONAL LEVELS BY SINGLE YEAR OF AGE(1). 1970-71 TO 1986-87(2).
$\begin{array}{lllllllllll}1977-78 & 1978-79 & 1979-80 & 1980-81 & 1981-82 & 1982-83 & 1983-84 & 1984-85 & 1985-86 & 1986-87\end{array}$
(THOUSANDS)
NO.

| 52.7 | 52.7 | 53.6 | 57.2 | 61.9 | 64.8 | 68.4 | 74.3 | 78.9 | 82.9 | 1 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 162.7 | 162.2 | 161.3 | 162.9 | 168.0 | 171.6 | 175.3 | 179.0 | 183.5 | 187.5 | 2 |
| 180.1 | 170.7 | 169.3 | 169.0 | 170.9 | 173.5 | 177.2 | 181.0 | 185.4 | 189.9 | 3 |
| 183.4 | 181.8 | 172.3 | 170.8 | 170.5 | 172.4 | 174.9 | 178.6 | 182.5 | 186.8 | 4 |
| 180.6 | 183.7 | 182.2 | 172.6 | 171.2 | 170.8 | 172.7 | 175.3 | 179.0 | 182.8 | 5 |
| 182.7 | 181.2 | 184.3 | 182.7 | 173.2 | 171.7 | 171.3 | 173.2 | 175.8 | 179.5 | 6 |
| 190.1 | 183.3 | 181.7 | 184.8 | 183.3 | 173.7 | 172.2 | 171.8 | 173.7 | 176.3 | 7 |
| 201.0 | 190.7 | 183.8 | 182.2 | 185.4 | 183.8 | 174.2 | 172.7 | 172.3 | 174.3 | 8 |
| 216.9 | 201.3 | 190.8 | 184.0 | 182.4 | 185.6 | 184.1 | 174.5 | 173.0 | 172.7 | 9 |
| 228.9 | 217.1 | 201.5 | 191.0 | 184.2 | 182.7 | 185.9 | 184.4 | 174.9 | 173.4 | 10 |
| 229.6 | 225.4 | 214.2 | 199.1 | 189.1 | 182.5 | 181.2 | 184.6 | 183.3 | 174.0 | 11 |
| 217.0 | 220.1 | 216.3 | 205.4 | 189.3 | 181.5 | 176.4 | 176.0 | 179.9 | 179.212 |  |
| 196.2 | 195.3 | 197.6 | 192.5 | 182.4 | 168.4 | 162.3 | 158.9 | 159.0 | 162.3 | 13 |
| 152.9 | 148.2 | 147.1 | 148.5 | 144.8 | 137.8 | 127.5 | 122.6 | 119.9 | 119.7 | 14 |
| 92.0 | 91.5 | 91.1 | 91.5 | 91.9 | 90.9 | 87.1 | 81.8 | 78.7 | 77.2 | 15 |

$2,885.1 \quad 2,825.0 \quad 2,769.2 \quad 2,717.9 \quad 2,674.8 \quad 2,639.2 \quad 2,618.4 \quad 2,612.4 \quad 2,616.5 \quad 2,629.1 \quad 24$

TABLE 11. CANADA ELENENTARY-SECONDARY ENROLMENT BY GRADE, 1971-72 TO 1986-87(1).

SEX AND GRADE
$\qquad$

1971-72 1972-73 1973-74 1974 -75 $1975-76 \quad 1976-77$
(2)

NO.
BOTH SEXES----

| 2 | GRADE 1 | 454.7 | 415.8 | 395.2 | 390.4 | 392.7 | 396.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | GRADE 2 | 469.1 | 436.5 | 401.7 | 384.5 | 375.3 | 379.7 |
| 4 | GRADE 3. | 467.4 | 460.1 | 430.6 | 402.2 | 378.1 | 371.6 |
| 5 | GRADE 4........................ | 459.1 | 461.1 | 456.7 | 434.6 | 399.1 | 378.2 |
| 6 | GRADE 5 | 465.6 | 455.6 | 459.0 | 460.6 | 430.2 | 398.1 |
| 7 | GRADE 6 | 467.6 | 465.9 | 455.3 | 463.4 | 464.9 | 438.1 |
| 8 | GRADE 7....................... | 411.1 | 365.1 | 357.6 | 358.3 | 469.0 | 464.9 |
| 9 | GRADE 8....................... | 472.2 | 502.1 | 472.8 | 464.1 | 457.2 | 457.0 |
| 10 | UNGRADED...................... | 91.0 | 99.5 | 104.3 | 74.7 | 114.7 | 112.5 |
| 11 | GRADES 1-8 AND UNGRADED.. | 3,757.7 | 3,661.7 | 3,533.2 | 3,432.8 | 3,481.4 | 3,396.5 |
| 12 | KINDERGARTEN + GRADES 1-8 | 4,093.2 | 4,003,4 | 3,882.7 | 3,819.3 | 3,879.8 | 3,788.0 |


| 14 | GRADE | 9........................ | 473.3 | 489.2 | 512.8 | 484.3 | 486.4 | 470.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15 | GRADE | 10. | 442.8 | 441.2 | 451.7 | 476.7 | 476.0 | 452.4 |
| 16 | GRADE | 11.................... | 383.4 | 399.3 | 397.8 | 406.9 | 403.5 | 427.5 |
| 17 | GRADE | 12...................... | 320.4 | 326.6 | 336.0 | 341.0 | 235.7 | 242.7 |
| 18 | GRADE | 13...... | 56.7 | 55.7 | 55.3 | 56.5 | 60.1 | 62.0 |
| 19 | UNGRAD | ED. | 32.3 | 41.0 | 42.3 | 44.4 | 49.0 | 49.6 |

            GRAND TOTAL -
    $5,802.0 \quad 5,756.2 \quad 5,678.6 \quad 5,629.2 \quad 5,590.5 \quad 5,492.9$

[^48]TABLE 11. CANADA ELEMENTARY-SECONDARY ENROLMENT BY GRADE, 1971-72 TO 1986-87.

```
1977-78 1978-79 1979-80 1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87
```

(THCUSANDS)
NO.

| 379.6 | 378.2 | 382.5 | 393.1 | 405.3 | 417.0 | 429.9 | 446.4 | 462.4 | 476.7 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 389.0 | 372.1 | 367.7 | 367.7 | 372.3 | 378.0 | 386.1 | 394.5 | 404.0 | 414.0 | 2 |
| 383.0 | 375.7 | 359.3 | 355.3 | 355.6 | 359.6 | 365.1 | 372.8 | 380.8 | 389.9 | 3 |
| 375.2 | 378.2 | 370.8 | 354.8 | 351.0 | 351.3 | 355.1 | 360.6 | 368.3 | 376.2 | 4 |
| 370.9 | 374.1 | 377.0 | 369.6 | 353.7 | 349.8 | 350.0 | 353.9 | 359.3 | 367.0 | 5 |
| 376.3 | 368.8 | 371.8 | 374.7 | 367.5 | 351.9 | 348.1 | 348.5 | 352.3 | 357.7 | 6 |
| 404.0 | 381.1 | 372.9 | 375.7 | 378.7 | 371.4 | 355.8 | 351.7 | 352.2 | 355.9 | 7 |
| 436.8 | 402.7 | 380.0 | 371.9 | 374.8 | 377.9 | 370.7 | 355.2 | 351.1 | 351.5 | 8 |
| 453.0 | 425.3 | 391.9 | 369.9 | 362.0 | 364.9 | 368.1 | 361.0 | 346.0 | 342.1 | 9 |
| 105.8 | 101.5 | 98.6 | 96.8 | 96.0 | 97.9 | 97.8 | 97.8 | 98.6 | 99.9 | 10 |
| 3,294.0 | 3,179.4 | 3,089.9 | 3,036.4 | 3,011.6 | 3,002.8 | 2,996.9 | 2,996.1 | 3,012.5 | 3,054.3 | 11 |
| 3,673.6 | 3,557.6 | 3,472.4 | 3,429.5 | 3,416.8 | 3,419.8 | 3,426.8 | 3,442.5 | 3,474.9 | 3,531.0 | 12 13 |
| 470.1 | 466.2 | 437.4 | 403.0 | 380.6 | 372.8 | 376.3 | 380.0 | 372.8 | 357.2 | 14 |
| 437.8 | 437.1 | 433.4 | 406.6 | 374.7 | 354.1 | 346.9 | 350.1 | 353.6 | 346.7 | 15 |
| 406.3 | 393.3 | 392.7 | 389.3 | 365.2 | 336.5 | 318.1 | 311.6 | 314.5 | 317.5 | 16 |
| 252.2 | 253.3 | 254.8 | 255.9 | 254.7 | 237.8 | 220.3 | 211.9 | 210.1 | 214.4 | 17 |
| 64.5 | 68.0 | 68.2 | 68.7 | 68.9 | 69.3 | 65.0 | 59.6 | 56.5 | 55.7 | 18 |
| 47.0 | 45.1 | 43.1 | 40.8 | 38.4 | 36.3 | 35.1 | 34.3 | 33.8 | 33.3 | 19 |
| 1,677.9 | 1,663.1 | 1,629.6 | 1,564.2 | 1,482.4 | 1,406.9 | 1,361.7 | 1,347.7 | 1,341.3 | 1,324.9 | 20 |
| 5,351.5 | 5,220.7 | 5,102.0 | 4,993.8 | 4,899.2 | 4,826.7 | 4,788.4 | 4,790.1 | 4,816.3 | 4,855.9 | 21 |

TABLE 11. CANADA ELEMENTARY-SECONDARY ENROLMENT BY GRADE, 1971-72 TO 1986-87(1).

SEX AND GRADE
------------------------------------

## NO.

| 1 | KINDERGARTEN.................... | 172.2 | 175.2 | 179.8 | 198.7 | 204.8 | 201.8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2 | GRADE 1. | 236.3 | 215.9 | 204.2 | 203.0 | 203.6 | 205.5 |
| 3 | GRADE $2 .$. | 241.9 | 225.5 | 207.3 | 197.6 | 192.8 | 195.4 |
| 4 | GRADE 3.. | 239.7 | 236.7 | 221.6 | 207.5 | 192.6 | 189.9 |
| 5 | GRADE 4..... | 234.6 | 236.4 | 233.7 | 223.9 | 204.0 | 192.0 |
| 6 | GRADE 5......................... | 237.4 | 233.0 | 235.0 | 236.3 | 220.1 | 202. 8 |
| 7 | GRADE 6. | 238.9 | 237.8 | 232.7 | 237.8 | 237.9 | 224.5 |
| 8 | GRADE 7 | 211.2 | 187.6 | 183.5 | 185.0 | 240.6 | 238.0 |
| 9 | GRADE 8....................... | 240.9 | 255.5 | 240.3 | 236.8 | 232.3 | 232.3 |
| 10 | UNGRADED...................... | 59.4 | 58.6 | 61.6 | 47.9 | 75.3 | 73.8 |
| 11 | GRADES 1-8 AND UNGRADED.. | 1.940 .5 | 1,886.9 | $1,819.8$ | 1,775.6 | 1,799.2 | 1,754.3 |
| 12 13 | KINDERGARTEN + GRADES 1-8 AND UNGRADED.......... | 2,112.7 | 2,062.1 | 1,999.6 | 1,974.3 | 2,004.0 | 1,956.1 |


| 14 | GRADE 9....................... | 243.1 | 252.3 | 261.4 | 248.0 | 248.0 | 240.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15 | GRADE 10. | 226.2 | 224.2 | 229.2 | 240.8 | 240.0 | 227.8 |
| 16 | GRADE 11. | 194.6 | 202.1 | 199.0 | 203. 5 | 201.2 | 213.3 |
| 17 | GRADE 12....... | 162.8 | 166.4 | 169.1 | 169.3 | 117.7 | 120.9 |
| 18 | GRADE 13...................... | 31.0 | 30.2 | 29.9 | 30.7 | 32.5 | 33.2 |
| 19 | UNGRADED....... | 20.1 | 22.2 | 24.7 | 28.7 | 31.3 | 31.5 |
| 20 | GRADES 9-13 AND UNGRADED. | 877.8 | 897.4 | 913.4 | 921.0 | 870.7 | 866.7 |

            GRAND TOTAL -
    $2,990.4 \quad 2,959.5 \quad 2,913.0 \quad 2,895.3 \quad 2,874.7 \quad 2,822.8$
(1) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND.
(2) INCLUDES SOME PRELIMINARY DATA.

NOTE: FROM 1971-72 TO 1974-75, ELEMENTARY 7 IN QUEBEC IS ADDED TO GRADE 7 OF THE OTHER PROVINCES AND SECCNDARY 1 IS ADDED TO GRADE 8.
BEGINNING IN 1975-76, ELEMENTARY 6 AND 7 ENROLMENT IN QUEBEC IS ADDED TO GRADE 6 OF THE OTHER PROVINCES AND SECGNDARY 1 IS ADDED TO GRADE 7. SEE ENROLMENT CHAPTER FOR FURTHER EXPLANATION.

TABLE 11. CANADA ELEMENTARY-SECONDARY ENROLMENT BY GRADE, 1971-72 TO 1986-87.

```
1977-78 1970-79 1979-80 1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87
```

(THOUSANDS)

NO.

| 195.1 | 194.3 | 196.5 | 201.7 | 208.0 | 214.1 | 220.7 | 229.0 | 237.2 | 244.6 | 1 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 202.2 | 193.3 | 191.0 | 190.4 | 192.2 | 195.2 | 199.4 | 203.8 | 208.7 | 213.9 | 2 |
| 196.8 | 193.5 | 184.9 | 182.9 | 182.5 | 184.2 | 187.0 | 191.1 | 195.2 | 199.9 | 3 |
| 192.2 | 193.5 | 190.2 | 181.9 | 179.9 | 179.6 | 181.1 | 184.0 | 188.0 | 192.1 | 4 |
| 188.7 | 190.8 | 192.0 | 188.7 | 180.5 | 178.6 | 178.2 | 179.8 | 182.7 | 186.7 | 5 |
| 190.2 | 186.8 | 188.8 | 190.1 | 187.0 | 178.9 | 177.1 | 176.8 | 178.4 | 181.2 | 6 |
| 206.0 | 192.7 | 188.9 | 190.9 | 192.2 | 189.0 | 181.0 | 178.9 | 178.7 | 180.4 | 7 |
| 223.6 | 205.2 | 192.1 | 188.3 | 190.4 | 191.7 | 188.7 | 180.7 | 178.5 | 178.4 | 8 |
| 229.6 | 215.6 | 197.7 | 185.2 | 181.6 | 183.6 | 184.9 | 182.0 | 174.3 | 172.2 | 9 |
| 69.6 | 66.8 | 65.0 | 63.8 | 63.3 | 64.8 | 64.7 | 64.7 | 65.1 | 66.0 | 10 |
| $1,698.9$ | $1,638.2$ | $1,590.7$ | $1,562.2$ | $1,549.6$ | $1,545.5$ | $1,542.0$ | $1,541.6$ | $1,549.6$ | $1,570.8$ | 11 |
| $1,894.1$ | $1,832.5$ | $1,787.1$ | $1,763.9$ | $1,757.5$ | $1,759.6$ | $1,762.7$ | $1,770.6$ | $1,786.8$ | $1,815.4$ | 13 |


| 239.8 | 237.3 | 222.6 | 204.3 | 191.4 | 187.8 | 190.2 | 191.8 | 188.7 | 180.8 | 14 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 220.7 | 220.6 | 218.1 | 204.7 | 187.8 | 176.1 | 172.8 | 175.0 | 176.5 | 173.6 | 15 |
| 202.9 | 196.7 | 196.5 | 194.3 | 182.2 | 167.2 | 156.7 | 153.8 | 155.6 | 156.8 | 16 |
| 125.9 | 126.3 | 127.2 | 128.3 | 127.3 | 119.3 | 110.2 | 105.3 | 104.5 | 106.6 | 17 |
| 34.5 | 36.6 | 36.7 | 37.0 | 37.3 | 37.4 | 34.9 | 32.1 | 30.1 | 29.6 | 18 |
| 29.9 | 28.6 | 27.3 | 25.7 | 24.1 | 22.8 | 22.0 | 21.6 | 21.3 | 21.0 | 19 |
| 853.7 | 846.0 | 828.5 | 794.2 | 750.2 | 710.6 | 686.8 | 679.5 | 676.6 | 668.4 | 20 |

```
2,747.8 2,678.5 2,615.6 2,558.1 2,507.7 2,470.3 2,449.5 2,450.1 2,463.4 2,483.8 21
```

table 11. Canada elementary-secondary enrolment by grade, 1971-72 TO 1986-87(1).
SEX AND GRADE
$\begin{array}{llllll}1971-72 & 1972-73 & 1973-74 & 1974-75 & 1975-76 & 1976-77 \\ & & & & \end{array}$
---------------------------------

## (THOUSANDS)

```
NO.
```

1 KINDERGARTEN. ................... 163.3 166.5 $169.7 \quad 187.8 \quad 193.6 \quad 189.6$

| 2 | GRADE 1....................... . | 218.3 | 199.9 | 191.0 | 187.5 | 189.2 | 190.8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | GRADE 2........................ | 227.2 | 211.0 | 194.5 | 186.9 | 182.6 | 184.3 |
| 4 | GRADE 3....................... | 227.7 | 223.5 | 209.0 | 194.7 | 185.5 | 181.7 |
| 5 | GRADE 4........................ | 224.4 | 224.7 | 222.9 | 210.7 | 195.1 | 186.2 |
| 6 | GRADE 5....................... | 228.2 | 222.6 | 224.0 | 224.4 | 210.0 | 195.2 |
| 7 | GRADE 6...................... . . | 228.7 | 228.1 | 222.6 | 225.6 | 227.0 | 213.6 |
| 8 | GRADE 7........................ | 199.9 | 177.5 | 174.2 | 173.3 | 228.5 | 226.9 |
| 9 | GRADE 8....................... | 231.2 | 246.5 | 232.5 | 227.3 | 224.9 | 224.8 |
| 10 | UNGRADED. . . . . . . . . . . . . . . . . . | 31.6 | 40.9 | 42.7 | 26.8 | 39.4 | 38.7 |
| 11 | GRADES 1-8 AND UNGRADED.. | 1,817.2 | 1,774.8 | 1,713.4 | 1,657.2 | 1,682.2 | 1,642.2 |
| 12 13 | KINDERGARTEN + GRADES 1-8 <br> AND UNGRADED.......... | 1,980.5 | 1,941.3 | 1,883.1 | 1,845.0 | 1,875.8 | 1,831.8 |


| 14 | GRADE 9 | 230.2 | 236.9 | 251.4 | 236.3 | 238.4 | 230.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15 | GRADE 10. | 216.6 | 217.0 | 222.4 | 235.9 | 236.0 | 224.6 |
| 16 | GRADE 11 | 188.8 | 197.2 | 198.7 | 203.5 | 202.3 | 214.2 |
| 17 | GRADE 12. | 157.5 | 160.2 | 166.9 | 171.7 | 118.1 | 121.9 |
| 18 | GRADE 13. | 25.7 | 25.5 | 25.4 | 25.8 | 27.6 | 28.8 |
| 19 | UNGRADED. | 12.2 | 18.7 | 17.6 | 15.7 | 17.7 | 18.1 |
| 20 | GRADES 9-13 AND UNGRADED. | 831.0 | 855.5 | 882.4 | 888.8 | 840.0 | 838.3 |

21 GRAND TOTAL - 2,811.5 2,796.7 2,765.6 2,733.9 2,715.8 2,670.1

[^49]TABLE 11. CANADA ELEMENTARY-SECONDARY ENROLMENT BY GRADE, 1971-72 TO 1986-87.

```
1977-78 1978-79 1979-80 1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87
```


## (THOUSANDS)

NO.

| 184.4 | 183.8 | 186.0 | 191.4 | 197.3 | 202.9 | 209.2 | 217.4 | 225.2 | 232.1 | 1 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 186.8 | 178.8 | 176.7 | 177.3 | 180.0 | 182.8 | 186.7 | 190.7 | 195.3 | 200.1 | 2 |
| 186.2 | 182.1 | 174.3 | 172.4 | 173.1 | 175.5 | 178.1 | 181.8 | 185.6 | 190.0 | 3 |
| 183.0 | 184.8 | 180.6 | 172.9 | 171.1 | 171.7 | 174.1 | 176.6 | 180.3 | 184.2 | 4 |
| 182.2 | 183.3 | 185.0 | 180.8 | 173.1 | 171.2 | 171.8 | 174.1 | 176.6 | 180.3 | 5 |
| 186.1 | 182.0 | 183.0 | 184.7 | 180.6 | 172.9 | 171.1 | 171.7 | 173.9 | 176.5 | 6 |
| 198.0 | 188.4 | 184.0 | 184.9 | 186.6 | 182.4 | 174.8 | 172.9 | 173.4 | 175.5 | 7 |
| 213.2 | 157.5 | 187.9 | 183.5 | 184.4 | 186.2 | 182.1 | 174.5 | 172.6 | 173.1 | 8 |
| 223.4 | 209.7 | 194.2 | 184.7 | 180.4 | 181.3 | 183.1 | 179.0 | 171.7 | 169.8 | 9 |
| 36.2 | 34.7 | 33.6 | 33.0 | 32.7 | 33.2 | 33.1 | 33.2 | 33.4 | 33.9 | 10 |
| $1,595.1$ | $1,541.3$ | $1,499.3$ | $1,474.2$ | $1,462.0$ | $1,457.3$ | $1,454.8$ | $1,454.5$ | $1,462.9$ | $1,483.5$ | 11 |
| $1,779.5$ | $1,725.1$ | $1,685.3$ | $1,665.6$ | $1,659.3$ | $1,660.2$ | $1,664.0$ | $1,671.9$ | $1,688.1$ | $1,715.6$ | 13 |


| 230.3 | 228.9 | 214.8 | 198.7 | 189.2 | 184.9 | 186.1 | 188.2 | 184.0 | 176.5 | 14 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 217.1 | 216.6 | 215.3 | 201.9 | 186.9 | 178.0 | 174.0 | 175.2 | 177.1 | 173.1 | 15 |
| 203.4 | 196.6 | 196.2 | 195.1 | 183.0 | 169.4 | 161.4 | 157.9 | 159.0 | 160.7 | 16 |
| 126.3 | 127.0 | 127.5 | 127.6 | 127.3 | 118.6 | 110.2 | 106.7 | 105.6 | 107.8 | 17 |
| 30.0 | 31.4 | 31.5 | 31.7 | 31.6 | 31.9 | 30.1 | 27.6 | 26.4 | 26.1 | 18 |
| 17.1 | 16.5 | 15.9 | 15.1 | 14.2 | 13.5 | 13.0 | 12.8 | 12.5 | 12.4 | 19 |
| 824.2 | 817.1 | 801.1 | 770.0 | 732.2 | 696.3 | 674.9 | 668.2 | 664.7 | 656.5 | 20 |

```
2,603.7 2,542.2 2,486.4 2,435.7 2,391.5 2,356.4 2,338.9 2,340.1 2,352.9 2,372.1 21
```


# TABLE 12. ELEMENTARY-SECONDARY ENROLMENT BY GRADE, NINE PROVINCES AND TERRITORIES(1), 1966-67 TO 1976-77. 

SEX AND GRADE
NC.
N.

1
2
3
4
5
6
7
8

GRADE 1.
1966-67
1967-68
1968-69
1969-70

- -----BOTH SEXES-----

KI NDERGARTEN
193.8
206.9
220.3
238.4

| GRADE | 347.7 |
| :---: | :---: |
| GRADE | 334.0 |
| GRADE | 324.0 |

GRADE 5................................ 318.2
GRADE 6.............................. 311.5
GRADE 7.............................. . . . 308.7
GRADE 8............................... . . . 283.9
UNGRADED.................................. 35.0
GRADES 1-8 AND UNGRADED...... 2, 634.1 KI NDERGARTEN + GRADES 1-8

AND UNGRADED................ 22827.9

| GRADE 9. | 275.8 |
| :---: | :---: |
| GRADE 10......................... | 233.6 |
| GRADE 11........ . . . . . . . . . . . . . . . | 197.0 |
| GRADE 12.......................... | 161.7 |
| GRADE 13............................ | 41.5 |
| UNGRADED. . . . . . . . . . . . . . . . . . . . . . . | 36.4 |
| GRADES 9-13 AND UNGRADED | 946.0 |


| 286.3 | 297.1 | 306.8 |
| ---: | ---: | ---: |
| 249.6 | 265.2 | 277.5 |
| 206.5 | 225.8 | 239.4 |
| 169.7 | 184.5 | 203.1 |
| 42.9 | 46.1 | 49.3 |
| 38.6 | 40.4 | 45.9 |
| 993.5 | $1,059.1$ | $1,121.9$ |

GRAND TOTAL -
3,773.9
3,892.4
4,012.1
4,114.0

TABLE 12. ELEMENTARY-SECONDARY ENROLMENT BY GRADE, NINE PROVINCES AND TERRITORIES(1), 1966-67 TO 1976-77.

| $1970-71$ | $1971-72$ | $1972-73$ | $1973-74$ | $1974-75$ | $1975-76$ | $1976-77$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |

(THOUSANDS)
NO.

| 236.2 | 230.2 | 242.2 | 254.3 | 286.8 | 299.8 | 294.9 | 1 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 355.9 | 330.1 | 306.3 | 294.7 | 294.0 | 298.5 | 304.9 | 2 |
| 349.1 | 342.4 | 310.9 | 296.5 | 287.1 | 283.1 | 289.2 | 3 |
| 345.4 | 342.6 | 338.0 | 315.6 | 298.1 | 283.3 | 281.2 | 4 |
| 342.1 | 339.6 | 340.1 | 336.5 | 319.6 | 294.8 | 283.9 | 5 |
| 341.8 | 340.7 | 339.6 | 339.7 | 340.5 | 316.3 | 294.5 | 6 |
| 335.4 | 339.8 | 340.3 | 339.5 | 343.7 | 337.8 | 317.4 | 7 |
| 332.5 | 338.7 | 343.5 | 343.3 | 348.4 | 345.0 | 342.8 | 8 |
| 318.2 | 323.8 | 329.3 | 335.5 | 339.0 | 336.1 | 336.8 | 9 |
| 52.7 | 52.1 | 54.6 | 55.2 | 20.2 | 53.3 | 54.7 | 10 |
| 773.2 | $2,749.8$ | 2.710 .6 | $2,656.4$ | $2,590.7$ | $2,548.5$ | $2,505.9$ | 11 |

$\begin{array}{lllllllllll}3,009.3 & 2,980.1 & 2,952.8 & 2,910.8 & 2,877.5 & 2,848.4 & 2,800.8 & 13\end{array}$

| 326.4 | 334.4 | 341.9 | 347.9 | 349.4 | 352.8 | 353.4 | 14 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 301.2 | 307.7 | 309.3 | 311.2 | 317.6 | 326.4 | 326.4 | 15 |
| 257.8 | 205.8 | 269.7 | 272.6 | 274.2 | 283.5 | 292.4 | 16 |
| 217.7 | 224.4 | 223.5 | 222.7 | 226.8 | 235.7 | 242.7 | 17 |
| 53.4 | 56.7 | 55.7 | 55.3 | 56.5 | 60.1 | 62.0 | 18 |
| 14.6 | 14.8 | 16.9 | 16.7 | 15.4 | 15.8 | 17.6 | 19 |
| $1,171.1$ | $1,203.8$ | $1,216.9$ | $1,226.4$ | $1,239.9$ | $1,274.5$ | $1,294.6$ | 20 |

$\begin{array}{lllllllll}4,180.4 & 4,183.9 & 4,169.8 & 4,137.2 & 4,117.4 & 4,122.8 & 4,095.3\end{array}$

TABLE 12. ELEMENTARY-SECONDARY ENROLMENT BY GRADE, NINE PROVINCES AND TERRITORIES(1), 1966-67 TO 1976-77.

SEX AND GRADE

NO.
GRADE 10

GRADE 12
GRADE 13
UNGRADED
GRADES 9-13 AND UNGRADED
GRAND TOTAL - $1,948.5$
GRAND TOTAL - $1,948.5$
145.6
151.1
155.8
GRADE 9................................... 140.0
117.7
GRADE 11............................ 100.0
84.9 23.5 20.0
486.1
2,008.0
$2,070.2$
$2,123.2$

[^50]TABLE 12. ELEMENTARY-SECONDARY ENROLMENT BY GRADE, NINE PROVINCES AND
TERRITORIES(1), $1966-67$ TO $1976-77$.

| $1970-71$ | $1971-72$ | $1972-73$ | $1973-74$ | $1974-75$ | $1975-76$ | $1976-77$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |

(THOUSANDS)
NO.
$\begin{array}{llllllll}121.4 & 118.1 & 124.3 & 130.8 & 147.4 & 154.1 & 152.2 & 1\end{array}$

| 185.5 | 172.2 | 159.3 | 153.0 | 153.4 | 155.3 | 158.4 | 2 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 180.9 | 177.2 | 165.0 | 153.2 | 148.0 | 146.1 | 149.1 | 3 |
| 177.7 | 176.4 | 173.6 | 102.6 | 154.1 | 145.0 | 144.4 | 4 |
| 175.5 | 174.1 | 174.6 | 172.3 | 164.9 | 151.2 | 144.9 | 5 |
| 175.6 | 174.4 | 173.6 | 174.1 | 174.8 | 162.4 | 151.0 | 6 |
| 171.9 | 174.3 | 173.9 | 173.4 | 176.7 | 172.4 | 162.8 | 7 |
| 171.0 | 174.2 | 176.6 | 175.4 | 179.2 | 177.1 | 175.7 | 8 |
| 161.5 | 105.0 | 167.2 | 169.8 | 172.4 | 170.6 | 171.4 | 9 |
| 34.2 | 34.1 | 35.7 | 36.0 | 12.9 | 35.1 | 35.8 | 10 |
| $1,433.7$ | $1,421.8$ | $1,399.6$ | $1,369.8$ | $1,336.4$ | $1,315.1$ | $1,293.5$ | 11 |


| 168.4 | 172.0 | 176.0 | 178.5 | 178.5 | 180.0 | 180.3 | 14 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 153.8 | 156.9 | 156.9 | 157.7 | 160.6 | 165.1 | 164.3 | 15 |
| 130.9 | 135.2 | 136.4 | 136.9 | 137.2 | 141.8 | 146.2 | 16 |
| 111.8 | 114.5 | 113.9 | 111.7 | 113.3 | 117.7 | 120.9 | 17 |
| 29.1 | 31.0 | 80.2 | 29.9 | 30.7 | 32.5 | 33.2 | 18 |
| 8.4 | 8.7 | 10.0 | 9.9 | 9.0 | 9.5 | 10.5 | 19 |
| 602.3 | 618.3 | 623.3 | 624.5 | 629.3 | 646.7 | 655.4 | 20 |

$2,157.5 \quad 2,158.1 \quad 2,147.2 \quad 2,125.1 \quad 2,113.1 \quad 2,115.9 \quad 2,101.121$

TABLE 12. ELEMENTARY-SEC ONDARY ENROLMENT BY GRADE, NINE PROVINCES
AND TERRITORIES (1), 1966-67 TO 1976-77.

| NO. |  |  | (THOUS |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | KINDERGARTEN. . . . . . . . . . . . . . . . . . . | 94.4 | 100.7 | 106.9 | 115.7 |
| 2 | GRADE 1.... . . . . . . . . . . . . . . . . . . . . . | 176.2 | 176.9 | 175.8 | 173.8 |
| 3 | GRADE 2............ | 166.7 | 169.8 | 170.2 | 169.2 |
| 4 | GRADE 3............ | 160.7 | 165.2 | 167.7 | 168.1 |
| 5 | GRADE 4............................. . . | 157.2 | 159.3 | 162.8 | 165.7 |
| 6 | GRADE 5............ | 154.8 | 158.8 | 160.0 | 163.9 |
| 7 | GRADE 6............ | 152.1 | 154.5 | 158.0 | 160.1 |
| 8 | GRADE 7........ | 150.4 | 154.1 | 155.3 | 159.4 |
| 9 | GRADE 8............. | 139.8 | 145.9 | 150.5 | 152.4 |
| 10 | UNGR ADED. . . . . . | 13.1 | 16.1 | 19.4 | 17.0 |
| 11 | GRADES $1-8$ AND UNGRADED...... | 1,271.0 | 1,300.6 | 1,319.6 | 1,329.5 |
| $\begin{aligned} & 12 \\ & 13 \end{aligned}$ | KINDERGARTEN + GRADES 1-8 <br> AND UNGRADED................ | 1,365.4 | 1,401.4 | 1,426.5 | 1,445.2 |
| 14 | GRADE 9.............. | 135.8 | 140.7 | 146.0 | 151.0 |
| 15 | GRADE 10. | 115.9 | 123.9 | 131.8 | 136.9 |
| 16 | GRADE 11. | 97.0 | 101.5 | 111.8 | 118.8 |
| 17 | GRADE 12................... . . . . . . . . | 76.9 | 81.1 | 88.3 | 98.7 |
| 18 | GRADE 13............................ | 18.0 | 19.1 | 20.8 | 22.3 |
| 19 | UNGRADED. . . . . . . . . . . . . . . . . . . . . . | 16.4 | 16.7 | 16.8 | 17.9 |
| 20 | GRADES 9-13 AND UNGRADED..... | 459.9 | 483.0 | 515.5 | 545.6 |
| 21 | GRAND TOTAL - | 1,825.4 | 1,884.4 | 1,941.9 | 1,990.8 |

[^51]TABLE 12. ELEMENTARY-SECONDARY ENROLMENT BY GRADE, NINE PROVINCES AND TERRITORIES(1), 1966-67 TO 1976-77.

| 1970-71 | 1971-72 | 1972-73 | 1973-74 | 1974-75 | 1975-76 | $\begin{gathered} 1976-77 \\ \text { (2) } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | ( THOUSANO |  |  |  |
| 114.7 | 112.2 | 117.9 | 123.6 | 139.4 | 145.8 | 142.7 |
| 170.4 | 157.9 | 147.0 | 141.7 | 140.6 | 143.6 | 146.5 |
| 168.2 | 165.2 | 153.9 | 143.3 | 139.1 | 137.0 | 140.0 |
| 167.7 | 166.2 | 164.4 | 152.9 | 144.1 | 138.3 | 136.8 |
| 166.6 | 165.6 | 165.5 | 164.2 | 154.7 | 143.6 | 139.0 |
| 166.2 | 166.3 | 165.9 | 165.5 | 165.7 | 154.0 | 143.9 |
| 163.5 | 165.5 | 166.4 | 166.2 | 167.0 | 165.4 | 154.7 |
| 161.5 | 164.5 | 167.0 | 167.9 | 169.1 | 167.9 | 167.1 |
| 156.7 | 158.8 | 162.1 | 165.7 | 166.7 | 165.6 | 165.4 |
| 18.5 | 18.1 | 18.8 | 19.2 | 7.3 | 18.2 | 18.9 |
| 1,339.5 | $1,3<8.0$ | 1,311.1 | 1,286.6 | 1,254.3 | 1,233.4 | 1,212.3 |
| 1,454.2 | 1,440.2 | 1,428.9 | 1,410.2 | 1,393.7 | 1,379.2 | 1,355.1 |
| 158.1 | 162.4 | 165.9 | 169.5 | 171.0 | 172.9 | 173.1 |
| 147.4 | 150.8 | 152.4 | 153.5 | 157.1 | 161.3 | 162.1 |
| 126.9 | 130.7 | 133.4 | 135.7 | 136.9 | 141.7 | 146.2 |
| 105.9 | 109.9 | 109.6 | 111.0 | 113.5 | 118.1 | 121.9 |
| 24.3 | 25.7 | 25.5 | 25.4 | 25.8 | 27.6 | 28.8 |
| 6.2 | 6.0 | 6.9 | 6.8 | 6.4 | 6.3 | 7.1 |
| 568.7 | 585.5 | 593.6 | 601.9 | 610.6 | 627.8 | 639.2 |
| 2,022.9 | 2,025.7 | 2,022.6 | 2,012.1 | 2,004.3 | 2,006.9 | 1,994.2 |

# TABLE 13. QUEBEC ELEMENTARY-SECONDARY ENROLMENT BY GRADE, 1966-67 TO 1976-7711). 

## SEX AND GRADE

1966-67
1967-68
1968-69
1969-70

NO.


KINDERGARTEN
61.6
79.0
106.6
116.1

| ELEMENTARY 1....................... | 146.3 | 140.8 | 129.5 | 132.7 |
| :---: | :---: | :---: | :---: | :---: |
| ELEMENTARY 2...................... . . | 141.1 | 140.0 | 134.7 | 122.6 |
| ELEMENTARY 3....................... | 145.7 | 141.2 | 138.8 | 130.1 |
| ELEMENTARY 4....................... | 146.2 | 145.3 | 140.6 | 135.2 |
| ELEMENTARY 5....................... | 142.0 | 144.1 | 144.0 | 136.5 |
| ELEMENTARY 6 | 137.7 | 137.2 | 140.1 | 137.5 |
| ELEMENTARY 7.................... . . | 127.5 | 130.4 | 125.2 | 123.3 |
| UNGRADED. . . . . . . . . . . . . . . . . . . . . . . | 7.9 | 11.7 | 14.3 | 28.9 |
| ELEMENTARY 1-7 AND UNGRADED.. | 994.4 | 990.7 | 967.2 | 946.9 |
| KINDERGARTEN + ELEMENTARY 1-7 AND UNGRADED................ | 1056.0 | 069.6 | 1,073.7 | ,063.0 |


136.4
114.9
109.3
90.3
42.0
16.1
509.0
$1538.5 \quad 1.578 .6$
144.2
140.5
134.8
119.0
105.5
67.3
27.1
594.2

1,657.2

TABLE 13. QUEBEC ELEMENTARY-SECONDARY ENROLMENT BY GRADE, 1966-67 TO 1976-77(1).

| 1970-71 1971-72 | $1972-73$ | $1973-74$ | $1974-75$ | $1975-76$ | $1976-77$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| PROJECTED |  |  |  |  |  | NO.

(THOLSANDS)


# TABLE 13. QUEBEC ELEMENTARY-SECONDARY ENROLMENT BY GRADE, 1966-67 TO 1976-77(1). 

1966-67
1967-68
1968-69
1969-70

|  | SEX AND GRADE | 1966-67 | 1967-68 | 1968-69 | 1969-70 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| VO. |  |  | ( THOUS |  |  |
| 1 | KINOERGARTEN | 31.7 | 40.4 | 54.1 | 59.4 |
| 2 | ELEMENTARY 1 | 75.7 | 73.3 | 67.0 | 68.1 |
| 3 | ELEMENTARY 2 | 72.5 | 71.9 | 69.7 | 62.7 |
| 4 | ELEMENTARY 3. | 74.7 | 72.4 | 71.0 | 66.8 |
| 5 | ELEMENTARY 4 | 75.9 | 74.4 | 71.7 | 68.5 |
| 6 | ELEMENTARY 5 | 73.3 | 74.3 | 73.4 | 69.1 |
| 7 | ELEMENTARY 6.... | 71.0 | 70.4 | 72.0 | 69.6 |
| 8 | ELEMENTARY 7. | 64.9 | 66.4 | 64.4 | 63.1 |
| 9 | UNGRADED.. | 5.0 | 7.2 | 9.2 | 17.3 |
| 10 | ELEMENTARY 1-7 AND UNGRALED.. | 512.8 | 510.4 | 498.5 | 485.3 |
| 11 12 | KINDERGARTEN + ELEMENTARY 1-7 AND UNGRADED.................... | 544.5 | 550.8 | 552.6 | 544.6 |
| 13 | SECONDARY 1. | 64.5 | 70.3 | 75.0 | 72.9 |
| 14 | SECONDARY 2. | 57.5 | 58.8 | 65.2 | 68.8 |
| 15 | SECONDARY 3. | 51.2 | 57.1 | 58.2 | 60.3 |
| 16 | SECONDARY 4. | 44.7 | 47.9 | 52.1 | 54.9 |
| 17 | SECONDARY 5.. | 19.9 | 19.7 | 30.5 | 34.9 |
| 18 | UNGRADED............................ | 9.6 | 9.5 | 12.1 | 16.5 |
| 19 | SEC ONDARY 1-5 AND UNGRADEO... | 247.6 | 263.2 | 293.1 | 308.3 |
| 20 | GRAND TOTAL - | 792.0 | 814.1 | 845.7 | 852.9 |

(1) HISTORICAL DATA UP TO AND INCLUDING 1975-76.

TABLE 13. QUEBEC ELEMENTARY-SECONDARY ENROLMENT BY GRADE, 1966-67 TO 1976-77(1).

```
1970-71 1971-72 1972-73 1973-74 1974-75 1975-76 % 1976-77 NOJECTED NO.
```

(THOUSANDS)

| 58.6 | 54.1 | 50.9 | 49.0 | 51.3 | 50.8 | 49.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 68.3 | 64.1 | 56.6 | 51.2 | 49.6 | 48.3 | 47.1 |
| 64.8 | 64.7 | 60.5 | 54.1 | 49.6 | 46.7 | 46.2 |
| 61.9 | 63.4 | 63.1 | 59.0 | 53.5 | 47.6 | 45.5 |
| 66.1 | 60.5 | 61.8 | 61.4 | 58.9 | 52.9 | 47.1 |
| 68.0 | 63.0 | 59.3 | 60.8 | 61.4 | 57.8 | 51.8 |
| 67.6 | 64.6 | 63.8 | 59.3 | 61.1 | 60.4 | 56.9 |
| 47.2 | 37.0 | 11.1 | 8.1 | 5.8 | 5.1 | 4.8 |
| 17.1 | 25.4 | 22.8 | 25.6 | 35.0 | 40.2 | 38.0 |
| 461.0 | 442.7 | 399.0 | 379.5 | 374.8 | 358.9 | 337.6 |
| 519.5 | 496.9 | 449.9 | 428.4 | 426.1 | 409.7 | 387.3 |
| 75.8 | 75.9 | 88.3 | 70.5 | 64.4 | 63.4 | 62.3 |
| 76.1 | 71.1 | 76.3 | 83.0 | 69.5 | 61.7 | 60.9 |
| 66.0 | 69.3 | 67.3 | 71.5 | 80.2 | 68.0 | 59.7 |
| 58.7 | 59.4 | 65.8 | 62.2 | 66.2 | 74.8 | 63.4 |
| 43.0 | 48.3 | 52.5 | 57.5 | 56.0 | 59.4 | 67.1 |
| 10.0 | 11.4 | 12.3 | 14.8 | 19.7 | 21.8 | 21.0 |
| 329.6 | 335.4 | 362.4 | 359.4 | 356.1 | 349.1 | 334.4 |
| 849.2 | 832.3 | 812.3 | 787.9 | 782.2 | 758.8 | 721.7 |

TABLE 13. QUEBEC ELEMENTARY-SECONDARY ENROLMENT BY GRADE, 1966-67 TO 1976-77(1).

SEX AND GRADE
1966-67 1967-68 1968-69
1969-70

|  | SEX AND GRADE | 1966-67 | 1967-68 | 1968-69 | 1969-70 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| NO. |  |  | ( THOUS |  |  |
| 1 | KI NDERGARTEN | 30.0 | 38.6 | 52.4 | 56.7 |
| 2 | ELEMENTARY 1 | 70.6 | 67.5 | 62.4 | 64.6 |
| 3 | ELEMENTARY 2 | 68.6 | 68.1 | 65.0 | 59.9 |
| 4 | ELEMENTARY 3 | 71.0 | 68.8 | 67.8 | 63.4 |
| 5 | ELEMENTARY 4. | 70.4 | 70.9 | 68.9 | 66.7 |
| 6 | ELEMENTARY 5. | 68.7 | 69.8 | 70.5 | 67.4 |
| 7 | ELEMENTARY 6 | 66.7 | 66.8 | 68.1 | 67.9 |
| 8 | ELEMENTARY 7. | 62.7 | 64.0 | 60.8 | 60.2 |
| 9 | UNGRADED. | 2.9 | 4.4 | 5.1 | 11.6 |
| 10 | ELEMENTARY 1-7 AND UNGRADED.. | 481.6 | 480.3 | 468.7 | 461.6 |
| 11 12 | KINEERGARTEN + ELEMENT ARY 1-7 AND UNGRADED................ | 511.6 | 518.8 | 521.1 | 518.4 |
| 13 | SECONOARY 1......................... | 60.4 | 66.1 | 69.2 | 67.7 |
| 14 | SECONDARY 2. | 53.8 | 56.1 | 61.9 | 66.0 |
| 15 | SECONDARY 3.. | 47.3 | 52.2 | 53.4 | 58.7 |
| 16 | SECONDARY 4. | 39.8 | 42.4 | 47.0 | 50.6 |
| 17 | SECONDARY 5. | 20.8 | 22.3 | 27.5 | 32.4 |
| 18 | UNGRADED. | 12.7 | 6.6 | 8.9 | 10.5 |
| 19 | SECJNLARY 1-5 AND UNGRADED... | 234.9 | 245.7 | 267.8 | 285.9 |
| 20 | GRAND TOTAL - | 746.4 | 764.5 | 788.9 | 804.3 |

(1) HISTORICAL DATA UP TO AND INCLUDING 1975-76.

TABLE 13. QUEBEC ELEMENTARY-SECONDARY ENROLMENT BY GRADE, 1966-67 TO 1976-77(1).

$$
\begin{array}{llllllll}
1970-71 & 1971-72 & 1972-73 & 1973-74 & 1974-75 & 1975-76 & 1976-77 \\
\text { PROJECTED }
\end{array}
$$

(THOUSANDS)

| 55.5 | 51.2 | 48.6 | 46.2 | 48.4 | 47.8 | 46.9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 64.2 | 60.4 | 52.9 | 49.4 | 46.9 | 45.6 | 44.3 |
| 62.2 | 62.0 | 57.1 | 51.2 | 47.8 | 45.6 | 44.3 |
| 59.1 | 61.5 | 59.0 | 56.0 | 50.6 | 47.2 | 44.9 |
| 62.9 | 58.9 | 59.2 | 58.8 | 56.1 | 51.4 | 47.2 |
| 65.8 | 61.8 | 56.7 | 58.5 | 58.7 | 56.1 | 51.3 |
| 65.6 | 63.2 | 61.7 | 56.5 | 58.6 | 58.0 | 55.5 |
| 44.9 | 35.4 | 10.5 | 6.2 | 4.2 | 3.7 | 3.4 |
| 9.4 | 13.5 | 22.1 | 23.5 | 19.4 | 21.2 | 19.8 |
| 434.0 | 416.7 | 379.2 | 300.0 | 342.2 | 328.8 | 310.8 |
| 489.5 | 467.9 | 427.9 | 406.2 | 390.6 | 376.6 | 357.7 |
| 71.7 | 72.5 | 84.5 | 66.8 | 60.7 | 60.6 | 59.8 |
| 71.6 | 67.8 | 71.0 | 81.9 | 65.3 | 59.4 | 59.3 |
| 65.3 | 65.8 | 64.6 | 68.9 | 78.8 | 65.5 | 57.5 |
| 56.8 | 58.1 | 63.8 | 63.0 | 66.5 | 74.7 | 62.5 |
| 43.0 | 47.7 | 50.6 | 55.9 | 58.2 | 60.5 | 68.0 |
| 4.9 | 6.1 | 11.9 | 10.9 | 9.3 | 11.5 | 11.1 |
| 313.2 | 317.9 | 346.3 | 347.3 | 338.9 | 332.2 | 318.2 |
| 802.8 | 785.8 | 774.2 | 753.5 | 729.5 | 708.8 | 675.9 |

## TABLE 14. ESTIMATED ELEMENTARY-SECONDARY ENROLMENT BY SINGLE YEAR OF AGE, 1970-71 TO 1986-87(1).

|  | SEX | X AND AGE | 1970-71 | 1971-72 | 1972-73 | 1973-74 | 1974-75 | 1975-76 | $\begin{gathered} 1976-77 \\ (2) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| NO. |  |  |  |  |  | ( THOUSAN | DS) |  |  |
| 1 | 4 | YEARS AND LESS... | 59.2 | 64.5 | 80.7 | 90.8 | 105.5 | 111.0 | 105.6 |
| 2 | 5 | YEARS. | 359.7 | 342.5 | 324.0 | 317.0 | 334.2 | 341.3 | 342.6 |
| 3 | 6 | YEARS. | 457.4 | 436.6 | 403.5 | 379.8 | 365.0 | 366.8 | 371.7 |
| 4 | 7 | YEARS. | 469.4 | 457.8 | 435.3 | 402.4 | 383.1 | 370.2 | 368.8 |
| 5 | 8 | YEARS.. | 469.3 | 470.0 | 458.0 | 438.6 | 404.4 | 387.9 | 372.8 |
| 6 | 9 | YEARS.. | 475.3 | 470.1 | 469.7 | 461.6 | 442.3 | 408.4 | 388.9 |
| 7 | 10 | YEARS | 476.7 | 475.1 | 472.9 | 472.7 | 462.0 | 445.4 | 408.7 |
| 8 | 11 | YEARS. | 470.0 | 475.5 | 476.3 | 471.7 | 474.2 | 466.0 | 445.4 |
| 9 | 12 | YEARS. | 460.6 | 466.1 | 474.1 | 475.4 | 472.4 | 478.8 | 466.6 |
| 10 | 13 | YEARS. | 454.4 | 458.1 | 466.2 | 471.7 | 475.0 | 474.6 | 478.8 |
| 11 | 14 | YEARS. | 442.9 | 451.1 | 456.9 | 463.4 | 470.1 | 471.9 | 468.9 |
| 12 | 15 | YEARS. | 424.2 | 425.4 | 432.6 | 436.9 | 446.5 | 453.0 | 452.5 |
| 13 | 16 | YEARS. | 378.1 | 378.0 | 380.3 | 383.3 | 384.9 | 397.4 | 402.2 |
| 14 | 17 | YEARS. | 264.8 | 270.6 | 270.5 | 268.2 | 267.0 | 272.8 | 278.4 |
| 15 | 18 | YEARS.. | 121.6 | 117.0 | 114.7 | 107.7 | 105.0 | 106.4 | 105.0 |
| 16 | 19 | YEARS. | 34.2 | 30.9 | 27.7 | 25.0 | 24.5 | 25.3 | 23.1 |
| 17 | 20 | AND OVER......... | 14.6 | 12.6 | 12.6 | 12.3 | 13.1 | 13.3 | 12.8 |
| 18 |  | TOTAL. .......... | 5,832.3 | 5,802.0 | 5,756.2 | 5,678.6 | 5,629.2 | 5,590.5 | 5,492.9 |

[^52]
## TABLE 14. ESTIMATED ELEMENTARY-SECONDARY ENROLMENT BY SINGLE YEAR OF AGE, 1970-71 TO 1986-87(1).

```
1977-78 1978-79 1979-80 19 1980-81 1981-82 19 1982-83 1983-84 1984-85 1985-86 1986-87
```


## (THOUSANDS)

NO.

| 107.7 | 107.4 | 109.8 | 119.3 | 126.4 | 132.4 | 139.8 | 151.5 | 160.8 | 169.2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 334.4 | 333.5 | 332.1 | 333.8 | 344.8 | 352.4 | 359.9 | 367.5 | 376.7 | 385.0 |
| 370.4 | 351.5 | 348.9 | 346.9 | 349.9 | 356.4 | 364.0 | 371.9 | 380.8 | 390.3 |
| 375.3 | 373.9 | 354.8 | 352.1 | 350.0 | 353.0 | 359.4 | 367.0 | 374.9 | 383.8 |
| 369.4 | 375.8 | 374.5 | 355.3 | 352.6 | 350.5 | 353.5 | 359.9 | 367.5 | 375.4 |
| 373.7 | 370.3 | 376.8 | 375.4 | 356.2 | 353.5 | 351.4 | 354.4 | 360.8 | 368.4 |
| 389.9 | 374.6 | 371.2 | 377.7 | 376.3 | 357.1 | 354.4 | 352.3 | 355.3 | 361.7 |
| 409.7 | 390.9 | 375.6 | 372.1 | 378.7 | 377.3 | 357.9 | 355.3 | 353.1 | 356.1 |
| 445.9 | 410.1 | 391.3 | 375.9 | 372.5 | 379.1 | 377.7 | 358.4 | 355.8 | 353.7 |
| 467.1 | 446.3 | 410.6 | 391.6 | 376.3 | 372.9 | 379.6 | 378.2 | 359.0 | 356.3 |
| 471.1 | 459.6 | 439.9 | 405.2 | 387.2 | 372.5 | 369.6 | 376.3 | 375.2 | 356.3 |
| 445.8 | 451.2 | 439.8 | 418.8 | 384.1 | 368.8 | 356.8 | 357.0 | 365.1 | 364.6 |
| 392.5 | 389.2 | 393.7 | 382.0 | 363.3 | 333.2 | 320.9 | 311.8 | 312.5 | 319.5 |
| 273.6 | 267.0 | 264.7 | 267.8 | 259.8 | 247.1 | 226.6 | 218.2 | 212.0 | 212.5 |
| 97.9 | 95.8 | 95.2 | 95.7 | 97.1 | 95.0 | 91.0 | 85.1 | 82.4 | 79.8 |
| 18.5 | 16.6 | 17.1 | 17.5 | 17.5 | 18.6 | 18.4 | 18.0 | 16.9 | 16.3 |
| 8.6 | 6.9 | 6.3 | 6.6 | 6.7 | 7.1 | 7.6 | 7.6 | 7.4 | 7.0 |

$5,351.5 \quad 5,220.7 \quad 5,102.0 \quad 4,993.8 \quad 4,899.2 \quad 4,826.7 \quad 4,788.4 \quad 4,790.1 \quad 4,816.3 \quad 4,855.9 \quad 18$

## TABLE 14. ESTIMATED ELEMENTARY-SECONDARY ENROLMENT BY SINGLE YEAR OF AGE, 1970-71 TO 1986-87(1).

$\begin{array}{lllllllll}\text { SEX AND AGE } & 1970-71 & 1971-72 & 1972-73 & 1973-74 & 1974-75 & 1975-76 & 1976-77 \\ \text { (2) }\end{array}$

NO.
(THOUSANDS)

## ----MALE----



912 YEARS............. 235.9 238.3 242.9 242.9 $242.3 \quad 245.1 \quad 238.0$
1013 YEARS............. 232.2 234.5 237.8 240.5 $242.6 \quad 242.9 \quad 245.3$
11 YEARS............ 226.4 231.0 $233.4 \quad 235.6 \quad 241.9 \quad 241.9 \quad 240.5$
1215 YEARS............ 218.2 218.5 220.9 223.1 229.2 233.6
1316 YEARS............. 194.3 193.9 194.0 193.4 $195.8 \quad 202.1 \quad 204.7$
1417 YEARS............. 139.1 141.9 $141.1 \quad 139.0 \quad 137.6 \quad 141.0 \quad 143.8$
1518 YEARS............ $70.9 \quad 68.4 \quad 67.0 \quad 63.4 \quad 61.7 \quad 62.4 \quad 61.3$
1619 YEARS............ $23.1 \quad 21.4 \quad 18.3 \quad 16.8 \quad 16.4 \quad 16.7 \quad 15.4$
1720 AND OVER........ $10.3 \quad 8.6 \quad 7.8 \quad 7.2 \quad 7.7 \quad 7.5 \quad 6.8$

18 TOTAL.......... 3,006.6 $2,990.4 \quad 2,959.5 \quad 2,913.0 \quad 2,895.3 \quad 2,874.7 \quad 2,822.8$

[^53]
## TABLE 14. ESTIMATED ELEMENTARY-SECONDARY ENROLMENT BY SINGLE YEAR OF AGE, 1970-71 TO 1986-87(1).

```
1977-78 1978-79 1979-80 1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87
```

(THOUSANDS)
NO.

| 55.0 | 54.7 | 56.2 | 62.1 | 64.5 | 67.6 | 71.4 | 77.2 | 81.9 | 86.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 171.7 | 171.3 | 170.8 | 170.9 | 176.8 | 180.8 | 184.6 | 188.5 | 193.3 | 197.5 |
| 190.3 | 180.8 | 179.7 | 178.0 | 179.1 | 182.9 | 186.8 | 190.9 | 195.5 | 200.3 |
| 191.9 | 192.1 | 182.5 | 181.3 | 179.5 | 180.6 | 184.4 | 188.4 | 192.4 | 197.0 |
| 188.8 | 192.1 | 192.3 | 182.7 | 181.5 | 179.7 | 180.8 | 184.6 | 188.6 | 192.6 |
| 191.0 | 189.1 | 192.5 | 192.6 | 183.0 | 181.8 | 180.1 | 181.2 | 185.0 | 188.9 |
| 199.8 | 191.4 | 189.5 | 192.9 | 193.0 | 183.4 | 182.2 | 180.4 | 181.5 | 185.4 |
| 208.7 | 200.2 | 191.8 | 189.9 | 193.3 | 193.4 | 183.8 | 182.6 | 180.8 | 181.9 |
| 229.0 | 208.9 | 200.4 | 191.9 | 190.1 | 193.5 | 193.6 | 183.9 | 182.7 | 181.0 |
| 238.2 | 229.2 | 209.1 | 200.6 | 192.1 | 190.3 | 193.6 | 193.8 | 184.1 | 182.9 |
| 241.4 | 234.1 | 225.6 | 206.1 | 198.0 | 189.9 | 188.4 | 191.7 | 191.9 | 182.3 |
| 228.8 | 231.1 | 223.5 | 213.4 | 194.8 | 187.3 | 180.5 | 181.0 | 185.2 | 185.4 |
| 200.7 | 197.9 | . 199.9 | 193.3 | 184.6 | 168.5 | 162.1 | 156.1 | 156.6 | 160.2 |
| 141.2 | 138.5 | 136.6 | 137.9 | 133.4 | 127.4 | 116.3 | 111.8 | 107.7 | 108.1 |
| 54.7 | 53.7 | 52.6 | 51.9 | 52.4 | 50.7 | 48.6 | 45.7 | 44.4 | 42.6 |
| 11.5 | 9.7 | 9.8 | 9.7 | 9.1 | 9.9 | 9.7 | 9.5 | 9.1 | 8.8 |
| 5.1 | 3.7 | 2.9 | 2.8 | 2.6 | 2.6 | 2.8 | 2.8 | 2.8 | 2.7 |

[^54]
## TABLE 14. ESTIMATED ELEMENTARY-SECONDARY ENROLMENT BY SINGLE YEAR OF AGE, 1970-71 TO 1986-87(1).

$\begin{array}{llllllllll}\text { SEX AND AGE } & 1970-71 & 1971-72 & 1972-73 & 1973-74 & 1974-75 & 1975-76 & 1976-77\end{array}$

NO.
(THOUSANDS)

| 2 | 5 | YEARS | 175.0 | 167.7 | 158.1 | 155.5 | 163.9 | 166.9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | 6 | YEARS | 223.0 | 212.1 | 196.8 | 185.1 | 178.1 | 180.0 |
| 4 | 7 | YEARS | 228.7 | 224.3 | 212.4 | 197.3 | 186.7 | 180.9 |
| 5 | 8 | YEARS | 230.0 | 229.7 | 224.5 | 213.9 | 198.3 | 189.0 |
| 6 | 9 | YEARS. | 232.5 | 228.8 | 229.1 | 226.0 | 215.0 | 200.1 |
| 7 | 10 | YEARS. | 232.4 | 232.3 | 231.1 | 230.6 | 225.6 | 216.3 |
| 8 | 11 | YEARS . . . . . . . . . . . | 229.9 | 231.5 | 232.6 | 230.7 | 231.3 | 227.9 |

912 YEARS........... 224.7 227.8 231.3 232.6 230.1 233.6
1013 YEARS........... 222.2 223.6 $228.4 \quad 231.2$ 232.4 231.7 233.5

1215 YEARS............. 206.0 206.9 211.7 213.8 217.2 219.4 20.5
1316 YEARS............ 183.8 184.1 186.3 189.8 189.1 195.3 197.5
1417 YEARS............. 125.7 128.7 $129.4 \quad 129.2 \quad 129.4131 .8$ 134.6
1518 YEARS............ 50.7 48.6 47.8 44.4 43.3 44.0 4.6


18 TOTAL......... 2,825.7 2,811.5 2,796.7 2,765.6 2,733.9 2,715.8 2,670.1
(1) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND. HISTORICAL DATA INCLUDES MANY ESTIMATES.
(2) INCLUDES PRELIMINARY DATA.

TABLE 14. ESTIMATED ELEMENTARY-SECONDARY ENROLMENT BY SINGLE YEAR OF AGE, 1970-71 TO 1986-87(1).

```
1977-78 1978-79 1979-80 19 1980-81 1981-82 1982-83 1983-84 198 1984-85 1985-86 1986-87
```

                                    (THOUSANDS)
    NO.


[^55]
# TABLE 15. ESTIMATED ELEMENTARY-SECONDARY ENROLMENT RATES(1) BY SINGLE YEAR OF AGE, 1971-72 TO 1986-87(2) (NET ENROLMENT RATES) 



[^56]TABLE 15. ESTIMATED ELEMENTARY-SECONDARY ENROLMENT RATES(1) BY SINGLE YEAR OF AGE, 1971-72 TO 1986-87(2).
(NET ENROLMENT RATES)

```
1978-79 1979-80 1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87
```

(PER CENT)
NO.

| 30.9 | 31.8 | 33.5 | 34.7 | 35.8 | 37.0 | 39.1 | 40.7 | 42.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 94.1 | 95.1 | 96.2 | 96.5 | 96.5 | 97.0 | 97.0 | 97.0 | 97.0 |
| 98.3 | 98.1 | 99.0 | 100.5 | 99.3 | 99.3 | 99.8 | 100.2 | 100.1 |
| 101.5 | 98.8 | 98.6 | 99.5 | 101.0 | 99.9 | 99.8 | 100.3 | 100.6 |
| 100.5 | 101.4 | 98.7 | 98.5 | 99.3 | 100.8 | 99.7 | 99.6 | 100.2 |
| 101.1 | 100.5 | 101.4 | 98.7 | 98.4 | 99.3 | 100.8 | 99.7 | 99.6 |
| 101.2 | 101.0 | 100.5 | 101.4 | 98.6 | 98.4 | 99.2 | 100.7 | 99.6 |
| 98.6 | 101.2 | 101.0 | 100.5 | 101.3 | 98.6 | 98.4 | 99.2 | 100.7 |
| 97.3 | 98.5 | 101.0 | 100.9 | 100.4 | 101.2 | 98.5 | 98.3 | 99.1 |
| 97.9 | 97.2 | 98.4 | 100.9 | 100.8 | 100.3 | 101.2 | 98.5 | 98.2 |
| 98.1 | 96.3 | 95.8 | 97.1 | 99.7 | 99.7 | 99.2 | 100.2 | 97.6 |
| 94.1 | 93.7 | 91.6 | 90.6 | 92.3 | 95.3 | 96.1 | 96.1 | 97.1 |
| 82.1 | 82.0 | 81.2 | 79.2 | 78.4 | 80.1 | 83.0 | 83.9 | 83.8 |
| 55.7 | 55.7 | 55.6 | 55.1 | 53.7 | 53.2 | 54.3 | 56.3 | 56.8 |
| 20.1 | 19.8 | 20.1 | 20.1 | 20.1 | 19.7 | 19.9 | 20.4 | 21.1 |
| 3.5 | 3.6 | 3.6 | 3.6 | 3.8 | 3.9 | 3.9 | 3.9 | 4.0 |

## TABLE 15. ESTIMATED ELEMENTARY-SECONDARY ENROLMENT RATES(1) BY SINGLE <br> YEAR OF AGE, 1971-72 TO 1986-87(2) (NET ENROLMENT RATES)

$\begin{array}{llllllllll}S E X & A N D\end{array} \operatorname{AGE} \quad 1971-72 \quad 1972-73 \quad 1973-74 \quad 1974-75 \quad 1975-76 \quad 1976-77 \quad 1977-78$ (3)

## NO.

| 2 | 5 | YEARS. | 83.7 | 83.6 | 87.6 | 92.6 | 92.1 | 93.5 | 93.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | 6 | YEARS. | 97.7 | 93.9 | 97.7 | 100.6 | 100.6 | 100.0 | 101.3 |
| 4 | 7 | YEARS. | 99.7 | 98.2 | 97.8 | 98.0 | 101.0 | 101.2 | 100.6 |
| 5 | 8 | YEARS. | 99.7 | 100.5 | 97.4 | 97.7 | 98.4 | 101.3 | 101.0 |
| 6 | 9 | YEARS. | 101.2 | 101.8 | 100.1 | 98.0 | 98.0 | 98.4 | 101.3 |
| 7 |  | YEARS. | 100.9 | 101.4 | 100.0 | 100.0 | 98.1 | 97.7 | 98.3 |
| 8 |  | $Y \subseteq A R S$. | 101.8 | 101.8 | 100.8 | 99.9 | 100.1 | 97.8 | 97.7 |
| 9 |  | YEARS. | 101.1 | 101.4 | 100.6 | 100.9 | 100.3 | 99.9 | 97.7 |
| 10 |  | YEARS. | 99.8 | 100.0 | 100.1 | 100.2 | 100.7 | 100.2 | 99.8 |
| 11 |  | YEARS | 100.4 | 99.4 | 99.8 | 100.3 | 99.5 | 99.6 | 98.5 |
| 12 |  | YEARS. | 96.0 | 95.8 | 94.8 | 96.8 | 96.5 | 95.3 | 94.6 |
| 13 |  | YEARS. | 85.5 | 85.9 | 84.0 | 83.0 | 85.0 | 84.4 | 82.2 |
| 14 |  | YEARS. | 65.6 | 64.1 | 60.9 | 59.6 | 59.5 | 60.4 | 58.1 |
| 15 |  | YEARS............ | 33.1 | 31.2 | 27.9 | 26.9 | 26.9 | 25.8 | 22.9 |
| 16 | 19 | YEARS.............. | 10.8 | 8.7 | 7.8 | 7.2 | 7.2 | 6.6 | 4.8 |

[^57]TABLE 15. ESTIMATED ELEMENTARY-SECONDARY ENROLMENT RATES(1) BY SINGLE YEAR OF AGE, 1971-72 TO 1986-87(2). (NET ENROLMENT RATES)

```
1978-79 1979-80 1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87
```

(PER CENT)
NO.

| 30.6 | 31.7 | 34.0 | 34.6 | 35.7 | 36.9 | 38.9 | 40.4 | 41.7 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 94.1 | 95.2 | 96.0 | 96.5 | 96.5 | 97.0 | 97.0 | 97.0 | 97.0 |
| 98.3 | 98.3 | 98.8 | 100.2 | 99.4 | 99.4 | 99.9 | 100.2 | 100.2 |
| 101.9 | 98.8 | 98.8 | 99.2 | 100.7 | 99.9 | 99.8 | 100.4 | 100.7 |
| 100.4 | 101.7 | 98.6 | 98.6 | 99.0 | 100.4 | 99.7 | 99.6 | 100.2 |
| 100.9 | 100.4 | 101.6 | 98.6 | 98.6 | 98.9 | 100.4 | 99.6 | 99.5 |
| 101.2 | 100.9 | 100.4 | 101.5 | 98.5 | 98.5 | 98.9 | 100.3 | 99.5 |
| 98.3 | 101.2 | 100.8 | 100.3 | 101.5 | 98.5 | 98.4 | 98.8 | 100.3 |
| 97.7 | 98.2 | 101.0 | 100.7 | 100.2 | 101.4 | 98.3 | 98.3 | 98.7 |
| 97.7 | 97.6 | 98.1 | 101.0 | 100.6 | 100.1 | 101.3 | 98.2 | 98.2 |
| 98.0 | 96.0 | 96.0 | 96.7 | 99.6 | 99.4 | 98.9 | 100.1 | 97.1 |
| 94.2 | 93.4 | 90.7 | 90.6 | 91.3 | 94.4 | 95.3 | 95.3 | 96.5 |
| 81.7 | 81.3 | 80.6 | 78.3 | 78.2 | 78.8 | 81.4 | 82.2 | 82.2 |
| 56.6 | 56.2 | 56.0 | 55.5 | 53.9 | 53.8 | 54.2 | 56.0 | 56.6 |
| 22.0 | 21.5 | 21.3 | 21.2 | 21.0 | 20.5 | 21.1 | 21.4 | 22.1 |
| 4.1 | 4.0 | 3.9 | 3.7 | 4.0 | 4.0 | 4.0 | 4.2 | 4.2 |

## TABLE 15. ESTIMATED ELEMENTARY-SECONDARY ENROLMENT RATES(1) BY SINGLE YEAR OF AGE, 1971-72 TO 1986-87(2) (NET ENROLMENT RATES)

$\begin{array}{lllllllll}\text { SEX AND AGE } & 1971-72 & 1972-73 & 1973-74 & 1974-75 & 1975-76 & 1976-77 & 1977-78\end{array}$
NO.

| 2 | 5 | YEARS.............. | 82.8 | 84.1 | 88.0 | 93.4 | 92.2 | 93.9 | 94.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | 6 | YEARS. | 98.0 | 93.6 | 98.1 | 100.1 | 101.5 | 100.0 | 100.6 |
| 4 | 7 | YEARS. | 99.6 | 97.8 | 97.0 | 98.4 | 100.6 | 101.3 | 100.6 |
| 5 | 8 | YEARS. | 100.0 | 101.1 | 98.4 | 96.9 | 98.7 | 101.1 | 101.2 |
| 6 | 9 | YEARS. | 100.5 | 101.6 | 100.0 | 98.4 | 97.1 | 98.8 | 101.1 |
| 7 | 10 | YEARS. | 100.8 | 101.5 | 100.0 | 99.4 | 98.3 | 97.0 | 98.8 |
| 8 | 11 | YEARS. | 101.4 | 101.7 | 101.0 | 99.9 | 99.8 | 98.3 | 97.1 |
| 9 | 12 | YEARS. | 100.9 | 101.2 | 100.6 | 100.4 | 100.4 | 99.9 | 98.2 |
| 10 | 13 | YEARS. | 99.8 | 100.5 | 101.1 | 100.2 | 100.6 | 100.2 | 99.9 |
| 11 | 14 | YEARS. | 99.7 | 99.5 | 100.6 | 99.4 | 98.7 | 99.0 | 98.4 |
| 12 | 15 | YEARS. | 95.1 | 95.8 | 95.3 | 95.7 | 95.2 | 94.4 | 93.9 |
| 13 | 16 | YEARS. | 84.6 | 85.9 | 85.8 | 83.9 | 85.6 | 85.5 | 81.9 |
| 14 | 17 | YEARS. | 61.5 | 61.2 | 59.2 | 58.2 | 58.2 | 58.8 | 57.1 |
| 15 | 18 | YEARS. | 24.1 | 23.0 | 20.3 | 19.7 | 19.6 | 19.2 | 18.8 |
| 16 | 19 | YEARS............... | 4.9 | 4.6 | 3.9 | 3.7 | 3.9 | 3.4 | 3.0 |

[^58]TABLE 15. ESTIMATED ELEMENTARY-SECONDARY ENROLMENT RATES(1) BY SINGLE YEAR OF AGE, 1971-72 TO 1986-87(2).
(NET ENROLMENT RATES)

```
1978-79 1979-80 1980-81 1981-82 1982-83 19 1983-84 1984-85 1985-86 1986-87
```


## (PER CENT)

NO.

| 31.2 | 31.8 | 33.0 | 34.9 | 36.0 | $37 \cdot 2$ | 39.4 | 41.0 | 42.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 94.1 | 95.0 | 96.4 | 96.5 | 96.5 | 97.0 | 97.0 | 97.0 | 97.0 |
| 98.3 | 97.9 | 99.2 | 100.8 | 99.3 | 99.2 | 99.8 | 100.1 | 100.1 |
| 101.2 | 98.8 | 98.4 | 99.7 | 101.3 | 99.8 | 99.7 | 100.3 | 100.6 |
| 100.6 | 101.1 | 98.8 | 98.3 | 99.6 | 101.2 | 99.7 | 99.7 | 100.2 |
| 101.3 | 100.6 | 101.1 | 98.8 | 98.3 | 99.6 | 101.2 | 99.7 | 99.7 |
| 101.1 | 101.2 | 100.6 | 101.2 | 98.8 | 98.3 | 99.6 | 101.2 | 99.7 |
| 98.9 | 101.2 | 101.3 | 100.6 | 101.2 | 98.8 | 98.3 | 99.6 | 101.2 |
| 97.0 | 98.7 | 101.0 | 101.1 | 100.6 | 101.1 | 98.8 | 98.3 | 99.6 |
| 98.2 | 96.9 | 98.7 | 100.9 | 101.1 | 100.5 | 101.1 | 98.7 | 98.3 |
| 98.2 | 96.7 | 95.6 | 97.5 | 99.8 | 100.1 | 99.6 | 100.3 | 98.1 |
| 94.1 | 94.1 | 92.5 | 90.7 | 93.4 | 96.2 | 97.0 | 96.8 | 97.8 |
| 82.6 | 82.7 | 81.8 | 80.3 | 78.7 | 81.4 | 84.7 | 85.6 | 85.5 |
| 54.7 | 55.2 | 55.2 | 54.7 | 53.6 | 52.6 | 54.4 | 56. 5 | 57.1 |
| 18.1 | 18.1 | 18.8 | 18.9 | 19.1 | 18.9 | 18.7 | 19.3 | 20.1 |
| 3.0 | 3.1 | 3.3 | 3.6 | 3.7 | 3.7 | 3.7 | 3.7 | 3.8 |

TABLE 16. SECONDARY SCHOOL STUDENTS PROCEEDING DIRECTLY TO POST-SECONDARY INSTITUTIONS, 1971-72 TO 1986-87(1)(2)

1971-72 1972-73 1973-74 1974 -75 1975 -76 $\quad 1976$-77

NO.

(1) THE YEAR INDICATED IS THE ACADEMIC YEAR OF ENTRY INTO A POST-SECONDARY INSTITUT ION.
(2) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND. HISTORICAL DATA INCLUDES ESTIMATES.
(3) INCLUDES GRADUATES FROM THE FINAL YEAR OF SECONDARY SCHOOL EXCEPT FOR ONTARIO WHERE ALL GRADE 12 GRADUATES (LESS THOSE CONT INUING TO GRADE 13 ) PLUS ALL GRADE 13 ENROLMENT ARE INCLUDED.

## TABLE 17. NON-UNIVERSITY ENROLMENT, 1971-72 TO 1986-87(1)



[^59]
## TABLE 16. SECONDARY SCHOOL STUDENTS PROCEEDING OIRECTLY TO POST-SECONDARY INSTITUTIONS, 1971-72 TO 1986-87(1)(2), CONCLUDED



TABLE 17. NON-UNIVERSITY ENROLMENT, 1971-72 TO 1986-87(1), CONCLUDED

| $\begin{aligned} & 48.5 \\ & 33.4 \\ & 82.0 \end{aligned}$ | $\begin{aligned} & 47.3 \\ & 32.3 \\ & 79.6 \end{aligned}$ | $\begin{aligned} & 42.7 \\ & 29.2 \\ & 71.9 \end{aligned}$ | $\begin{aligned} & 41.5 \\ & 28.5 \\ & 70.0 \end{aligned}$ | $\begin{aligned} & 41.2 \\ & 28.4 \\ & 69.5 \end{aligned}$ | $\begin{aligned} & 40.2 \\ & 27.8 \\ & 68.0 \end{aligned}$ | $\begin{aligned} & 37.9 \\ & 26.5 \\ & 64.4 \end{aligned}$ | $\begin{aligned} & 34.9 \\ & 25.0 \\ & 59.9 \end{aligned}$ | $\begin{aligned} & 32.9 \\ & 24.1 \\ & 57.0 \end{aligned}$ | $\begin{aligned} & 32.5 \\ & 23.9 \\ & 56.4 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\begin{array}{r} 74.8 \\ 86.7 \\ 161.5 \end{array}$ | $\begin{array}{r} 75.8 \\ 87.9 \\ 163.7 \end{array}$ | $\begin{array}{r} 75.8 \\ 87.5 \\ 163.3 \end{array}$ | $\begin{array}{r} 74.6 \\ 85.7 \\ 160.2 \end{array}$ | $\begin{array}{r} 74.7 \\ 85.5 \\ 160.1 \end{array}$ | $\begin{array}{r} 74.9 \\ 85.6 \\ 160.5 \end{array}$ | $\begin{aligned} & 72.8 \\ & 83.9 \end{aligned}$ | $\begin{array}{r} 68.6 \\ 80.7 \end{array}$ | 65.0 77.5 142.5 | $\begin{aligned} & 63.5 \\ & 75.6 \end{aligned}$ |
| 123.3 | 123.1 | 118.5 | 116.1 | 115.9 | 115.1 | 110.6 | 103.6 | 97.9 | 96.0 |
| 120.2 | 120.2 | 116.7 | 114.2 | 113.8 | 113.4 | 110.4 | 105.7 | 101.6 | 99.5 |
| 243.5 | 243.4 | 235.2 | 230.2 | 229.7 | 228.5 | 221.0 | 209.3 | 199.5 | 195.5 |


| 493 | 49.4 | 49.6 | 496 | 49.6 | 49.6 | 49.9 | 50.5 | 50.9 | 50.9 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

$\begin{array}{llllllll} & 1971-72 & 1972-73 & 1973-74 & 1974-75 & 1975-76 & 1976-77\end{array}$

## LEVEL AND SEX

NO.
(THOUSANDS)

3. TOTAL UNIVERSITY

16
17 18

MALE.............

| 206.6 | 203.5 | 205.7 | 209.8 | 218.9 | 217.6 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| 116.4 | 118.9 | 126.4 | 137.6 | 151.9 | 159.3 |
| 323.0 | 322.4 | 332.1 | 347.4 | 370.8 | 376.9 |

(1) HISTORICAL CATA UP TO AND INCLUDING 1976-77, PROJECTED BEYOND.
(2) RESIDENT PHYSICIANS IN ADVANCED STUDIES, GRADUATE DIPLOMA ENROLMENT AND UNCLASSIFIED GRADUATE ENROLMENT.

TABLE 18. UNIVERSITY ENROLMENT, 1971-72 TO 1986-87(1), CONCLUDED.

| $1977-78$ | $1978-79$ | $1979-80$ | $1980-81$ | $1981-82$ | $1982-83$ | $1983-84$ | $1984-85$ | $1985-86$ | $1986-87$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

(THOUS ANDS)
NO.

| 184.4 | 181.9 | 184.5 | 185.9 | 186.2 | 185.6 | 185.2 | 181.7 | 175.3 | 168.0 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 149.1 | 150.1 | 153.5 | 155.1 | 156.1 | 155.5 | 154.7 | 151.8 | 146.7 | 141.6 | 2 |
| 333.5 | 332.0 | 338.0 | 341.0 | 342.4 | 341.1 | 339.9 | 333.4 | 321.9 | 309.6 | 3 |



| 27.8 | 27.8 | 27.9 | 27.9 | 28.2 | 28.5 | 28.9 | 29.5 | 30.1 | 30.5 | 13 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 12.2 | 12.5 | 12.6 | 13.0 | 13.3 | 13.9 | 14.5 | 14.9 | 15.4 | 15.8 | 14 |
| 40.0 | 40.3 | 40.5 | 40.9 | 41.5 | 42.3 | 43.4 | 44.4 | 45.5 | 46.3 | 15 |


| 212.1 | 209.7 | 212.4 | 213.8 | 214.4 | 214.1 | 214.1 | 211.2 | 205.3 | 198.4 | 16 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 161.3 | 162.6 | 166.1 | 168.1 | 169.4 | 169.4 | 169.2 | 166.7 | 162.1 | 157.5 | 17 |
| 373.4 | 372.3 | 378.5 | 381.9 | 383.9 | 383.5 | 383.3 | 377.8 | 367.4 | 355.9 | 18 |

TABLE 19. ESTIMATED POST-SECONDARY ENROLMENT BY SINGLE YEAR OF AGE(1). 1971-72 TO 1986-87(2)


[^60]TABLE 19. ESTIMATED POST-SECONDARY ENROLMENT BY SINGLE YEAR OF AGE(1), 1971-72 TO 1986-87(2), CONCLUDED.

```
1977-78 1978-79 1979-80 1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87
```


## (THOUSANDS)

NO.

| 4.0 | 4.1 | 3.9 | 3.9 | 3.8 | 3.7 | 3.4 | 3.1 | 2.9 | 2.9 | 1 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 4.4 | 4.0 | 3.8 | 3.8 | 3.8 | 3.7 | 3.5 | 3.2 | 3.1 | 3.0 | 2 |
| 8.4 | 8.1 | 7.7 | 7.7 | 7.6 | 7.4 | 6.9 | 6.3 | 6.0 | 6.0 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |
| 18.6 | 17.7 | 16.9 | 16.6 | 16.5 | 16.1 | 15.1 | 13.8 | 13.1 | 12.9 | 4 |
| 20.5 | 19.7 | 18.9 | 18.7 | 18.4 | 18.1 | 17.2 | 16.2 | 15.6 | 15.3 | 5 |
| 39.1 | 37.4 | 35.8 | 35.3 | 34.9 | 34.1 | 32.2 | 30.1 | 28.7 | 28.2 | 6 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 42.1 | 42.5 | 40.9 | 40.1 | 39.4 | 38.8 | 37.0 | 34.5 | 32.7 | 32.1 | 7 |
| 48.7 | 49.4 | 48.5 | 47.8 | 47.2 | 46.6 | 44.6 | 42.4 | 40.7 | 40.0 | 8 |
| 90.8 | 91.9 | 89.5 | 87.9 | 86.6 | 85.4 | 81.6 | 76.9 | 73.4 | 72.1 | 9 |
|  |  |  |  |  |  |  |  |  |  |  |
| 55.0 | 55.5 | 55.2 | 54.0 | 53.6 | 53.2 | 52.0 | 49.3 | 46.4 | 44.8 | 10 |
| 56.9 | 57.8 | 58.1 | 57.2 | 56.5 | 56.0 | 55.2 | 53.0 | 50.4 | 48.9 | 11 |
| 111.9 | 113.2 | 113.3 | 111.2 | 110.0 | 109.2 | 107.2 | 102.3 | 96.9 | 93.7 | 12 |


| 51.0 | 51.4 | 51.9 | 51.8 | 51.5 | 51.4 | 50.9 | 49.5 | 47.4 | 45.8 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 45.3 | 45.6 | 46.5 | 46.6 | 46.6 | 46.3 | 46.1 | 45.3 | 43.8 | 42.3 |
| 96.3 | 97.1 | 98.4 | 98.4 | 98.2 | 97.7 | 97.0 | 94.9 | 91.2 | 88.0 |
| 44.8 | 44.0 | 44.6 | 45.0 | 44.9 | 44.8 | 44.3 | 43.2 | 41.7 | 39.9 |
| 35.5 | 35.6 | 35.9 | 36.3 | 36.8 | 36.7 | 36.6 | 36.0 | 35.3 | 34.1 |
| 80.2 | 79.6 | 80.4 | 81.3 | 81.7 | 81.5 | 80.8 | 79.3 | 77.0 | 74.0 |
| 34.0 | 33.1 | 33.1 | 33.4 | 34.0 | 34.0 | 34.2 | 33.6 | 32.8 | 31.7 |
| 21.9 | 21.9 | 22.1 | 22.3 | 23.1 | 23.3 | 23.5 | 23.2 | 22.7 | 22.1 |
| 55.8 | 55.0 | 55.2 | 55.7 | 57.1 | 57.3 | 57.8 | 56.8 | 55.4 | 53.8 |
| 23.6 | 23.0 | 23.0 | 23.2 | 23.7 | 23.9 | 24.1 | 24.0 | 23.4 | 22.7 |
| 11.9 | 12.0 | 12.1 | 12.3 | 12.7 | 13.0 | 13.3 | 13.3 | 13.0 | 12.7 |
| 35.5 | 35.0 | 35.1 | 35.4 | 36.4 | 36.9 | 37.4 | 37.3 | 36.4 | 35.4 |


| 15.9 | 15.6 | 15.6 | 15.7 | 16.0 | 16.2 | 16.4 | 16.5 | 16.2 | 15.8 | 25 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 7.1 | 7.2 | 7.3 | 7.4 | 7.6 | 7.9 | 8.1 | 8.2 | 8.1 | 8.0 | 26 |
| 23.1 | 22.8 | 22.8 | 23.1 | 23.7 | 24.1 | 24.6 | 24.7 | 24.4 | 23.8 | 27 |
|  |  |  |  |  |  |  |  |  |  |  |
| 33.3 | 32.8 | 32.8 | 33.1 | 33.6 | 33.7 | 33.7 | 33.5 | 33.1 | 32.5 | 28 |
| 16.9 | 17.0 | 17.1 | 17.3 | 17.7 | 18.0 | 18.1 | 18.1 | 17.9 | 17.6 | 29 |
| 50.2 | 49.8 | 49.9 | 50.4 | 51.3 | 51.7 | 51.8 | 51.6 | 50.9 | 50.1 | 30 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 13.3 | 13.2 | 13.1 | 13.1 | 13.3 | 13.6 | 13.7 | 13.6 | 13.5 | 13.4 | 31 |
| 12.3 | 12.5 | 12.5 | 12.6 | 12.8 | 13.1 | 13.3 | 13.3 | 13.1 | 12.9 | 32 |
| 25.6 | 25.7 | 25.6 | 25.7 | 26.2 | 26.7 | 27.0 | 26.9 | 26.6 | 26.3 | 33 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 335.5 | 332.8 | 330.9 | 329.9 | 330.3 | 329.2 | 324.7 | 314.8 | 303.3 | 294.4 | 34 |
| 281.5 | 282.8 | 282.8 | 282.2 | 283.3 | 282.8 | 279.5 | 272.3 | 263.7 | 257.0 | 35 |
| 617.0 | 615.6 | 613.7 | 612.1 | 613.6 | 512.0 | 604.3 | 587.1 | 566.9 | 551.4 | 36 |

TABLE 20. ESTIMATED POST-SECONDARY ENROLMENT RATES(1) BY SINGLE YEAR OF AGE, 1971-72 TO 1986-87(2) (NET ENROL MENT RATES)

AGE AND SEX
$\begin{array}{llllll}1971-72 & 1972-73 & 1973-74 & 1974-75 & 1975-76 & 1976-77\end{array}$


[^61]
## TABLE 20. ESTIMATED POST-SECONDARY ENROLMENT RATES(1) BY SINGLE YEAR OF AGE, 1971-72 TO 1986-87(2), CONCLUDED. (NET ENROLMENT RATES)

```
1977-78 1978-79 1979-80 1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87
```

(PER CENT)
NO.

| 1.6 | 1.7 | 1.6 | 1.6 | 1.6 | 1.7 | 1.7 | 1.6 | 1.5 | 1.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1.9 | 1.7 | 1.6 | 1.6 | 1.7 | 1.8 | 1.8 | 1.8 | 1.7 | 1.6 |
| 1.7 | 1.7 | 1.6 | 1.6 | 1.7 | 1.7 | 1.7 | 1.7 | 1.6 | 1.6 |
| 7.6 | 7.2 | 7.0 | 6.8 | 6.8 | 6.8 | 7.0 | 6.7 | 6.8 | 6.8 |
| 8. 9 | 8.4 | 8.1 | 7.9 | 8.0 | 8.1 | 8.2 | 8.3 | 8.4 | 8.4 |
| 8.2 | 7.8 | 7.5 | 7.3 | 7.4 | 7.4 | 7.6 | 7.5 | 7.6 | 7.5 |
| 17.6 | 17.4 | 16.7 | 16.5 | 15.9 | 16.1 | 15.6 | 15.9 | 15.8 | 16.6 |
| 21.2 | 21.2 | 20.6 | 20.5 | 20.0 | 20.1 | 19.9 | 20.1 | 20.7 | 21.5 |
| 19.4 | 19.3 | 18.6 | 18.4 | 17.9 | 18.1 | 17.7 | 18.0 | 18.2 | 19.0 |
| 23.1 | 23.1 | 22.6 | 21.9 | 21.9 | 21.4 | 21.5 | 20.7 | 21.3 | 21.5 |
| 24.9 | 25.0 | 24.8 | 24.1 | 24.1 | 23.6 | 23.6 | 23.5 | 23.8 | 24.7 |
| 24.0 | 24.0 | 23.7 | 23.0 | 23.0 | 22.5 | 22.5 | 22. 1 | 22.5 | 23.1 |
| 21.8 | 21.4 | 21.5 | 21.0 | 20.8 | 20.9 | 20.4 | 20.3 | 19.8 | 20.9 |
| 20.0 | 19.8 | 20.0 | 19.8 | 19.5 | 19.6 | 19.3 | 19.3 | 19.3 | 19.8 |
| 20.9 | 20.6 | 20. 8 | 20.4 | 20.2 | 20.3 | 19.9 | 19.8 | 19.5 | 20.3 |
| 19.2 | 18.6 | 18.4 | 18.5 | 18.1 | 17.9 | 17.9 | 17.2 | 17.0 | 16.5 |
| 15.7 | 15.5 | 15.4 | 15.5 | 15.5 | 15.3 | 15.3 | 15.0 | 14.9 | 14.9 |
| 17.5 | 17.1 | 17.0 | 17.0 | 16.8 | 16.6 | 16.6 | 16.1 | 16.0 | 15.7 |
| 14.5 | 14.0 | 13.9 | 13.7 | 13.8 | 13.6 | 13.6 | 13.4 | 12.9 | 12.8 |
| 9.6 | 9.6 | 9.5 | 9.5 | 9.7 | 9.7 | 9.7 | 9.6 | 9.3 | 9.2 |
| 12.1 | 11.9 | 11.7 | 11.6 | 11.8 | 11.7 | 11.7 | 11.6 | 11.2 | 11.0 |
| 10.5 | 9.7 | 9.7 | 9.6 | 9.6 | 9.6 | 9.5 | 9.4 | 9.3 | 8.9 |
| 5.4 | 5.2 | 5.2 | 5.2 | 5.4 | 5.4 | 5.5 | 5.4 | 5.4 | 5.2 |
| 8.0 | 7.5 | 7.5 | 7.5 | 7.5 | 7.6 | 7.6 | 7.5 | 7.3 | 7.1 |
| 7.3 | 6.9 | 6.5 | 6.5 | 6.6 | 6.5 | 6.6 | 6.5 | 6.3 | 6.2 |
| 3.3 | 3.2 | 3.1 | 3.2 | 3.2 | 3.3 | 3.4 | 3.4 | 3.3 | 3.3 |
| $5 \cdot 3$ | 5.1 | 4.9 | 4.9 | 4.9 | 4.9 | 5.0 | 5.0 | 4.8 | 4.8 |
| 3.3 | 3.2 | 3.1 | 3.0 | 2.9 | 2.8 | 2.8 | 2.7 | 2.6 | 2.5 |
| 1.7 | 1.6 | 1.6 | 1.6 | 1.6 | 1.5 | 1.5 | 1.5 | 1.5 | 1.4 |
| 2.5 | 2.4 | 2.3 | 2.3 | 2.2 | 2.2 | 2.1 | 2.1 | 2.1 | 2.0 |

## APPENDIX C

## STATISTICS ON GRADUATES

Statistics up to $1974-75$ are historical, some preliminary data are included in the 1975-76 figures, and data for all subsequent years are projected on the basis of enrolment projection "B".

## Coverage

(1) Grade 12 Graduates: Because of differences in provincial education systems, the category "grade 12 graduates" includes graduates of the twelfth year of school in all provinces except Newfoundland (grade 11 graduates - the last year of secondary school) and Quebec (Secondary $V$ graduates - the eleventh year of school). Ontario grade 13 graduates have been excluded.
(2) Non-university diploma and certificate graduates: Included are graduates from career, technical or professional and other terminal programs in community colleges, technical schools, etc. (i.e., "career" graduates) plus graduates from the general (academic) program in Quebec's CEGEPs. "Career" graduates (i.e., from career, technical or professional programs) are shown separately in Table 22. Graduates of university transfer programs in community colleges are excluded, since in this study they were considered to have "some" university education.
(3) University graduates: The categories are self-explanatory. Graduates from all public and private institutions are included, whether they were studying full-time or part-time before graduation.

TABLE 21. GRADUATES(1) BY LEVEL AND TYPE OF PROGRAM, 1971-72 TO 1986-87(2)

LEVEL, TYPE OF $1971-72 \quad 1972-73 \quad 1973-74 \quad 1974-75 \quad 1975-76 \quad 1976-77$ STUDY AND SEX

(1) ALL SECONDARY AND UNIVERSITY GRADUATES ARE INCLUDED WHETHER THEY

STUDIED FULL-OR PART-TIME; ONLY FULL-TIME NON-UNIVERSITY GRADUATES ARE INCLUDED.
(2) HISTORICAL DATA UP TO AND INCLUDING 1974-75, PROJECTED BEYOND.

SOME ESTIMATES ARE INCLUDED IN THE HISTORICAL DATA.
(3) INCLUDES GRADE 11 GRADUATES IN NEWFOUNDLAND AND SECONDARY 5 GRADUATES IN QUEBEC.
(4) BEGINNING IN 1974, THE CALENDAR YEAR INSTEAD OF THE ACADEMIC YEAR IS USED AS THE SURVEY PERIOD.

TABLE 21. GRADUATES(1) BY LEVEL AND TYPE OF PROGRAM, 1971-72 TO 1986-87(2), CONCLUDED

| $1977-78$ | $1978-79$ | $1979-80$ | $1980-81$ | $1981-82$ | $1982-83$ | $1983-84$ | $1984-85$ | $1985-86$ | $1986-87$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

## (THOUSANDS)

NO.

| 130.2 | 127.2 | 127.6 | 127.8 | 125.6 | 116.8 | 107.1 | 102.2 | 101.3 | 102.6 | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 149.7 | 145.9 | 146.4 | 146.1 | 144.4 | 134.1 | 124.2 | 119.6 | 117.9 | 119.1 | 2 |
| 279.9 | 273.1 | 274.0 | 274.0 | 270.0 | 251.0 | 231.3 | 221.8 | 219.2 | 221.7 | 3 |


| $\begin{aligned} & 26.1 \\ & 34.1 \\ & 60.2 \end{aligned}$ | 28.5 36.7 65.2 | 27.0 35.6 62.6 | 26.2 34.5 60.7 | 26.0 34.4 60.4 | 26.1 34.4 60.5 | $\begin{aligned} & 25.7 \\ & 34.2 \\ & 60.0 \end{aligned}$ | 24.4 33.1 57.5 | $\begin{aligned} & 22.7 \\ & 31.6 \\ & 54.3 \end{aligned}$ | $\begin{aligned} & 21.8 \\ & 30.6 \\ & 52.3 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4.3 | 4.3 | 4.5 | 4.8 | 4.4 | 4.3 | 4.3 | 4.3 | 4.1 | 3.9 |
| 5.3 | 5.5 | 5.4 | 5.8 | 5.3 | 5.2 | 5.2 | 5.1 | 5.0 | 4.8 |
| 9.6 | 9.7 | 9.9 | 10.7 | 9.7 | 9.6 | 9.6 | 9.4 | 9.1 | 8.6 |
| 30.4 | 32.7 | 31.5 | 31.0 | 30.5 | 30.4 | 30.1 | 28.7 | 26.8 | 25.6 |
| 39.4 | 42.2 | 41.0 | 40.4 | 39.7 | 39.6 | 39.5 | 38. 2 | 36.6 | 35.4 |
| 69.8 | 74.9 | 72.5 | 71.4 | 70.2 | 70.1 | 69.5 | 66.9 | 63.3 | 61.0 |
| 44.7 | 43.7 | 43.2 | 44.4 | 46.1 | 45.7 | 45.7 | 46.0 | 46.0 | 44.8 |
| 42.8 | 43.3 | 43.8 | 45.0 | 46.9 | 46.8 | 46.8 | 47.1 | 46.9 | 45.8 |
| 87.4 | 87.0 | 87.0 | 89.5 | 93.1 | 92.5 | 92.5 | 93.1 | 92.9 | 90.6 |
| 0.9 | 0.9 | 0.9 | 0.9 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 0.5 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.7 | 0.7 | 0.7 | 0.7 |
| 1.5 | 1. 5 | 1.5 | 1.5 | 1.6 | 1.6 | 1.6 | 1.7 | 1.7 | 1.7 |
| 8.0 | 8.1 | 8.1 | 8.2 | 8.3 | 8.4 | 8.6 | 8.7 | 8.9 | 9.0 |
| 3.8 | 4.0 | 4.1 | 4.3 | 4.5 | 4.7 | 4.9 | 5.0 | 5.1 | 5.2 |
| 11.8 | 12.1 | 12.3 | 12.5 | 12.8 | 13.1 | 13.4 | 13.7 | 14.0 | 14.3 |
| 1.5 | 1.5 | 1.5 | 1.5 |  |  |  |  |  | 1.6 |
| 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.5 |
| 1.8 | 1.8 | 1.8 | 1.8 | 1.9 | 1.9 | 1.9 | 2. 0 | 2.1 | 2.1 |
| 55.0 | 54.2 | 53.7 | 55.1 | 56.9 | 56.6 | 56.8 | 57.3 | 57.6 | 56.5 |
| 47.5 | 48.2 | 48.8 | 50.3 | 52.3 | 52.4 | 52.7 | 53.2 | 53.2 | 52.2 |
| 102.5 | 102.4 | 102.5 | 105.3 | 109.2 | 109.0 | 109.5 | 110.5 | 110.7 | 108.7 |
|  |  | 85.2 | 86.1 | 87.4 | 87.0 | 86.9 | 86.0 | 84.4 | 82.1 |
| 86.8 | 90.4 | 89.9 | 90.6 | 92.1 | 92.1 | 92.2 | 91.4 | 89.7 | 87.6 |
| 172.2 | 177.3 | 175.1 | 176.7 | 179.4 | 179.1 | 179.1 | 177.4 | 174.1 | 169.7 |
| 215.6 | 214.1 | 212. 8 | 213.9 | 213.0 | 203.9 | 194.0 | 188.3 | 185.7 | 184.7 |
| 236.5 | 236.3 | 236. 3 | 236.7 | 236.4 | 226.2 | 216.4 | 211.0 | 207.6 | 206.7 |
| 452.1 | 450.4 | 449.0 | 450.7 | 449.4 | 430.1 | 410.4 | 399.3 | 393.3 | 391.4 |

TABLE 22. NON-UNIVERSITY GRADUATES BY PROGRAM, 1971-72 TO 1986-87(1)

(1) HISTORICAL DATA UP TO AND INCLUDING $1974-75$, PROJECTED BEYOND. HISTORICAL DATA INCLUDE SOME ESTIMATES.

|  | LEVEL AND SEX | 1971-72 | 1972-73 | 1973-74 | 1974-75 | 1975-76 | 1976-77 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | GRADE 12(3) AS A PER CENT OF 18-YEAR-OLDS: |  |  |  |  |  |  |
| 1 | MALE.......... | 50.6 | 49.2 | 50.6 | 50.6 | 52.4 | 55.1 |
| 2 | FEMALE........ | 60.0 | 58.4 | 61.0 | 61.2 | 63.4 | 66.6 |
| 3 | BOTH SEXES.. | 55.2 | 53.7 | 55.7 | 55.8 | 57.8 | 60.7 |
|  | DIPLOMAS AND CERT(4) AS A PER CENT OF 20-YEAR-OLDS: |  |  |  |  |  |  |
| 4 | MALE. . . . . . . . | 11.6 | 12.8 | 12.4 | 12.0 | 12. 5 | 12.7 |
| 5 | FEMALE.. | 14.6 | 15.4 | 15.2 | 15.1 | 16.5 | 17.2 |
| 6 | BOTH SEXES.. | 13.1 | 14.1 | 13.8 | 13.5 | 14.5 | 14.9 |
|  | BACHELOR'S(5) AS A PER CENT OF 21-YEAR-OLDS: |  |  |  |  |  |  |
| 7 | MALE........... | 22.0 | 21.4 | 20.8 | 20.4 | 19.4 | 19.7 |
| 8 | FEMALE...... | 14.3 | 14.2 | 15.0 | 16.5 | 17.3 | 18.5 |
| 9 | BOTH SEXES.. | 18.1 | 17.9 | 18.0 | 18.5 | 18.4 | 19.1 |
|  | MASTER'S AS A PER CENT OF 24-YEAR-OLDS: |  |  |  |  |  |  |
| 10 | MALE...... | 4.2 | 4.1 | 3.8 | 3.9 | 3.9 | 3.7 |
| 11 | FEMALE........ | 1.3 | 1.5 | 1.5 | 1.5 | 1.7 | 1.8 |
| 12 | BOTH SEXES.. | 2.8 | 2.8 | 2.6 | 2.7 | 2.8 | 2.7 |
|  | EARNED DOCTORATES AS A PER CENT OF 27-YEAR-OLDS: |  |  |  |  |  |  |
| 13 | MALE.......... | 0.9 | 0.9 | 1.0 | 0.8 | 0.8 | 0.7 |
| 14 | FEMALE. | C. 1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 |
| 15 | BOTH SEXES.. | 0.5 | 0.6 | 0.5 | 0.5 | 0.4 | 0.4 |

[^62]TABLE 22. NON-UNIVERSITY GRADUATES BY PROGRAM, 1971-72 TO 1986-87, CONCLUDED.


TABLE 23. GRADUATES BY LEVEL AS A PERCENTAGE OF SELECTED AGES (1), 1971-72 TO 1986-87, CONCLUDED.

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1977-78 1978-79 1979-80 1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1980-87
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| $\begin{aligned} & 53.4 \\ & 64.3 \\ & 58.8 \end{aligned}$ | $\begin{aligned} & 51.9 \\ & 01.9 \\ & 56.8 \end{aligned}$ | $\begin{aligned} & 52.4 \\ & 62.8 \\ & 57.5 \end{aligned}$ | $\begin{aligned} & 51.7 \\ & 61.9 \\ & 56.7 \end{aligned}$ | $\begin{aligned} & 52.1 \\ & 62.2 \\ & 57.1 \end{aligned}$ | $\begin{aligned} & 49.2 \\ & 59.8 \\ & 54.4 \end{aligned}$ | $\begin{aligned} & 49.4 \\ & 58.9 \\ & 54.1 \end{aligned}$ | $\begin{aligned} & 49.4 \\ & 60.8 \\ & 54.9 \end{aligned}$ | $\begin{aligned} & 52.5 \\ & 63.5 \\ & 57.9 \end{aligned}$ | $\begin{aligned} & 53.5 \\ & 64.8 \\ & 59.0 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 12.7 | 13.6 | 12.8 | 12.5 | 12.4 | 12.2 | 12.4 | 12.0 | 12.2 | 12.2 |
| 17.1 | 18.1 | 17.4 | 16.9 | 16.8 | 16.6 | 16.8 | 16.8 | 17.1 | 17.7 |
| 14.8 | 15.8 | 15.0 | 14.7 | 14.6 | 14.4 | 14.5 | 14.3 | 14.6 | 14.9 |
| 18.9 | 18.1 | 17.8 | 17.9 | 18.5 | 18.4 | 18.2 | 18.8 | 19.0 | 20.2 |
| 18.7 | 18.6 | 18.7 | 18.9 | 19.5 | 19.6 | 19.4 | 19.9 | 20.5 | 21.2 |
| 18.8 | 18.3 | 18.2 | 18.4 | 19.0 | 19.0 | 18.8 | 19.3 | 19.7 | 20.7 |
| 3.5 | 3.4 | 3.4 | 3.4 | 3.3 | 3.4 | 3.4 | 3.4 | 3.5 | 3.5 |
| 1.7 | 1.7 | 1.8 | 1.8 | 1.9 | 1.9 | 2.0 | 2.0 | 2.1 | 2.1 |
| 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.7 | 2.7 | 2.7 | 2.8 | 2.8 |
| U. 7 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 |



## APPENDIX D

## SCHOOL LEAVERS STATISTICS

The tables include historical data and Projection "B". Three alternative projections of the number and educational attainment of school leavers, based on enrolment projections "A", "C" and "D", are in Appendix E.

The number leaving the education system includes all persons who were enrolled during one academic year, but not the following. Some "school leavers" are graduates, while others leave before they complete the program. For example, people who "leave" during or at the end of the 1976-77 academic year are 1977 school leavers. Those who remain in Canada and are available to accept employment are referred to as potential labour force entrants.

## List of Tables in Appendix D

Table Title
24. Number of persons leaving the education system, by level of schooling, 1966 to 1986.
25. Number of potential labour force entrants from the education system by level of schooling, 1966 to 1986.
26. Percentage distribution of potential labour force entrants from the education system by level of schooling, 1966 to 1986.

TABLE 24. MUMBER OF PERSONS LEAVING THE EDUCATION SYSTEM. BY LEVEL OF SCHODLING. 1966 TO 1986

$\qquad$

## --BOTH SEXES-

| 1966 | 209.0 | 104.8 | 313.8 | 26.7 | 27.8 | 22.6 | 2.9 | 0.5 | 53.8 | 80.5 | 394.3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1971 | 282.4 | 104.2 | 386.7 | 86.5 | 33.0 | 39.6 | 6.5 | 1.0 | 80.0 | 166.5 | 553.2 |
| 1972 | 269.2 | 106.2 | 375.4 | 92.9 | 34.6 | 45.1 | 6.7 | 1.0 | 87.3 | 180.2 | 555.5 |
| 1973 | 280.0 | 105.4 | 385.4 | 104.7 | 36.8 | 43.6 | 6.4 | 1.0 | 87.8 | 192.5 | 577.9 |
| 1974 | 273.9 | 111.7 | 385.6 | 125.3 | 37.5 | 46.2 | 6.5 | 1.0 | 91.1 | 216.4 | 602.0 |
| 1975 | 262.1 | 108.7 | 370.8 | 122.3 | 36.5 | 49.0 | 6.8 | 1.0 | 93.4 | 215.7 | 586.5 |
| PROJECTED |  |  |  |  |  |  |  |  |  |  |  |
| 1976(5) | 271.2 | 121.4 | 392.6 | 139.9 | 39.6 | 50.5 | 7.3 | 0.9 | 98.3 | 238.2 | 630.8 |
| 1977 | 299.5 | 127.5 | 427.0 | 139.8 | 42.0 | 52.7 | 7.3 | 0.9 | 102.9 | 242.7 | 669.6 |
| 1978 | 282.0 | 128.6 | 410.6 | 145.7 | 42.6 | 52.2 | 7.2 | 0.9 | 102.9 | 248.7 | 659.2 |
| 1979 | 272.6 | 126.4 | 399.0 | 142.8 | 45.1 | 51.9 | 7.4 | 0.9 | 105.3 | 248.1 | 647.1 |
| 1980 | 270.6 | 126.6 | 397.2 | 143.4 | 45.9 | 51.7 | 7.5 | 0.9 | 106.0 | 249.5 | 646.6 |
| 1981 | 265.7 | 126.0 | 391.6 | 140.1 | 45.6 | 53.3 | 7.7 | 0.9 | 107.5 | 247.5 | 639.2 |
| 1982 | 249.3 | 123.1 | 372.4 | 141.3 | 44.9 | 55.8 | 7.8 | 0.9 | 109.5 | 250.8 | 623.1 |
| 1983 | 237.9 | 114.3 | 352.2 | 143.3 | 44.9 | 55.5 | 8.0 | 0.9 | 109.4 | 252.7 | 604.9 |
| 1984 | 228.5 | 104.2 | 332.8 | 144.0 | 45.0 | 55.2 | 8.2 | 1.0 | 109.3 | 253.3 | 586.1 |
| 1985 | 224.5 | 98.4 | 322.9 | 141.3 | 43.6 | 55.2 | 8.4 | 1.0 | 108.2 | 249.4 | 572.3 |
| 1986 | 223.8 | 95.6 | 319.4 | 137.1 | 41.5 | 54.5 | 8.6 | 1.0 | 105.6 | 242.7 | 562.1 |

(1) INCLUDES COMPLETED TRADE AND OCCUPATIONAL COURSES.
(2) INCLUDES CEGEP GENERAL GRADUATES IN QUEBEC AND UNIVERSITY TRANSFER STU
(4) INCLUDES GRADUATE DIPLOMAS

TABLE 24. NUMBER OF PERSONS LEAVING THE EDUCATION SYSTEM. BY LEVEL OF SChOoLing. 1966 TO 1986

| YEAR | ELEMENTARY-SECONDARY SOME COMPLETED (1) | TOTAL | $\begin{aligned} & \text { I SOME } \\ & \text { (2) } \end{aligned}$ | CERT OR DIPL OMA (3) | $\begin{aligned} & \text { BACHELOR'S } \\ & \text { AND } 1 \text { ST } \\ & \text { PROF } \end{aligned}$ | $\begin{aligned} & \text { ECONDARY- } \\ & \text { PLETED- } \\ & \text { MASTER•S } \\ & \text { (4) } \end{aligned}$ | PHD |  | $\begin{aligned} & \text { TOTAL } \\ & \text { POST-SEC } \end{aligned}$ | GR AND TOTAL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| --MALE |  |  |  |  | HOUSANDS) |  |  |  |  |  |
| HISTORICAL |  |  |  |  |  |  |  |  |  |  |
| 1966 | 112.7 49.1 | 161.8 | 22.0 | 6.8 | 14.5 | 2.2 | 0.4 | 23.9 | $46 . C$ | 207.7 |
| 1971 | 155.5 40.3 | 195.7 | 55.7 | 12.1 | 23.6 | 4.8 | 0.8 | 41.4 | 97.1 | 292.8 |
| 1972 | 155.8 40.8 | 196.6 | 62.3 | 13.8 | 26.6 | 4.7 | 0.9 | 46.1 | 108.3 | 304.9 |
| 1973 | 159.3 41.3 | 200.6 | 65.7 | 15.3 | 25.9 | 4.4 | 0.9 | 46.4 | 112.1 | 312.7 |
| 1974 | 148.5 46.2 | 194.7 | 80.6 | 15.5 | 26.5 | 4.3 | 0.9 | 47.2 | 127.8 | 322.5 |
| 1975 | 148.0 45.0 | 193.0 | 75.5 | 14.7 | 26.5 | 4.5 | 0.8 | 46.5 | 122.C | 315.0 |
| PROJECTED |  |  |  |  |  |  |  |  |  |  |
| 1976 (5) | 154.451 .5 | 205.9 | 84.8 | 15.6 | 26.1 | 4.6 | 0.7 | 47.0 | 131.8 | 337.7 |
| 1977 | 172.0 53.7 | 225.7 | 84.4 | 16.2 | 26.4 | 4.5 | 0.7 | 47.8 | 132.2 | 357.9 |
| 1978 | 161.755 .3 | 217.1 | 87.1 | 16.2 | 25.3 | 4.5 | 0.7 | 46.7 | 133.8 | 350.8 |
| 1979 | 156.6 55.3 | 211.9 | 85.1 | 17.1 | 24.6 | 4.5 | 0.7 | 46.9 | 132.0 | 343.9 |
| 1980 | 154.655 .3 | 209.9 | 85.0 | 17.5 | 24.2 | 4.6 | 0.7 | 47.0 | 131.9 | 341.9 |
| 1981 | 150.0 55.1 | 205.0 | 83.3 | 17.5 | 25.1 | 4.6 | 0.7 | 47.9 | 131.1 | 336.2 |
| 1982 | 141.453 .5 | 194.9 | 84.1 | 17.2 | 26.3 | 4.6 | 0.7 | 48.9 | 133.0 | 327.9 |
| 1983 | 135.150 .3 | 185.4 | 85.2 | 17.3 | 26.0 | 4.7 | 0.7 | 48.7 | 133.9 | 319.3 |
| 1984 | 129.0 45.9 | 174.9 | 85.7 | 17.3 | 25.7 | 4.7 | 0.7 | 48.5 | 134.1 | 309.0 |
| 1985 | 126.5 43.2 | 169.7 | 83.9 | 16.7 | 25.6 | 4.8 | 0.7 | 47.9 | 131.8 | 301.6 |
| 1986 | 126.241 .8 | 168.0 | 81.2 | 15.7 | 25.4 | 4.9 | 0.8 | 46.8 | 128.0 | 296.0 |

[^63]table 24. number of persons leaving the education system. by level of schooling. 1966 to 1986



## YEAR




--BDTH SEXES--
HISTJRICAL

| 1966 | 189.7 | 104.0 | 293.7 | 21.1 | 21.0 | 21.8 | 2.5 | 0.4 | 45.7 | 66.8 | 369.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1971 | 264.4 | 103.4 | 367.8 | 72.6 | 32.9 | 39.4 | 6.4 | 0.9 | 79.7 | 150.3 | 518.1 |
| 1972 | 251.2 | 105.4 | 356.5 | 75.3 | 34.5 | 44.9 | 6.6 | 2.9 | 86.9 | 162.2 | 518.8 |
| 1973 | 262.6 | 104.5 | 367.1 | 82.1 | 36.7 | 43.4 | 6.4 | 1.0 | 87.5 | 169.6 | 536.8 |
| 1974 | 257.2 | 112.7 | 367.8 | 105.9 | 37.4 | 45.9 | 6.4 | 1.0 | 90.7 | 196.6 | 564.5 |
| 1975 | 244.1 | 107.5 | 351.6 | 98.1 | 36.5 | 48.8 | 6.8 | 1.0 | 93.0 | 191.f | 542.6 |
| PQOJECTED |  |  |  |  |  |  |  |  |  |  |  |
| 1976 (5) | 251.4 | 120.2 | 371.5 | 110.2 | 39.5 | 59.3 | 7.2 | 0.9 | 97.8 | 208.0 | 579.6 |
| 1977 | 279.4 | 125.2 | 475.6 | 107.3 | 42.0 | 52.4 | 7.2 | 0.9 | 102.4 | $2 \mathrm{C9.7}$ | 615.3 |
| 1978 | 261.3 | 127.4 | 388.7 | 114.2 | 42.5 | 51.9 | 7.2 | 0.9 | 1 C 2.5 | 216.6 | 605.3 |
| 1979 | 25\%.4 | 125.2 | 375.6 | 111.6 | 45.0 | 51.6 | 7.3 | C. 9 | 124.8 | 215.4 | 592.0 |
| 1980 | 246.7 | 125.3 | 372.1 | 112.4 | 45.9 | 51.4 | 7.4 | 0.9 | 105.5 | 217.9 | 590.0 |
| 1981 | 242.2 | 124.7 | 366.9 | 109.5 | 45.5 | 53.0 | 7.6 | 2.9 | 107.0 | 216.4 | 583.3 |
| 1982 | 226.1 | 121.9 | 347.9 | $111 . \mathrm{C}$ | 44.8 | 55.5 | 7.8 | 0.9 | 109.0 | 220.0 | 567.9 |
| 1983 | 214.9 | 113.1 | 328.C | 113.1 | 44.9 | 55.2 | 7.9 | 0.9 | 1 C8.9 | 222.0 | 550.0 |
| 1934 | 205.6 | 103.2 | 328.8 | 113.7 | 44.9 | 54.9 | 8.1 | 0.9 | $1 \mathrm{C8.8}$ | 222.5 | 531.3 |
| 1985 | 291.6 | 97.4 | 299.n | 111.2 | 43.5 | 54.8 | 8.3 | 1.0 | $1 \mathrm{C7.7}$ | 218.9 | 517.9 |
| 1986 | 203.9 | 94.6 | 295.5 | 107.5 | 41.4 | 54.2 | 8.5 | 1.0 | 105.1 | 212.6 | 508.0 |


(2) INCLUDES CE GED GENERAL GRADUATES IN QUEBEC AND UNIVERSITY TRANSFER STUDENTS IN OTHER PROVINCES,
(4) FROM NON-UNIVERSITY INSTITUTIONS OR UNDERGRADUATE DIPLOMA PROGRAMS.
(4) IVCLUDES GRADUATE DIPLDMAS.
(5) INCLUDES PRELIMINARY DATA.

TABLE 25. NUMBER OF POTENTIAL LABDUR FORCE ENTRANTS FROM THE EDUCATION
SYSTEM BY LEVEL OF SCHOOLING, 1966 TO 1986 ING
ELEMENTARY-SECONDARY
SOME COMPLETED TOTAL
(1)

--MALE--


(2) INELUDES CEGEP GENERAL GRADUATES IN QUEBEC AND UNIVERSITY TRANSFER
(3) FROM NON-UNIVERSITY INST ITU
(5) INCLUDES PRELIMINARY DATA.

## TABLE 25. NUMBER OF POTENTIAL LABOUR FORCE ENTRANTS FROM THE EDUCATION SYSTEM BY LEVEL OF SCHOOLING, 1966 TO 1986

## YEAR

ELEMENTARY-SECONDARY
SOME COMPLETED TOTAL
(1)


(1) INCLUDES COMPLETED TRADE- AND OCCUPATIONAL COURSES.
(2) INCLUDES CEGEP GENERAL GRADUATES IN QUEBEC AND UNIVERSITY TRANSFER STUDENTS IN OTHER PROVINCES.
(3) FROM NON-UNIVERSITY INSTITUTIONS OR UNDERGRADUATE DIPLOMA PROGRAMS.
(4) INCLUDES GRADUATE DIPLOMAS. (5) INCLUDES PRELIMINARY DATA.

TABLE 26. PERCENTAGE DISTRIBUTION DF POTENTIAL LABOUR FORCE ENTRANTS FROM THE EDUCATION
SYSTEM BY LEVEL OF SCHOOLING. 1966 TO 1986


--BOTH SEXES--
HISTORICAL

| 1966 | 52.6 | 28.9 | 81.5 | 5.8 | 5.8 | 6.0 | 0.7 | 0.1 | 12.6 | 18.5 | 100.0 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1971 | $51 . c$ | 20.0 | 71.0 | 13.6 | 6.4 | 7.6 | 1.2 | 0.2 | 15.4 | 29.0 | 100.0 |
| 1972 | 48.4 | 20.3 | 58.7 | 14.5 | 6.7 | 8.6 | 1.3 | c. 2 | 16.8 | 31.3 | 100.0 |
| 1973 | 48.9 | 19.5 | 68.4 | 15.3 | 6.8 | 8.1 | 1.2 | 0.2 | 16.3 | 31.6 | 100.0 |
| 1974 | 45.6 | 19.6 | 65.2 | 18.8 | 6.6 | 8.1 | 1.1 | 0.2 | 16.1 | 34.8 | 100.0 |
| 1975 | 45.0 | 19.8 | 54.8 | 18.1 | 6.7 | 9.C | 1.2 | 0.2 | 17.1 | 35.2 | 100.0 |
| PROJECTED |  |  |  |  |  |  |  |  |  |  |  |
| 1976 (5) | 43.4 | 22.7 | 64.1 | 19.0 | 6.8 | 8.7 | 1.2 | 0.1 | 16.9 | 35.9 | 100.0 |
| 1977 | 45.4 | 20.5 | 65.9 | 17.4 | 6.8 | 8.5 | 1.2 | 0.1 | 16.6 | 34.1 | 100.0 |
| 1978 | 43.2 | 21.0 | 64.2 | 18.9 | 7.0 | 8.6 | 1.2 | 0.1 | 16.9 | 35.8 | 100.0 |
| 1979 | 42.3 | 21.2 | 63.4 | 18.8 | 7.6 | 8.7 | 1.2 | C. 1 | 17.7 | 36.6 | 100.0 |
| 1980 | 41.8 | 21.2 | 63.1 | 19.1 | 7.8 | 8.7 | 1.3 | 0.1 | 17.9 | 36.9 | 100.0 |
| 1981 | 41.5 | 21.4 | 62.9 | 18.8 | 7.8 | 9.1 | 1.3 | 0.2 | 18.3 | 37.1 | 100.0 |
| 1982 | 39.8 | 21.5 | 61.3 | 19.5 | 7.9 | 9.8 | 1.4 | C. 2 | 19.2 | 38.7 | 100.0 |
| 1983 | 39.1 | 20.6 | 59.6 | 29.6 | 8.2 | 10.0 | 1.4 | 0.2 | 19.8 | $4 \mathrm{C}$. | 100.0 |
| 1984 | 38.7 | 19.4 | 58.1 | 21.4 | 8.4 | 10.3 | 1.5 | 0.2 | 20.5 | 41.9 | 100.0 |
| 1985 | 38.9 | 18.8 | 57.7 | 21.5 | 8.4 | 10.6 | 1.6 | 0.2 | 20.8 | 42.3 | 120.0 |
| 1986 | 39.5 | 18.6 | 58.2 | 21.2 | 8.1 | 10.7 | 1.7 | 0.2 | 20.7 | 41.8 | 100.0 |

(1) INCLJDES COMPLETED TRADE AND OCCUPATIONAL COURSE SN IVERSITY TRAVSFER STUDENTS IN OTHER PROVINCES.
(2) INCLUDES CEGER GENERAL GRADUATES IN QUEBEC AND UNIVERS ITY TRAVSFER
(4) INCLUDES GRADUATE DIPLOMAS.

TABLE 26. PERCENTAGE DISTRIBUTION OF POTENTIAL LABOUR FORCE ENTRANTS FROM THE EDUCATION SYSTEM BY LEVEL OF SCHOOLING. 1966 TO 1986


## TABLE 26. PERCENTAGE DISTRIBUTION DF POTENTIAL LABOUR FDRCE ENTRANTS FROM THE EDUCATION SYSTEM BY LEVEL OF SCHOOLING, 1966 TO 1986

YEAR
ELEMENTARY-SECONDARY
SOM (1) CJMPLETED TOTAL

--FEMALE--
HISTORICAL

| 1956 | 52.5 | 31.9 | 82.3 | 4.5 | 8.3 | 4.5 | 0.3 | 2.0 | 13.2 | 17.7 | 130.2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1971 | 48.0 | 25.7 | 73.6 | 10.8 | 8.4 | 6.4 | 0.7 | 0.0 | 15.5 | 26.4 | 130.: |
| 1972 | 44.4 | 27.4 | 71.8 | 10.9 | 8.7 | 7.7 | c. 8 | 0.0 | 17.3 | 28.2 | 105.0 |
| 1973 | 45.0 | 25.4 | 70.4 | 13.1 | 8.6 | 7.0 | c. 8 | 0.1 | 16.5 | 29.6 | 102.0 |
| 1974 | 44.3 | 24.5 | 68.8 | 14.7 | 8.3 | 7.4 | 0.8 | C. 1 | 16.5 | 31.2 | 100.0 |
| 1975 | 41.5 | 24.7 | 66.2 | 15.5 | 8.6 | 8.8 | 0.9 | 0.1 | 18.3 | 33.8 | 100.0 |
| PROJECTED |  |  |  |  |  |  |  |  |  |  |  |
| 1976(5) | 39.4 | 25.3 | 64.6 | 16.7 | 8.8 | 8.9 | 1.0 | C. 1 | 18.7 | 35.4 | 100.0 |
| 1977 | 4 4. 6 | 25.1 | 65.8 | 15.4 | 8.9 | 9.0 | 0.9 | C. 1 | 18.9 | 34.2 | $100 . \mathrm{C}$ |
| 1978 | 38.5 | 25.3 | 63.8 | 16.7 | 9.2 | 9.3 | 1.0 | 0.1 | 19.5 | 36.2 | 10 CO |
| 1979 | 37.6 | 25.1 | 62.6 | 16.7 | 9.9 | 9.6 | 1.0 | C. 1 | 20.6 | 37.4 | 100.0 |
| 1980 | 37.2 | 25.C | 62.2 | 16.9 | 10.1 | 9.7 | $1 . ?$ | 0.1 | 20.8 | 37.8 | 100.0 |
| 1981 | 37.3 | 25.? | 62.4 | 16.5 | 10.2 | 10.0 | 1.1 | 0.1 | 21.2 | 37.6 | 103.0 |
| 1992 | 35.6 | 25.2 | 50.8 | 17.1 | 10.1 | 12.8 | 1.2 | 0.1 | 22.1 | 39.2 | 100.0 |
| 1983 | 34.9 | 24.0 | 59.0 | 18.1 | 10.5 | 11.1 | 1.3 | 0.1 | 23.0 | 41.0 | 10 c .0 |
| 1984 | 34.8 | 22.7 | 57.5 | 18.8 | 10.8 | 11.5 | 1.4 | 0.1 | 23.8 | 42.5 | 100.0 |
| 1985 | 35.1 | 22.C | 57.0 | 18.8 | 10.8 | 11.8 | 1.4 | 0.1 | 24.1 | 43.0 | 100.0 |
| 1986 | 35.6 | 21.8 | 57.4 | 18.7 | 10.5 | 11.8 | 1.5 | C. 1 | 24.0 | 42.6 | 100.0 |

(1) $\overline{1} \bar{N} \bar{C} \bar{U} \bar{D} \bar{E} \bar{S}$ C̄MPLETED TN (3) FROM NON-UNIVERSITY INSTITUTIONS OR UNDERGRADUATE DIPLOMA PROGRAMS.
(4) INCIUDFS GRADUATE OIPI OMAS.
(4) INCLUDES GRADUATE DIPLOMAS.

## APPENDIX E

## ALTERNATIVE PROJECTIONS

The population, enrolment and school leavers projections in appendices A through D all represent a "medium" projection, Projection " B ". A1ternatives provided here result from a change in some key assumption underlying the projection (see chapter 6, Alternative Projections). Included are:
(1) Three population projections, "A" through "C", each based on a different assumption about the future total fertility rate.
(2) Three elementary-secondary projections, "A" through "C", based on the three population projections in (1).
(3) Four post-secondary enrolment projections, "A" through "D". Al1 are based on secondary enrolment projection "B", but incorporate different assumptions about the proportion of young people who will continue to college or university.
(4) Four projections of school leavers, "A" through "D", based on the four post-secondary projections in (3).

## List of Tables in Appendix E

Table

## Title

27. Alternative projection of school population age groups, Canada, 1971 to 2001.
28. Alternative enrolment projections by institutional level, 1971-72 to 1986-87.
29. Alternative enrolment projections as a percentage of the relevant age group population, 1971-72 to 1986-87 (gross enrolment rates).
30. Alternative projections of potential labour force entrants from the education system, 1966 to 1986.
FR

Alternative Projection of School Population Age Groups,
Canada, $19 \% 1$ to 2001 (1)

-     -         - PROJECTION "A" - . -

| Year | 5-13 | 14-17 | 4-17 | 18-21 | 22-24 | 18-24 | 4-24 | Total Population |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (Thousands) |  |  |  |  |  |  |  |
| 1971 | 4,113.8 | 1,765.8 | 6,265.5 | $\begin{array}{r} \text { storical } \\ 1,552.0 \end{array}$ | 1,136.9 | 2,688.9 | 8,954.4 | 21,568.3 |
| 1972 | 4,044.8 | 1,785.6 | 6,190.3 | 1,645.1 | 1,146.4 | 2,791.5 | 8.981 .8 | 21,820.5 |
| 1973 1974 | $3,953.3$ $3,861.0$ | 1,820.4 | 6,130.3 | 1,680.5 | 1,142.9 | 2,823.4 | 8,953.7 | $22,094.7$ |
| 1974 1975 | $3,861.0$ $3,781.2$ | 1,849.4 | 6,077.0 | 1,747.6 | 1,183.3 | 2,930.9 | 9,007.9 | 22,446.3 |
| 1975 | 3,781.2 | 1,877.9 | 6,023.1 | 1,797.3 | 1,231.9 | 3,029.2 | 9,052.3 | 22,799.6 |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| 1977 | 3,569.9 | 1,904.2 | 5,827.1 | 1,856.3 | 1,338.9 | 3,195.2 | 9,022.2 | 23,364.3 |
| 1978 | 3,464.7 | 1,900.9 | 5,713.5 | 1,882.9 | 1,380.4 | 3,263.3 | 8,976.8 | 23,654.7 |
| 1979 1980 | $3,366.3$ $3,299.2$ | 1,881.2 | 5,593.0 | 1,908.0 | 1,408.9 | 3,316.9 | 8,909.9 | 23,955.2 |
| 1980 | $3,299.2$ $3,266.7$ | $1,832.0$ $1,752.5$ | $5,487.1$ $5,382.9$ | 1,919.8 | 1,426.4 | 3,346.2 | 8,833.4 | 24,269.0 |
| 1982 | $3,267.3$ | $1,752.5$ $1,657.7$ | $5,382.9$ $5,296.3$ | 1,934.2 | 1,445.3 | 3,379.5 | 8,762.4 | 24,595.3 |
| 1983 | 3,278.4 | 1,571.8 | 5,234.3 | $1,930.9$ $1,911.3$ | $1,465.7$ $1,481.7$ | $3,396.6$ $3,393.0$ | $8,692.9$ $8,627.3$ | $24,933.2$ $25,379.7$ |
| 1984 | 3,293.7 | 1,528.2 | 5,222.0 | 1,862.3 | 1,489.8 | 3,352.0 | 8,574.1 | 25,631.3 |
| 1985 | 3,329.7 | 1,504.1 | 5,249.2 | 1,733.0 | 1,496.4 | 3,279.5 | 8,528.6 | 25,985.1 |
| 1986 | $3,390.2$ $3,467.1$ | 1,495.8 | 5,316.0 | 1,638.6 | 1,488.6 | 3,177.2 | 8,493.2 | 26,339.0 |
| 1987 1989 | $3,467.1$ $3,665.2$ | $1,488.6$ $1,449.1$ | $5,397.4$ $5,569.7$ | 1,603.1 | 1,473.3 | 3,076.4 | 8,473.7 | 26,691.5 |
| 1991 | 3,859.4 | 1,460.9 | 5,781.1 | 1,520.2 | 1,520.2 | 2,884.9 2,735.3 | 8,516.4 | $27,385.6$ $28,057.8$ |
| 1993 | 4,026.6 | 1,522.7 | 6,011.8 | 1,480.8 | 1,480.8 | 2,677.7 | 8,689.5 | 28,691.6 |
| 1995 | 4,135:4 | 1,618.3 | 6.213 .2 | 1,492.6 | 1,492.6 | 2,668.4 | 8,881.6 | 29,286.6 |
| 1997 | 4,177.2 | 1,734.0 | 6,359.8 | 1,554.2 | 1,554.2 | 2,704.7 | 9,064.4 | 29,849.1 |
| 1999 | 4,164.1 | 1,823.3 | 6,426.8 | 1,649.5 | 1,649.5 | 2,818.5 | 9,245.4 | 30,388.8 |
| 2001 | 4,120.1 | 1,871.1 | 6,425.2 | 1,76.4.7 | 1,222.5 | 2,937.2 | 9,412.4 | 30,916.5 |

(1) Projected data is from a special Statistics Canada population projection with 1975 population estimates as the projection base Assumptions: Total fertility rate 2.10 by 1990, Net annual migration 100,000 .
Source: Population Estimates and Projections Division, Statistics Canada

## Table 27

Alternative Projection of School Population Age Groups,
Canada, 1971 to 2001 (1)

- . - PROJECTION "B" . . . .

| Year | 3-13 | 14-17 | 4-17 | 18-21 | 22-24 | 18-24 | 4-24 | Total Population |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (Thousands) |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| 1972 | 4,044.8 | 1,785.6 | 6,190.3 | 1,645.1 | 1,146.4 | 2,791.5 | 8,981. 8 | 21,820.5 |
| 1973 | 3,953.3 | 1,820.4 | 6,130.3 | 1,680.5 | 1,142.9 | 2,823.4 | 8,953.7 | 22,094.7 |
| 1974 | 3,861.0 | 1,849.4 | 6,077.0 | 1,747.6 | 1,183.3 | 3,930.9 | 9,007.9 | 22,446.3 |
| 1975 | 3,781.2 | 1,877.9 | 6,023.1 | 1,797.3 | 1,231.9 | 3,029.2 | 9,052.3 | 22,799.6 |
| - - Projection "B" - - |  |  |  |  |  |  |  |  |
| 1976 | 3,683.2 | 1,889.8 | 5,297.9 | 1,835.0 | 1,281.5 | 3,116.5 | 9,044.3 | 23,079.0 |
| 1977 | 3,569.9 | 1,904.2 | 5,827.1 | 1,856.3 | 1,338.9 | 3,195.2 | 9,022.2 | 23,364.3 |
| 1978 | 3,464.7 | 1,900.9 | 5,713.5 | 1,882.9 | 1,380.4 | 3,263.3 | 8,976.8 | 23,653.0 |
| 1979 | 3,366.3 | 1,881.2 | 5,593.0 | 1,908.0 | 1,408.9 | 3,316.9 | 8,909.9 | 23,946.8 |
| 1980 | 3,299.2 | 1,832.0 | 5,487.1 | 1,919.8 | 1,426.4 | 3,346.2 | 8,833.4 | 24,247.4 |
| 1981 | 3,266.7 | 1,752.5 | 5,382.9 | 1,934.2 | 1,445.3 | 3,379.5 | 8,762.4 | 24,553.7 |
| 1982 | 3,267.3 | 1,657.7 | 5,294.6 | 1,930.9 | 1,465.7 | 3,396.6 | 8,691.2 | 24,864.6 |
| 1983 | 3,276.7 | 1,571.8 | 5,225.9 | 1,911.3 | 1,481.7 | 3,393.0 | 8,618.9 | 25,178.1 |
| 1984 | 3,285.3 | 1,528.2 | 5,200.5 | 1,862.3 | 1,489.8 | 3,352.0 | 8,552.5 | 25,491.8 |
| 1985 | 3,308.1 | 1,504.1 | 5,207.7 | 1,783.0 | 1,496.4 | 3,279.5 | 8,487.1 | 25,803.2 |
| 1986 | 3,348.8 | 1,495.8 | 5,247.6 | 1,688.6 | 1,488.6 | 3,177.2 | 8,424.8 | 26,110.3 |
| 1987 | 3,398.8 | 1,488.6 | 5,295.9 | 1,603.1 | 1,473.3 | 3,076.4 | 8,372.3 | 26,411.9 |
| 1989 | 3,526.0 | 1,449.1 | 5,388.1 | 1,535.6 | 1,349.2 | 2,884.9 | 8,273.0 | 26,992.0 |
| 1991 | 3,631.3 | 1,460.9 | 5,502.0 | 1,520.2 | 1,215.2 | 2,735.3 | 8,237.3 | 27,537.0 |
| 1993 | 3,701.0 | 1,514.4 | 5,618.9 | 1,480.8 | 1,196.8 | 2,677.7 | 8,296.5 | 28,044.4 |
| 1995 | 3,721.5 | 1,577.0 | 5,693.4 | 1,492.6 | 1,175.8 | 2,668.4 | 8,361.8 | 28,515.7 |
| 1997 | 3,695.1 | 1,641.3 | 5,722.0 | 1,545.9 | 1,150.5 | 2,696.3 | 8,418.3 | 28,955.8 |
| 1999 | 3,637.0 | 1,683.8 | 5,698.6 | 1,608.3 | 1,169.1 | 2,777.3 | 8,475.9 | 29,370.9 |
| 2001 | 3,567.8 | 1,694.0 | 5,634.4 | 1,672.4 | 1,214.2 | 2,886.5 | 8,520.9 | 29,767.1 |

(1) Projected data is from a special Statistics Canada population projection with 1975 population estimates as the projection base Assumptions: Total fertility rate 1.80 by 1978 , Net annual migration 100,000 .
Source: Population Estimates and Projections Division, Statistics Canada

Table 27
Alternative Projection of School Population Age Groups,
Canada, 1971 to 2001 (1)

- . - projection "C" - . . .

| Year | 5-13 | 14-17 | 4-17 | 18-21 | 22-24 | 18-24 | 4-24 | Total Population |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (Thousands) Population |  |  |  |  |  |  |  |  |
| - - Historical - - |  |  |  |  |  |  |  |  |
| 1971 | 4,113.8 | 1,765.8 | 6,265.5 | 1,552.0 | 1,136.9 | 2,688.9 | 8,954.4 | 21,568.3 |
| $1972$ | 4,044.8 | 1,785.6 | 6,190.3 | 1,645.1 | 1,146.4 | 2,791.5 | 8,981.8 | $21,820.5$ |
| 1973 | 3,953.3 | 1,820.4 | 6,130.3 | 1,680.5 | 1,142.9 | 2,823.4 | 8,953.7 | 22,094.7 |
| 1974 | 3,861.0 | 1,849.4 | 6,077.0 | 1,747.6 | 1,183.3 | 3,930.9 | 9,007.9 | 22,446.3 |
| 1975 | 3,781.2 | 1,877.9 | 6,023.1 | 1,797.3 | 1,231.9 | 3,029.2 | 9,052.3 | 22,799.6 |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
| $1977$ | 3,569.9 | 1,904.2 | 5,827.1 | 1,856.3 | 1,338.9 | 3,195.2 | 9,022.2 | 23,361.8 |
| 1978 | 3,464.7 | 1,900.9 | 5,713.5 | 1,882.9 | 1,380.4 | 3,263.3 | 8,976.8 | 23,642.0 |
| 1979 | 3,366.3 | 1,881.2 | 5,593.0 | 1,908.0 | 1,408.9 | 3,316.9 | 8,909.9 | 23,920.8 |
| 1980 | 3,299.2 | 1,832.0 | 5,487.1 | 1,919.8 | 1,426.4 | 3,346.2 | 8,833.4 | 24,199.8 |
| 1981 | 3,266.7 | 1,752.5 | 5,380.4 | 1,934.2 | 1,445.3 | 3,379.5 | 8,759.9 | 24,478.4 |
| 1982 | 3,264.9 | 1,657.7 | 5,283.6 | 1,930.9 | 1,465.7 | 3,396.6 | 8,680.2 | 24,757.6 |
| 1983 | 3,265.7 | 1,571.8 | 5,200.0 | 1,911.3 | 1,481.7 | 3,393.0 | 8,593.0 | 25,036.7 |
| 1984 | 3,259.4 | 1,528.2 | 5,153.0 | 1,862.3 | 1,489.8 | 3,352.0 | 8,505.0 | 25,313.6 |
| 1985 | 3,260.7 | 1,504.1 | 5,132.5 | 1,733.0 | 1,496.4 | 3.279 .5 | 8,412.0 | 25,586.7 |
| 1986 | 3,275.7 | 1,495.8 | 5,140.8 | 1,688.6 | 1,488.6 | 3,177.2 | 8,318.0 | 25,854.7 |
| 1987 | 3,292.1 | 1,488.6 | 5,154.9 | 1,603.1 | 1,473.3 | 3,076.4 | 8,231.3 | 26,116.2 |
| 1989 | 3,348.2 | 1,449.1 | 5,172.1 | 1,535.6 | 1,349.2 | 2,884.9 | 8,056.9 | 26,613.8 |
| 1991 | 3,378.7 | 1,458.4 | 5,206.8 | 1,520.2 | 1,215.2 | 2,735.3 | 7,942.1 | 27,073.7 |
| 1993 | 3,390.9 | 1,488.6 | 5,241.3 | 1,480.8 | 1,196.8 | 2,677.7 | 7,918.9 | 27,496.8 |
| 1995 | 3,376.8 | 1,504.6 | 5,233.3 | 1,490.1 | 1,175.8 | 2,666.0 | 7,899.3 | 27,885.6 |
| 1997 | 3,330.9 | 1,526.6 | 5,201.1 | 1,520.2 | 1,150.5 | 2,670.6 | 7,871.7 | 28,242.9 |
| 1999 | 3,204.5 | 1,543.4 | 5,144.3 | 1,536.1 | 1,165.6 | 2,702.8 | 7,847.0 | 28,571.8 |
| 2001 | 3,192.0 | 1,540.2 | 5,062.9 | 1,558.1 | 1,188.6 | 2,746.6 | 7,809.6 | 28,875.5 |

(1) Projected data is from a special Statistics Canada population projection with 1975 population estimates as the projection base Assumptions: Total fertility rate 1.60 by 1990, Net annual migration 100,000 .
Source: Population Estimates and Projections Division, Statistics Canada

TABLE 28. ALTERNATIVE ENROLMENT PROJECTIONS BY INSTITUTIONAL LEVEL, 1971-72 TO 1986-87(1).


[^64]TABLE 28. ALTERNATIVE ENROLMENT PROJECTIONS BY INSTITUTIONAL LEVEL, 1971-72 TO 1986-87(1).

| $1977-78$ | $1978-79$ | $1979-80$ | $1980-81$ | $1981-82$ | $1982-83$ | $1983-84$ | $1984-85$ | $1985-86$ | $1986-87$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| (THOUSANDS) |  |  |  |  |  |  |  |  |  | NO. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 379.6 | 378.2 | 382.5 | 393.1 | 405.3 | 417.9 | 434.8 | 458.0 | 482.1 | 504.7 | 1 |
| 379.6 | 378.2 | 382.5 | 393.1 | 405.3 | 417.0 | 429.9 | 446.4 | 462.4 | 476.7 | 2 |
| 379.6 | 378.2 | 382.5 | 393.1 | 405.3 | 410.7 | 416.5 | 425.1 | 433.3 | 441.4 | 3 |
| 4,971.9 | 4,842.5 | 4,719.5 | 4,600.7 | 4,494.0 | 4,413.9 | 4,367.0 | 4,356.2 | 4,374.5 | 4,415.1 | 4 |
| 4,971.9 | 4,842.5 | 4,719.5 | 4,600.7 | 4,494.0 | 4,409.7 | 4,358.5 | 4,343.7 | 4,353.9 | 4,379.2 | 5 |
| 4,971.9 | 4,842.5 | $4,719.5$ | 4,600.7 | 4,494.0 | 4,406.3 | 4,352.0 | 4,326.5 | 4,319.8 | 4,323.3 | 6 |
| 5,351. 5 | 5,220.7 | 5,102.0 | 4,993.8 | 4.899 .2 | 4,831.8 | 4,801.8 | 4,814.2 | 4,856.6 | 4,919.8 | 7 |
| 5.351.5 | 5,220.7 | 5,102.0 | 4,993.8 | 4,899.2 | 4,826.7 | 4,788.4 | 4,790.1 | 4,816.3 | 4,855.9 | 8 |
| 5,351.5 | 5,220.7 | 5,102.0 | 4,993.8 | 4,899.2 | 4,817.0 | 4,768.5 | 4,751.6 | 4,753.1 | 4,764.7 | 9 |


| 246.7 | 254.5 | 254.5 | 255.7 | 260.8 | 263.4 | 255.9 | 241.6 | 230.8 | 227.2 | 10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 245.9 | 252.0 | 246.6 | 245.8 | 248.9 | 248.4 | 238.2 | 223.5 | 214.0 | 211.7 | 11 |
| 243.5 | 243.4 | 235.2 | 230.2 | 229.7 | 228.5 | 221.0 | 209.3 | 199.5 | 195.5 | 12 |
| 241.3 | 239.1 | 225.1 | 215.3 | 212.9 | 211.6 | 204.1 | 192.4 | 183.7 | 180.6 | 13 |
| 336.4 | 344.9 | 360.0 | 368.8 | 376.3 | 378.4 | 376.0 | 370.6 | 360.3 | 351.1 | 14 |
| 335.8 | 340.6 | 354.0 | 363.0 | 367.6 | 369.3 | 368.3 | 360.7 | 346.3 | 330.8 | 15 |
| 333.5 | 332.0 | 338.0 | 341.0 | 342.4 | 341.1 | 339.9 | 333.4 | 321.9 | 309.6 | 16 |
| 331.3 | 326.1 | 325.5 | 322.0 | 318.1 | 314.6 | 312.4 | 306.3 | 295.3 | 283.4 | 17 |
| 40.4 | 41.0 | 41.7 | 42.6 | 44.2 | 45.9 | 47.8 | 49.6 | 51.2 | 52.3 | 18 |
| 40.4 | 41.0 | 41.6 | 42.3 | 43.3 | 44.5 | 46.2 | 47.5 | 48.6 | 49.6 | 19 |
| 40.0 | 40.3 | 40.5 | 40.9 | 41.5 | 42.3 | 43.4 | 44.4 | 45.5 | 46.3 | 20 |
| 39.5 | 39.4 | 39.2 | $3 \mathrm{S}$. | 39.6 | 40.1 | 40.9 | 41.7 | 42.7 | 43.8 | 21 |
| 376.8 | 386.0 | 401.7 | 411.4 | 420.5 | 424.3 | 423.8 | 420.2 | 411.4 | 403.4 | 22 |
| 376.3 | 381.6 | 395.6 | 405.3 | 410.9 | 413.8 | 414.4 | 408.1 | 394.9 | 380.4 | 23 |
| 373.4 | 372.3 | 378.5 | 381.9 | 383.9 | 383.5 | 383.3 | 377.8 | 367.4 | 355.9 | 24 |
| 370.9 | 365.4 | 364.7 | 361.3 | 357.7 | 354.7 | 353.3 | 348.1 | 338.0 | 327.2 | 25 |
| 623.5 | 640.5 | 656.2 | 667.2 | 681.3 | 687.8 | 679.7 | 661.8 | 642.2 | 630.6 | 26 |
| 622.2 | 633.6 | 642.2 | 651.1 | 659.8 | 662.2 | 652.7 | 631.7 | 608.9 | 592.1 | 27 |
| 617.0 | 615.6 | 613.7 | 612.1 | 613.6 | 612.0 | 604.3 | 587.1 | 566.9 | 551.4 | 28 |
| 612.2 | 604.6 | 589.8 | 576.6 | 570.6 | 566.3 | 557.3 | 540.5 | 521.7 | 507.8 | 29 |
| 5,975.0 | 5,861.2 | 5,758.2 | 5,660.9 | 5,580.5 | 5,514.4 | 5,468.2 | 5,452.0 | 5,458.5 | 5,486.4 | 30 |
| 5,973.6 | 5,854.2 | 5,744.2 | 5,644.9 | 5,559.1 | 5,488.9 | 5,441.1 | 5,421.8 | 5,425.1 | 5,448.0 | 31 |
| 5,968.4 | 5,836.3 | 5,715.7 | 5,605.9 | 5,512.8 | 5,438.7 | 5,392.7 | 5,377.2 | 5,383.2 | 5,407.3 | 32 |
| 5,963.7 | 5,825.3 | 5,691.8 | 5,570.4 | 5,469.8 | 5,393.0 | 5,345.7 | 5,330.6 | 5,338.0 | 5,363.7 | 33 |

TABLE 29. ALTERNATIVE ENROLMENT PROJECTIONS AS A PERCENTAGE OF THE RELEVANT AGE GROUP POPULATION(1), 1971-72 TO 1986-87(2). (GROSS ENROLMENT RATES)


| NON-UNIV TO 18-21.......... ${ }^{\text {A }}$ | 11.2 | 11.6 | 12.0 | 12.2 | 12.4 | 12.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| C | 11.2 | 11.6 | 12.0 | 12.2 | 12.4 | 12.5 |
| B | 11.2 | 11.6 | 12.0 | 12.2 | 12.4 | 12.5 |
| D | 11.2 | 11.6 | 12.0 | 12.2 | 12.4 | 12.5 |
| UNIV TO 18-24 YRS........... ${ }^{\text {A }}$ | 12.0 | 11.5 | 11.8 | 11.9 | 12.2 | 12.1 |
| C | 12.0 | 11.5 | 11.8 | 11.9 | 12.2 | 12.1 |
| B | 12.0 | 11.5 | 11.8 | 11.9 | 12.2 | 12.1 |
| D | 12.0 | 11.5 | 11.8 | 11.9 | 12.2 | 12.1 |
| TOTAL POST-SEC TO 18-24.. A | 18.5 | 18.4 | 18.9 | 19.1 | 19.6 | 19.4 |
| C | 18.5 | 18.4 | 18.9 | 19.1 | 19.6 | 19.4 |
| 8 | 18.5 | 18.4 | 18.9 | 19.1 | 19.6 | 19.4 |
| D | 18.5 | 18.4 | 18.9 | 19.1 | 19.6 | 19.4 |
| 3. GRAND TOTAL TO 4-24(6)..... A | 70.3 | 69.8 | 69.4 | 68.7 | 68.3 | 67.4 |
| C | 70.3 | 69.8 | 69.4 | 68.7 | 68.3 | 67.4 |
| B | 70.3 | 69.8 | 69.4 | 68.7 | 68.3 | 67.4 |
| - | 70.3 | 69.8 | 69.4 | 68.7 | 68.3 | 67.4 |

[^65]TABLE 29. ALTERNATIVE ENROLMENT PROJECTIONS AS A PERCENTAGE OF THE RELEVANT AGE GROUP POPULATION(1), 1971-72 TO 1986-87, CONCLUDED(2). (GROSS ENROLMENT RATES)

```
1977-78 1978-79 1979-80 1980-81 1981-82 1982-83 1983-84 1984-85 1985-86 1986-87
```

    (PER CENT) NO.
    

| 13.3 | 13.5 | 13.3 | 13.3 | 13.5 | 13.6 | 13.4 | 13.0 | 12.9 | 13.5 | 10 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 13.2 | 13.4 | 12.9 | 12.8 | 12.9 | 12.9 | 12.5 | 12.0 | 12.0 | 12.5 | 11 |
| 13.1 | 12.9 | 12.3 | 12.0 | 11.9 | 11.8 | 11.6 | 11.2 | 11.2 | 11.0 | 12 |
| 13.0 | 12.7 | 11.8 | 11.2 | 11.0 | 11.0 | 10.7 | 10.3 | 10.3 | 10.7 | 13 |




(IT INCEUDES COMPLETED TRAOE AND OCCUPATIONAL COURSES.
INCLUDES CEGEP GENERAL GRADUATES IN QUEBEC AND UNIVERSITY TRANSFER STUDENTS IN OTHER PROVINCES,
(3) FFCM NCN-UNIVERSITY CAREER PROGRAMS ONLY OR UNDERGRACUATE DIPLOMA PROGRAMS.
(4) INCLUDES GRADLATE DIPLCMAS


TIJ INCLUDES CONPLETED TRADE AND CCCUPATICNAL COURSES. (3) FROM NCN -UNIVERSITY CAREER FRCGFANS ONLY OR UNCERGRACUATE DIPLOMA PROGRAMS.
(4) INCLUDES GRACLATE DIPLCMAS.


## APPENDIX F

SURVEYS OF 1975 COLLEGE AND UNIVERSITY GRADUATES IN ONTARIO AND THE UNITED STATES

1975 ONTARIO COLLEGE AND UNIVERSITY GRADUATES

The following tables show the salary distribution and average salary, by discipline, of 1975 graduates of Ontario's Colleges of Applied Arts and Technology (CAAT's) and universities (at both the bachelor's and graduate leve1s).

In the spring of 1977 approximately 13,0001975 graduates (i.e., graduated from the $1974-75$ academic year) were questioned about their labour force status as of September 1975 and September 1976. Graduates who had been employed full-time on these dates were asked to indicate their salary. Other labour force data from the survey are reported in chapter 5.

In all cases, only "new" labour force entrants (i.e., had never worked for at least 12 consecutive months) are included in the data reported here. The response rate was $79 \%$. The survey was conducted by the Institutional and Agricultural Survey Methods Division of Statistics Canada for the Ontario Ministry of Colleges and Universities. A more detailed description of the survey is available from the Information Resources Planning Division, Ontario Ministry of Colleges and Universities.

## List of Tables in Appendix F

| F-1 | Salary distribution by field of study of 1975 graduates employed full-time as of September 1975 - Ontario college (CAAT) graduates. |
| :---: | :---: |
| F-2 | Salary distribution by field of study of 1975 graduates employed full-time as of September 1975 - Ontario university bachelor's degree graduates. |
| F-3 | Salary distribution by field of study of 1975 graduates employed full-time as of September 1975 - Ontario university post-graduate degree students. |
| F-4 | Salary distribution by field of study of 1975 graduates employed full-time as of September 1976 - Ontario college (CAAT) graduates |
| F-5 | Salary distribution by field of study of 1975 graduates employed full-time as of September 1976 - Ontario university bachelor's degree graduates. |
| F-6 | Salary distribution by field of study of 1975 graduates employed full-time as of September 1976 - Ontario university post-graduate degree graduates. |
| F-7 | 1975 bachelor's degree graduates in the United States: number, employment, salary and underemployment as of May, 1976 by major field of study. |
| F-8 | 1975 bachelor's degree graduates in the United States: employment and salary as of May, 1976 by occupation. |
| F-9 | 1975 bachelor's degree graduates in the United States: employment and salary as of May, 1976 by major economic sector. |
| F-10 | 1975 master's degree graduates in the United States: employment and salary as of May, 1976 by major economic sector. |
| $\mathrm{F}-11$ | 1975 master's degree graduates in the United States: employment as of May, 1976 by occupation. |

Table F-1 Salary Distribution by Field of Study of 1975 Graduates Employed Full-time as of September 1975 Ontario College (CAAT) Graduates

| Salary Range | General <br> Arts <br> and <br> Science | Arts - <br> Creative and Visual Communications | Commun- ity, Recre- ational and Social Services | Technology - <br> Applied <br> Sciences | Technicians, Tradesmen and Craftsmen | Secretarial, Stenographic and Clerica Arts | Business Administration, Marketing and Accounting | Allied Health | Education and Related Services | Household Sciences | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Number |  |  |  |  |  |
| Total | 46 | 591 | 867 | 743 | 1,021 | 1,073 | 1,076 | 1,920 | 358 | 44 | 7,739 |
|  |  |  |  |  |  | Per Cent |  |  |  |  |  |
| Less than \$5,000 | 22.0 | 7.8 | 8.4 | 0.6 | 3.7 | 13.2 | 4.5 | 3.7 | 10.6 | 30.2 | 6.3 |
| \$ 5,000-\$5,999 | 30.4 | 20.9 | 3.4 | 1.9 | 4.6 | 26.4 | 5.8 | 4.1 | 26.2 | 14.5 | 9.7 |
| \$ 6,000-\$6,999 | 18.6 | 21.0 | 9.3 | 2.6 | 7.8 | 23.8 | 17.7 | 7.5 | 25.6 | 10.8 | 12.9 |
| \$ 7,000-\$ 7,999 | 18.0 | 18.1 | 14.4 | 9.3 | 14.5 | 25.4 | 16.2 | 4.9 | 17.9 | 18.6 | 13.8 |
| \$ 8,000-\$ 8,999 | 7.5 | 12.8 | 10.9 | 11.8 | 22.0 | 7.1 | 25.5 | 4.0 | 4.8 | 7.8 | 12.1 |
| \$ 9,000-\$ 9,999 | 0.0 | 12.4 | 28.1 | 38.7 | 18.6 | 3.4 | 16.7 | 8.5 | 9.1 | 18.0 | 15.7 |
| \$10,000 - \$10,999 | 3.4 | 2.7 | 16.3 | 20.1 | 10.7 | 0.0 | 4.3 | 20.4 | 3.9 | 0.0 | 11.2 |
| \$11,000-\$11,999 | 0.0 | 1.1 | 4.5 | 8.2 | 8.5 | 0.6 | 3.1 | 21.3 | 0.0 | 0.0 | 8.3 |
| \$12,000 - \$13,999 | 0.0 | 2.9 | 3.8 | 5.0 | 7.6 | 0.0 | 2.9 | 24.2 | 1.9 | 0.0 | 8.6 |
| \$14,000-\$15,999 | 0.0 | 0.0 | 0.6 | 1.3 | 2.0 | 0.0 | 1.4 | 1.4 | 0.0 | 0.0 | 1.0 |
| \$16,000 or more | 0.0 | 0.3 | 0.4 | 0.4 | 0.0 | 0.0 | 1.7 | 0.0 | 0.0 | 0.0 | 0.2 |
| Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Approx. -Ave. Salary | 6,216 | 7,327 | 8,727 | 9,644 | 9,040 | 6,494 | 8,325 | 10,342 | 6,854 | 6,627 | 8,643 |

Table F-2 Salary Distribution by Field of Study of 1975 Graduates Employed Full-time as of September 1975
Ontario University Bachelor's Degree Graduates


Table F- 3 Salary Distribution by Field of Study of 1975 Graduates Employed Full-time as of September 1975
Ontario University Post-graduate Degree Graduates


Table F-4 Salary Distribution by Field of Study of 1975 Graduates Employed Full-time as of September 1976
Ontario College (CAAT) Graduates


Table F-5 Salary Distribution by Field of Study of 1975 Graduates Employed Full-time as of September 1976
Ontario University Bachelor's Degree Graduates


Table F-6 Salary Distribution by Field of Study of 1975 Graduates Employed Full-time as of September 1976
Ontario University Post-graduate Degree Graduates


1975 AMERICAN UNIVERSITY GRADUATES

In May, 1976, the National Centre for Education Statistics in the United States undertook a survey of 1975 bachelor's and master's degree graduates (i.e., graduated from the $1974-75$ academic year). From a nationally representative sample of 209 colleges and universities, a total of 5,800 graduates ( 4,700 bachelor's and 1,100 masters) were selected; The final response rate was $80 \%$.

Following are some statistical tables from the survey. These data are discussed in chapter VII - "Comparison of Canadian and American Statistics". A more detailed description of the survey is available from Mr. M. Borinsky, the National Centre for Education Statistics, 400 Maryland Ave. S.W., Washington, D.C. 20202, telephone: 245-3236.

| Major Field | Bachelor's | \% Distr. <br> Bachelor's <br> Degrees | Working Full-time | Average Salary | Percent Underemployed** (of those working full-time) | Percent <br> Enrolled <br> in a <br> Further <br> Degree <br> Program |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Biological Sciences | 69,200 | 7 | 40,800 | \$ 7,900 | 26 | 34 |
| Engineering | 59,400 | 6 | 47,100 | 13,400 | 3 | 22 |
| Physical Sciences and Math. | 38,200 | 4 | 18,300 | 9,900 | 26 | 44 |
| Psychology | 52,400 | 6 | 32,400 | 8,500 | 38 | 23 |
| Social Sciences \& Public Affairs | 147,000 | 16 | 85,400 | 9,200 | 38 | 30 |
| Humanities | 99,100 | 11 | 52,600 | 8,000 | 41 | 26 |
| Business and Management | 157,800 | 17 | 131,500 | 10,500 | 21 | 12 |
| Education | 181,700 | 20 | 127,600 | 8, 100** | 16 | 17 |
| Health Professions | 55,600 | 6 | 37,700 | 10,600 | 4 | 21 |
| Communications | 19,500 | 2 | 14,400 | 8,900 | 26 | 20 |
| Other | 51,800 | 6 | 34,700 | 8,800 | 16 | 20 |
| Total | 931,700 | 100 | 622,400 | 9,400 | 24 | 23 |

[^66]1975 Bachelor's Degree Graduates in the United States:
Employment and Salary as of May, 1976 by Occupation

| Occupation | Ful1-time Workers | Percent <br> Ful1-time <br> Workers | Average Salary | Percent Males | Percent <br> Females |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Accountants | 44,600 | 7 | \$11,500 | 10 | 4 |
| Computer Specialists | 11,700 | 2 | 11,900 | 2 | 1 |
| Engineers | 39,700 | 6 | 13,900 | 11 | - |
| Registered Nurses | 21,600 | 4 | 11,000 | - | 8 |
| Health Technicians | 31,500 | 5 | 9,000 | 3 | 9 |
| Social and Recreational Workers | 13,300 | 2 | 8,800 | 1 | 4 |
| College Teachers | 2,800 | - | 10,700 | 1 | - |
| Elementary \& Sec. School Teachers | 93,000 | 15 | 8,300* | 8 | 31 |
| Engineering \& Science Technicians | 13,800 | 2 | 9,900 | 3 | 1 |
| Other Professionals | 81,300 | 13 | 8,900 | 12 | 8 |
| Managers and Administrators | 84,200 | 14 | 9,300 | 19 | 6 |
| Sales Workers | 42,700 | 7 | 9,200 | 8 | 5 |
| Clerical and Kindred | 82,500 | 13 | 7,900 | 9 | 19 |
| Craftsmen and Kindred | 13,700 | 2 | 10,500 | 3 | 1 |
| Operatives | 10,300 | 2 | 9,400 | 2 | 1 |
| Labourers and Farm Workers | 10,500 | 2 | 8,800 | 3 | - |
| Service Workers | 25,200 | 4 | 8,400 | 5 | 3 |
| Total | 622,400 | 100 | 9,400 | 100 | 100 |

$(-)$ Less than one-half of one percent.

* In most cases this refers to a 9 or 10 month contract.


## 1975 Bachelors Degree Graduates in the United States:

Employment and Salary as of May, 1976 by Major Economic Sector

Type of Employer
Private for profit - Not Teacher (NT)
Private not for Profit - (NT)
Self-employed
Government
Federal Government - (NT)
State Government - (NT)
Local Government - (NT)
Public School Teacher
Non-public School Teacher
Other
Total
Private for profit - Not Teacher (NT)

Total
Number
(Fu11-time
only)

## Percent (Full-time only)

5053,900
9,500
219,600
42,200
45,900
42,700
88,900
11,000
16,900

622,400

Average Salary
\$ 9,900
8,900
7,700
9,200
10,100
9,200
9,600
8,500*
6,900*
8,700

9,400

## 1975 Master's Degree Graduates in the United States:

Eraployment and Salary as of May, 1976 by Major Economic Sector

| Type of Employer | Number <br> Full-time <br> only) | Percent <br> (Full-time <br> only) |
| :--- | :---: | :---: |
|  |  |  |
| Private for profit - Not Teacher (NT) | 53,000 | 24 |
| Private not for profit - (NT) | 22,800 | 10 |
| Self-employed | 2,000 | 1 |
| Government | 135,400 | 60 |
| Federal Government - (NT) | 17,200 | 8 |
| State Government - (NT) | 20,000 | 9 |
| Local Government - (NT) | 23,600 | 11 |
| Public School Teacher | 74,600 | 33 |
| Non-public School Teacher | 4,800 | 2 |
| Other | 6,800 | 3 |
|  |  | 100 |

# 1975 Master's Degree Graduates in the United States: <br> Employment as of May, 1976 by Occupation 

## Occupation

| Full-time | Percent |
| :--- | :---: |
| Workers | Full-time |
|  | Workers |


| Accountants | 6,000 | 3 |
| :--- | ---: | ---: |
| Computer Specialists | 1,700 | 1 |
| Engineers | 16,600 | 7 |
| Registered Nurses | 600 | $*$ |
| Health Technicians | 6,600 | 3 |
| Social and Recreational Workers | 8,600 | 4 |
| College Teachers | 7,600 | 3 |
| Elementary and Secondary School Teachers | 80,300 | 36 |
| Engineering and Science Technicians | 1,100 | 1 |
| Other Professionals | 44,900 | 20 |
| Managers and Administrators | 37,900 | 17 |
| Sales Workers | 2,700 | 1 |
| Clerical and Kindred | 7,100 | 3 |
| Craftsmen and Kindred | 600 | $*$ |
| Operatives | 600 | $*$ |
| Laborers and Farm Workers | 600 | $*$ |
| Service Workers | 800 | $*$ |
| Total |  |  |
|  | 224,800 | 100 |

[^67]
#### Abstract

APPENDIX G

ADJUSTMENTS USED TO COMPUTE THE NUMBER OF SCHOOL LEAVERS POTENTIALLY AVAILABLE TO THE LABOUR FORCE


Although enrolment projections are the basis for calculating the total number of school leavers potentially available to the labour force, other data in the form of "adjustments" are required. The "adjustments", both historical and projected, and the computations are shown in Table 31 for males, females and both sexes combined.

Once the total annual number of school leavers has been computed, additional information is required to estimate their educational attainment: principally, the activity of graduates the year after graduation. These data are provided in Table 32.

DESCRIPTION OF TABLE 31

Adjustments Applied to Compute School Leavers Potentially Available to the Labour Force

Elementary-secondary
(1) Apparent leavers - the number of school leavers calculated by using enrolment-by-age data only (Appendix I). This underestimates the total number of school leavers, since no allowance is made for new entrants.
(2) Adjustments for students aged 4-14 leaving Canada or dying - this adjustment is necessary since "apparent leavers" includes leavers older than 14. The historical values are estimates from emigration and mortality data.

Immigrant students 15 and over - estimates of the number of immigrants who enter the school system.

Foreign students - estimates of the number with student or special visas who enter the school system.

Students re-entering from the labour force or households - estimates of the number of new students not registered in the school system the previous year.
(3) Persons leaving the elementary-secondary system - the number of persons who left the elementary-secondary system one year, not to register as fulltime students the next (includes graduates and non-graduates), calculated by adding the adjustments in (2) to the apparent leavers in (1).
(4) Persons entering post-secondary study - all "school leavers" in (3) who continue to university or a non-university institution the next year.
(5) Persons leaving the education system at the elementary-secondary level the calculated number of persons leaving the elementary-secondary system and not proceeding to the post-secondary level: (3) minus (4).
(6) Persons not available to the labour force - all "school leavers" in (5) who die, emigrate or who were in Canada on student visas (and hence, cannot, by law, enter the labour force). Historical values are estimates based on emigration and immigration by single-year-of-age and mortality data. Information on foreign students was obtained from the Department of Manpower and Immigration and other sources.
(7) Leavers potentially available to the labour force - All "school leavers" in (5) except those identified as being unavailable to the labour force in (6).

Similar adjustments are made at the post-secondary level.

DESCRIPTION OF TABLE 32

Percentage Distribution of Secondary and Post-secondary Graduates by Destination
(1) Part-time - in all cases except non-university institutions, the graduate count includes those who had been enrolled part-time as well as full-time. Since this study concerns only those who had been full-time students, an estimate of the proportion of graduates who had been enrolled part-time was necessary.
(2) Continue their education - an estimate of the proportion of graduates who re-registered as full-time students the academic year after graduation.
(3) Foreign Students leaving - an estimate of the proportion of graduates who had been studying on student or special visas (i.e., were foreign students).
(4) Others leaving the country - an estimate of the proportion of graduates who left Canada for another country.
(5) Available to the labour force - the remainder after the percentages estimated above are deducted from $100 \%$. This is an estimate of the proportion of graduates who do not return to school, remain in the country and are, therefore, potentially available to the labour force.

Most historical values in Table 32 are estimates derived from partial data, or from discussions with experts. Little empirical information is available on the activity of students after graduation.

## TABLE 31. ADJUSTMENTS APPLIED TO COMPUTE SCHOOL LEAVERS POTENTIALLY AVAILABLE TO THE LABOUR FORCE, 1971 TO 1986(1)(2)



[^68]TABLE 31. ADJUSTMENTS APPLIED TO COMPUTE SCHOOL LEAVERS POTENTIALLY AVAILABLE TO THE LABOUR FORCE, 1971 TO 1986(1)(2).

| 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | HOUSAND |  |  |  |  | NO. |
| 513.7 | 488.8 | 476.0 | 473.7 | 469.6 | 449.6 | 424.3 | 396.5 | 380.6 | 374.6 | 1 |
| 7.9 | 8.6 | 9.6 | 11.1 | 11.0 | 10.5 | 10.8 | 10.8 | 10.8 | 10.7 | 2 |
| 7.7 | 7.0 | 6.8 | 7.0 | 7.0 | 7.1 | 7.1 | 7.0 | 7.0 | 7.1 | 3 |
| 10.2 | 10.4 | 10.2 | 10.0 | 9.8 | 9.7 | 9.6 | 9.6 | 9.6 | 9.7 | 4 |
| 38.1 | 40.0 | 39.4 | 38.8 | 38.3 | 38.0 | 38.0 | 38.1 | 38.4 | 38.7 | 5 |
| 577.7 | 554.3 | 541.9 | 540.5 | 535.7 | 515.3 | 489.8 | 462.1 | 446.3 | 443.8 | 6 |
| 150.7 | 144.3 | 142.9 | 143.4 | 144.1 | 142.9 | 137.6 | 129.3 | 123.4 | 121.4 | 7 |
| 427.0 | 410.6 | 399.0 | 397.2 | 391.6 | 372.4 | 352.2 | 332.8 | 322.9 | 319.4 | 8 |
| 3.0 | 2.9 | 2.8 | 2.7 | 2.6 | 2.5 | 2.4 | 2.3 | 2.3 | 2.3 | 9 |
| 8.0 | 8.8 | 10.2 | 12.2 | 12.2 | 12.1 | 12.1 | 12.1 | 12.0 | 12.0 | 10 |
| 10.4 | 10.2 | 10.4 | 10.2 | 10.0 | 9.8 | 9.7 | 9.6 | 9.6 | 9.6 | 11 |
| 405.6 | 338.7 | 375.6 | 372.1 | 366.9 | 347.9 | 328.0 | 308.8 | 299.0 | 295.5 | 12 |
| 135.4 | 145.6 | 144.8 | 145.0 | 142.6 | 144.5 | 145.3 | 146.5 | 143.6 | 137.0 | 13 |
| 5.1 | 4.9 | 5.5 | 6.9 | 6.9 | 6.8 | 6.7 | 6.6 | 6.5 | 6.6 | 14 |
| 30.0 | 29.6 | 29.1 | 28.7 | 28.4 | 28.4 | 28.5 | 28.3 | 27.9 | 27.6 | 15 |
| 68.1 | 68.6 | 68.6 | 68.9 | 69.6 | 71.1 | 72.1 | 71.9 | 71.4 | 71.6 | 16 |
| 242.7 | 248.7 | 248.1 | 249.5 | 247.5 | 250.8 | 252.7 | 253.3 | 249.4 | 242.7 | 17 |
| 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 18 |
| 1.2 | 1.3 | 1.4 | 1.7 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 19 |
| 31.0 | 30.0 | 29.6 | 29.1 | 28.7 | 28.4 | 28.4 | 28.5 | 28.3 | 27.9 | 20 |
| 209.7 | 216.6 | 216.4 | 217.9 | 216.4 | 220.0 | 222.0 | 222.5 | 218.9 | 212.6 | 21 |
| 669.6 | 659.2 | 647.1 | 646.6 | 639.2 | 623.1 | 604.9 | 586.1 | 572.3 | 562.1 | 22 |
| 615.3 | 605.3 | 592.0 | 590.0 | 583.3 | 567.9 | 550.0 | 531.3 | 517.9 | 508.0 | 23 |

## TABLE 31. ADJUSTMENTS APPLIED TO COMPUTE SCHOOL LEAVERS POTENTIALLY AVAILABLE TO THE LABOUR FORCE, 1971 TO 1986(1)(2)



[^69]TABLE 31. ADJUSTMENTS APPLIED TO COMPUTE SCHOOL LEAVERS POTENTIALLY
AVAILABLE TO THE LABOUR FORCE, 1971 TO 1986(1)(2).

| 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 266.4 | 253.0 | 247.0 | 244.8 | 240.9 | 230.7 | 218.4 | 203.2 | 194.8 | 191.8 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 4.2 | 4.5 | 5.0 | 5.7 | 5.7 | 5.6 | 5.6 | 5.6 | 5.6 | 5.5 | 2 |
| 3.8 | 3.4 | 3.3 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3.5 | 3 |
| 5.2 | 5.4 | 5.2 | 5.1 | 5.0 | 4.9 | 4.9 | 4.9 | 4.9 | 5.0 | 4 |
| 21.0 | 22.2 | 21.8 | 21.4 | 21.1 | 20.9 | 20.8 | 20.8 | 20.9 | 21.1 | 5 |
| 300.7 | 288.5 | 282.4 | 280.6 | 276.2 | 265.7 | 253.2 | 238.0 | 229.7 | 226.9 | 6 |
| 75.0 | 71.5 | 70.5 | 70.7 | 71.2 | 70.8 | 67.8 | 63.1 | 60.0 | 58.9 | 7 |
| 225.7 | 217.1 | 211.9 | 209.9 | 205.0 | 194.9 | 185.4 | 174.9 | 169.7 | 168.0 | 8 |
| 2.0 | 1.9 | 1.8 | 1.8 | 1.7 | 1.6 | 1.6 | 1.5 | 1.5 | 1.5 | 9 |
| 4.1 | 4.5 | 5.2 | 6.2 | 6.1 | 6.1 | 6.1 | 6.1 | 6.0 | 6.0 | 10 |
| 5.3 | 5.2 | 5.4 | 5.2 | 5.1 | 5.0 | 4.9 | 4.9 | 4.9 | 4.9 | 11 |
| 214.4 | 205.5 | 199.6 | 196.7 | 192.1 | 182.1 | 172.8 | 162.4 | 157.3 | 155.6 | 12 |
| 72.1 | 74.1 | 72.4 | 71.7 | 7C. 8 | 71.8 | 72.3 | 73.0 | 71.5 | 67.8 | 13 |
| 2.3 | 2.2 | 2.6 | 3.4 | 3.4 | 3.3 | 3.3 | 3.2 | 3.2 | 3.2 | 14 |
| 20.1 | 19.7 | 19.3 | 19.0 | 16.8 | 18.8 | 18.9 | 18.7 | 18.4 | 18.2 | 15 |
| 37.7 | 37.8 | 37.7 | 37.8 | 38.2 | 39.0 | 39.4 | 39.2 | 38.8 | 38.8 | 16 |
| 132.2 | 133.8 | 132.0 | 131.9 | 131.1 | 133.0 | 133.9 | 134.1 | 131.8 | 128.0 | 17 |
| 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 18 |
| 0.4 | 0.4 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 19 |
| 21.1 | 20.1 | 19.7 | 19.3 | 19.0 | 18.8 | 18.8 | 18.9 | 18.7 | 18.4 | 20 |
| 110.1 | 112.7 | 111.3 | 111.5 | $111 . \mathrm{C}$ | 113.1 | 114.0 | 114.2 | 112.1 | 108.5 | 21 |
| 357.9 | 350.8 | 343.9 | 341.9 | 336.2 | 327.9 | 319.3 | 309.0 | 301.6 | 296.0 | 22 |
| 324.5 | 318.1 | 310.8 | 308.2 | 303.1 | 295.2 | 286.8 | 276.6 | 269.4 | 264.1 | 23 |

TABLE 31. ADJUSTMENTS APPLIED TO COMPUTE SCHOOL LEAVERS POTENTIALLY AVAILABLE TO THE LABOUR FORCE, 1971 TO $1986(1)(2)$

(1) INCLUDES PERSONS LEAVING THE EDUCATION SYSTEM THE PREVIOUS ACADEMIC YEAR.
(2) HISTORICAL DATA UP TO AND INCLUDING 1975, PROJECTIONS BEYOND; ADJUSTMENTS INCLUDE MANY ESTIMATES.
(3) INCLUDES SOME PRELIMINARY DATA.
(4) SUM OF (POSITIVE) DIFFERENCES BETWEEN SINGLE YEAR OF AGE COHORTS IN SUCCESSIVE YEARS
(SEE METHODOLOGY FOR DESCRIPTION AND EXAMPLE.)
NOTE: THIS TABLE WILL BE MORE MEANINGFUL IF THE READER CONSULTS THE
EXAMPLE IN THE METHODOLOGY CHAPTER.

TABLE 31. ADJUSTMENTS APPLIED TO COMPUTE SCHOOL LEAVERS POTENTIALLY
AVAILABLE TO THE LABOUR FORCE, 1971 TO $1986(1)(2)$.

| 1977 | 1978 | 1979 | 1986 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 247.3 | 235.8 | 229.0 | 228.3 | 22 d. 6 | 219.0 | 205.9 | 193.4 | 185.7 | 182.8 |
| 3.7 | 4.0 | 4.6 | 5.3 | 5.3 | 5.3 | 5.2 | 5.2 | 5.2 | 5.2 |
| 4.0 | 3.6 | 3.4 | 3.5 | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 3.0 |
| 4.9 | 5.1 | 5.0 | 4.9 | 4.8 | 4.7 | 4.7 | 4.7 | 4.7 | 4.7 |
| 17.1 | 17.3 | 17.6 | 17.4 | 17.2 | 17.1 | 17.2 | 17.3 | 17.4 | 17.6 |
| 277.0 | 206.3 | 259.5 | 259.9 | 259.5 | 249.6 | 236.6 | 224.1 | 216.6 | 213.9 |
| 75.7 | 72.8 | 72.4 | 72.7 | 72.9 | 72.2 | 69.8 | 66.3 | 63.5 | 62.5 |
| 201.3 | 193.3 | 187.1 | 187.3 | $186 . t$ | 177.5 | 106.8 | 157.9 | 153.2 | 151.4 |
| 1.0 | 1.0 | 0.9 | 0.5 | c. 5 | 0.9 | 0.8 | 0.8 | 0.8 | 0.8 |
| 3.9 | 4.3 | 5.1 | 6.1 | b.c | 6.0 | 6.0 | 6.0 | 6.0 | 6.0 |
| 5.1 | 4.9 | 5.1 | 5.0 | 4.5 | 4.8 | 4.7 | 4.7 | 4.7 | 4.7 |
| 191.3 | 183.2 | 176.0 | 175.3 | 174.8 | 165.8 | 155.2 | 146.4 | 141.7 | 139.9 |
| 67.3 | 71.5 | 72.4 | 73.2 | 71.8 | 72.7 | 73.0 | 73.5 | 72.1 | 69.2 |
| 2.8 | 2.7 | 2.9 | 3.5 | 3.5 | 3.5 | 3.4 | 3.4 | 3.4 | 3.4 |
| 9.9 | 9.9 | 9.8 | 9.7 | 9.6 | 9.5 | 9.6 | 9.6 | 9.5 | 9.4 |
| 30.4 | 30.9 | 31.0 | 31.1 | 31.4 | 32.1 | 32.7 | 32.7 | 32.6 | 32.8 |
| 110.4 | 114.9 | 116.1 | 117.5 | 116.4 | 117.8 | 118.8 | 119.2 | 117.6 | 114.7 |
| 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 |
| 0.8 | 0.8 | 1.0 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| 9.9 | 9.9 | 9.9 | 9.8 | 9.7 | 9.6 | 9.5 | 9.6 | 9.6 | 9.5 |
| 99.6 | 104.0 | 105.1 | 106.5 | 105.4 | 106.9 | 108.0 | 108.3 | 106.8 | 104.0 |
| 311.7 | 308.4 | 303.2 | 304.8 | 303.0 | 295.3 | 285.6 | 277.0 | 270.8 | 266.1 |
| 290.8 | 287.2 | 281.2 | 281.8 | 280.3 | 272.7 | 263.2 | 254.7 | 248.5 | 244.0 |

table 32．PERCENTAGE distribution of secondary and post－secondary graduates by destimation

| $1970-71$ | 1971－72 | $1972-73$ | $1973-74$ | $1974-75$ | $1975-76$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| （1） | （PER CENT） |  | （2） |  |  |

NO．

| －－BOTH SEXES－ <br> 1．SECCNDARY SCHOOL（3）（4） <br> PART－TIME． <br> FULL－TIME <br> CONT INUING THEIR EDUCATION．．． <br> FOREIGN STUDENTS LEAVING．．．．．． <br> CTHERS LEAVING COUNTRY．．．．．．．．． <br> AVAILABLE TO LABOUR FORCE．．．．． <br> TOTAL $\qquad$ <br> 2．POST－SECONDARY NON－UNIVERSITY <br> A．CEGEP GENERAL <br> PART－TIME．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．． <br> FULL－TIME <br> CONTINUING THEIR EDUCATION．．． <br> FORE IGN STUDENTS LEAVING． $\qquad$ <br> OTHERS LEAVING COUNTRY．．．．．．．．． <br> AVAILABLE TO LABOUR FORCE．．．． <br> TOTAL $\qquad$ <br> B．CAREER PROGRAMS <br> PART－TIME． <br> FULL－TIME <br> CONT INUING THEIR EDUCATION．．． <br> FOREIGN STUDENTS LEAVING． <br> OTHERS LEAVING COUNTRY． <br> AVAILABLE TO LABOUR FORCE．．．．． <br> TOT AL $\qquad$ |
| :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

2.1
60.8
0.1
0.2
36.8
100.0
2.1
61.2
0.1
0.2
36.4
100.0
2.2
62.1
0.1
0.2
35.4

| 2.3 | 2.3 | 2.4 |
| ---: | ---: | ---: |
| 61.2 | 62.7 | 60.7 |
| 0.1 | 0.2 | 0.2 |
| 0.2 | 0.2 | 0.2 |
| 36.2 | 34.6 | 36.5 |
| 100.0 | 100.0 | 100.0 |


| NNぢったのび | 「ござちゃめ |
| :---: | :---: |

3．UNIVERSITIES
A．BACHELOR＇S DEGREE
PART－TIME．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．
16.4 CONT INUING THEIR EDUCATION．．．
FORE IGN STUDENTS LEAVING．．．．．．
CTHERS LEAVING COUNTRY．．．．．．．． CTHERS LEAVING COUNTRY．．．．．．．．．
27.7
0.3
53.1
100.0

B．MASTER＇S DEGREE
PART－TIME．
FULL－TIME CONTINUUING THEIR EDUCATION．．． FOREIGN STUDENTS LEAVING．．．．． CTHERS LEAVING COUNTRY．．．．．．．． AVAILABLE TO LABOUR FORCE．．．．．
0.0
86.9
1.0
0.0
12.0
100.0
0.0
86.0
1.0
0.0
13.0
100.0
0.0
87.4
1.0
0.1
11.5
100.0
0.0
8.7
2.5
0.1
88.7
100.0

| 0.0 | 0.0 |
| ---: | ---: |
| 8.8 | 8.8 |
| 3.0 | 3.7 |
| 0.1 | 0.1 |
| 88.2 | 87.3 |
| 100.0 | 100.0 |


| 0.0 | 0.0 | 0.0 |
| ---: | ---: | ---: |
| 87.1 | 86.9 | 87.1 |
| 1.0 | 1.0 | 1.0 |
| 0.0 | 0.1 | 0.1 |
| 11.8 | 12.1 | 11.9 |
| 100.0 | 100.0 | 100.0 |
|  |  |  |
| 0.0 | 0.0 | 0.0 |
| 8.8 | 8.8 | 8.8 |
| 2.9 | 4.1 | 4.4 |
| 0.1 | 0.1 | 0.1 |
| 88.2 | 87.0 | 86.7 |
| 100.0 | 100.0 | 100.0 |

C．DOCTORATE（EARNED）

28.4

O．DIPLOMA \｛UNDERGRAD）
PART－TIME．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．
CONT INUING THEIR EDUCATION．．． FORE IGN STUDENTS LEAVING．．．．．． CTHERS LEAVING COUNTRY ．．．．．．．．． AVAILABLE TO LABOUR FORCE．．．．
0.0 13.1
1.0
57.5

TOTAL
100.0
15.8
24.9
3.0
0.
56.
1
E．GRACUATE DIPLOMA

| 25.6 | 26.0 |
| ---: | ---: | ---: |
| 5.8 | 6.1 |


FULL－TIME
CONTINUING THEIR EDUCATION．．． FOREIGN STUDENTS LEAVING．．．．． CTHERS LEAVING COUNTRY．．．．．．．．． AVAILABLE TO LABOUR FORCE．．．．
TOTAL ．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．

[^70]TABLE 32. PERCENTAGE DISTRIBUTION OF SECONDARY AND POST-SECONDARY GRADUATES BY DESTINATION.

| $1976-77$ | $1977-78$ | $1978-79$ | $1979-80$ | $1980-81$ | $1981-82$ | $1982-83$ | $1983-84$ | $1984-85$ | $1985-86$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 2.4 | 2.4 | 2.5 | 2.5 | 2.5 | 2.6 | 2.5 | 2.6 | 2.6 | 2.7 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 60.8 | 60.2 | 60.5 | 60.5 | 60.7 | 61.1 | 61.8 | 62.3 | 62.4 | 62.7 | 3 |
| 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 4 |
| 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 5 |
| 36.4 | 37.0 | 36.7 | 36.6 | 36.4 | 36.0 | 35.3 | 34.8 | 34.6 | 34.3 | 6 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 7 |
| 0.0 | O.C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8 |
| 87.3 | 87.6 | 87.8 | 88.0 | 88.2 | 88.4 | 88.4 | 88.4 | 88.4 | 88.4 | 10 |
| 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 11 |
| 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 12 |
| 11.7 | 11.4 | 11.2 | 11.0 | 10.8 | 10.6 | 10.6 | 10.6 | 10.6 | 10.6 | 13 |
| 100.0 | 100.0 | 100.0 | 1 CO 0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 14 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15 |
| 8.8 | 8.8 | 8.8 | 8.8 | 8.8 | 8.8 | 8.8 | 8.8 | 8.8 | 8.8 | 17 |
| 3.7 | 3.6 | 3.5 | 3.5 | 3.4 | 3.3 | 3.4 | 3.5 | 3.6 | 3.6 | 18 |
| 0.1 | 0.1 | 0.1 | C. 1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 19 |
| 87.5 | 87.6 | 87.6 | ع7.7 | 87.7 | 87.8 | 87.7 | 87.6 | 87.6 | 87.5 | 20 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 21 |
| 16.0 | 16.1 | 16.2 | 16.3 | 16.2 | 16.0 | 15.8 | 15.9 | 16.0 | 16.4 | 22 |
| 25.0 | 25.3 | 25.5 | 25.7 | 25.5 | 25.3 | 25.7 | 26.0 | 26.3 | 26.5 | 24 |
| 4.6 | 4.6 | 4.5 | 4.4 | 4.3 | 4.3 | 4.2 | 4. 3 | 4.4 | 4.5 | 25 |
| 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 26 |
| 54.1 | 53.8 | 53.5 | 53.3 | 53.6 | 54.1 | 54.0 | 53.5 | 53.1 | 52.3 | 27 |
| 100.0 | 100.0 | 100.0 | $1 \mathrm{CC.0}$ | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 28 |
| 25. 8 | 26.1 | 26.2 | 26.3 | 26.5 | 26.7 | 26.9 | 27.2 | 27.4 | 27.6 | 29 |
| 20.9 | 20.7 | 20.4 | 20.2 | 20.1 | 20.1 | 2 C .2 | 20.3 | 20.5 | 20.7 | 31 |
| 14.6 | 14.1 | 13.8 | 13.6 | 13.3 | 13.0 | 12.8 | 12.5 | 12.4 | 12.2 | 32 |
| 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 33 |
| 38.1 | 38.5 | 38.9 | 39.2 | 39.4 | 39.5 | 39.5 | 39.3 | 39.1 | 38.8 | 34 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 35 |
| 34.0 | 34.2 | 34.5 | 34.7 | 34.9 | 35.1 | 35.2 | 35.3 | 35.4 | 35.4 | 36 |
|  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 37 38 |
| 15.6 | 15.5 | 15.4 | 15.3 | 15.1 | 15.0 | 14.8 | 14.7 | 14.5 | 14.3 | 39 |
| 1.3 | 1.5 | 1.7 | 1.8 | 2.0 | 1.9 | 2.0 | 2.0 | 2.0 | 2.0 | 40 |
| 49.1 | 48.8 | 48.4 | 48.2 | 48.0 | 48.0 | 48.0 | 48.0 | 48.2 | 48.3 | 41 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 42 |
| 25.1 | 25.1 | 25.1 | 25.1 | 25.1 | 25.1 | 25.1 | 25.1 | 25.1 | 25.1 | 43 |
| 7.3 | 7.6 | 7.8 | 8.1 | 8.4 | 8.7 | 8.8 | 8.9 | 9.0 | 9.1 | 44 |
| 3.8 | 3.8 | 3.8 | 3.7 | 3.7 | 3.6 | 3.7 | 3.7 | 3.7 | 3.8 | 46 |
| 0.3 | 0.3 | 0.3 | C. 3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 47 |
| 63.5 | 63.2 | 63.0 | 62.8 | 62.6 | 62.3 | 62.2 | 62.0 | 61.9 | 61.7 | 48 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 49 |
| 16.6 | 16.8 | 17.0 | 17.3 | 17.5 | 17.5 | 17.6 | 17.7 | 17.7 | 17.8 | 50 |
| 2.9 | 2.8 | 2.8 | 2.7 | 2.6 | 2.6 | 2.5 | 2.5 |  |  | 51 52 |
| 6.6 | 6.5 | 6.4 | 6.2 | 6.1 | 6.0 | 5.9 | 5.9 | 5.9 | 5.9 | 52 53 |
| 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.3 | 54 |
| 73.6 | 73.6 | 73.4 | 73.4 | 73.5 | 73.5 | 73.6 | 73.5 | 73.6 | 73.6 | 55 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 56 |

TABLE 32. PERCENTAGE DISTRIBUTION OF SECONDARY AND POST-SECONDARY GRADUATES BY DESTINATION


SEE FOOTNOTES AT END OF TABLE.

TABLE 32. PERCENTAGE DISTRIBUTION OF SECONDARY AND POST-SECONDARY GRADUATES BY DESTINATION.

| $1976-77$ | $1977-78$ | $1978-79$ | $1979-8 C$ | $1980-81$ | $1981-82$ | $1982-83$ | $1983-84$ | $1984-85$ | $1985-86$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.7 | 2.8 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 64.9 | 63.8 | 63.7 | 63.7 | 64.0 | 64.5 | 64.7 | 65.0 | 65.1 | 65.4 | 3 |
| 0.2 | 0.2 | 0.2 | C. 2 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 4 |
| 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 5 |
| 32.3 | 33.3 | 33.4 | 33.4 | 33.1 | 32.5 | 32.3 | 32.0 | 31.9 | 31.5 | 6 |
| 100.0 | 100.0 | 100.0 | 1 CO .0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 7 |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8 |
| 88.4 | 88.6 | 88.9 | 89.1 | 89.3 | 89.5 | 89.5 | 89.5 | 89.5 | 89.5 | 10 |
| 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 11 |
| 0.1 | O.C | 0.1 | C. 1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.1 | 0.1 | 12 |
| 10.5 | 10.3 | 10.1 | 9.9 | 9.7 | 9.4 | 9.4 | 9.5 | 9.5 | 9.4 | 13 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 14 |
| 0.0 | O.C | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15 |
| 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 16 |
| 5.2 | 5.1 | 5.0 | 5.0 | 4.9 | 4.8 | 4.9 | 5.0 | 5.0 | 5.1 | 18 |
| 0.1 | 0.1 | 0.1 | C. 1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 19 |
| 84.7 | 84.8 | 84.9 | 84.9 | 85.0 | 85.1 | 85.0 | 84.9 | 84.9 | 84.8 | 20 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.3 | 100.0 | 100.0 | 100.0 | 100.0 | 21 |
| 15.4 | 15.6 | 15.8 | 16.0 | 15.8 | 15.7 | 15.5 | 15.8 | 16.0 | 16.3 | 22 |
| 29.0 | 29.7 | 30.2 | 30.5 | 30.2 | 29.7 |  |  | 30.8 | 31.0 | 24 |
| 5.5 | 5.4 | 5.3 | 5.3 | 5.2 | 5.1 | 5.0 | 5.1 | 5.2 | 5.3 | 25 |
| 0.2 | 0.2 | 0.2 | C. 2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 26 |
| 49.9 | 49.1 | 48.5 | 48.0 | 48.6 | 49.4 | 49.2 | 48.4 | 47.8 | 47.2 | 27 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 28 |
| 27.3 | 27.6 | 27.8 | 28.1 | 28.3 | 28.7 | 29.0 | 29.4 | 29.6 | 29.8 | 29 |
| 24.1 | 23.8 | 23.6 | 23.3 | 23.3 | 23.3 | 23.5 | 23. 7 | 24.0 | 24.2 | 30 31 |
| 16.0 | 15.5 | 15.2 | 15.0 | 14.7 | 14.5 | 14.2 | 14.0 | 13.8 | 13.7 | 32 |
| 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 33 |
| 32.0 100.0 | 32.5 100.0 | 32.8 100.0 | 33.1 160.0 | 33.1 100.0 | 32.9 100.0 | 32.6 | 32.3 | 32.0 | 31.8 | 34 |
| 100.0 | 100.0 | 100.0 | 1 CO 0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 35 |
| 36.0 | 36.2 | 36.5 | 36.7 | 37.0 | 37.3 | 37.5 | 37.6 | 37.7 | 37.9 | 36 |
| 0.0 | 0.0 | 0.0 | C. 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 37 38 |
| 16.3 | 16.3 | 16.1 | 16.0 | 15.9 | 15.8 | 15.6 | 15.5 | 15.3 | 15.2 | 39 |
| 1.3 | 1.5 | 1.7 | 1.8 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 40 |
| 46.4 100.0 | 46.0 100.0 | 45.7 100.0 | 45.4 | 45.1 | 45.0 | 44.9 | 44.9 | 45.0 | 45.0 | 41 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 42 |
| 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 43 44 |
| 7.2 | 7.5 | 7.9 | E. 3 | 8.6 | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 | 44 |
| 4.0 | 3.9 | 3.8 | 3.7 | 3.6 | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 | 46 |
| 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 47 |
| 64.6 | 64.3 | $64.1$ | $63.8$ | 63.6 | 63.3 | 63.2 | 63.1 | 63.0 | 62.9 | 48 |
| 100.0 | 100.C | 100.0 | $1 \mathrm{CC.0}$ | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 49 |
| 18.2 | 18.3 | 18.6 | 18.8 | 15.0 | 19.1 | 19.2 | 19.3 | 19.4 | 19.5 | 50 |
| 4.0 | 3.9 | 3.8 | 3.7 | 3.6 | 3.6 | 3.4 | 3.4 |  |  | 51 52 |
| 8.0 | 7.9 | 7.8 | 7.7 | 7.6 | 7.5 | 7.5 | 7.5 | 7.5 | 7.5 | 52 53 |
| 0.3 | 0.3 | 0.3 | C. 3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 54 |
| 69.5 | 69.6 | 69.4 | 65.5 | 69.4 | 69.5 | 69.6 | 69.5 | 69.5 | 69.5 | 55 |
| 100.0 | 100.0 | 100.0 | 1CC. 0 | 100.0 | 100.0 | 100.0 | 100.3 | 100.0 | 100.0 | 56 |

TABLE 32. PERCENTAGE DISTRIBUTION OF SECONDARY AND POST-SECONDARY GRADUATES BY DESTINATION


SEE FOOTNCTES AT END CF TABLE.

TABLE 32. PERCENTAGE DISTRIBUTION OF SECONDARY AND POST-SECONDARY GRADUATES BY DESTINATION.

| $1976-77$ | $1977-78$ | $1978-79$ | $1575-80$ | $1980-81$ | $1981-82$ | $1982-83$ | $1983-84$ | $1984-85$ | $1985-86$ |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |


| 2.3 | 2.3 | 2.4 | 2.4 | 2.5 | 2.5 | 2.5 | 2.5 | 2.5 | 2.6 | 1 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 57.1 | 56.5 | 57.5 | 57.5 | 57.7 | 58.0 | 59.0 | 59.7 | 59.9 | 60.2 | 3 |
| 0.2 | 0.2 | 0.2 | $C .2$ | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 4 |
| 0.3 | 0.3 | 0.2 | 6.3 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 5 |
| 40.2 | 40.4 | 39.7 | 39.6 | 39.5 | 39.1 | 38.1 | 37.4 | 37.1 | 36.8 | 6 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 7 |


| 0.0 | 0.0 | 0.0 | $C .0$ | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8 |  |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 86.0 | 86.2 | 86.4 | 86.6 | 86.8 | 87.0 | 87.0 | 87.0 | 87.0 | 87.0 | 10 |  |
| 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 11 |  |
| 0.0 | 0.0 | 0.1 | $C .1$ | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 12 |  |
| 12.9 | 12.8 | 12.6 | 12.3 | 12.1 | 12.0 | 11.9 | 12.0 | 12.0 | 12.0 | 13 |  |
| 100.0 | 100.0 | 100.0 | $1 C C .0$ | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 14 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 0.0 | 0.0 | 0.0 | $C .0$ | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 15 |  |
| 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 | 17 |  |
| 2.7 | 2.6 | 2.6 | 2.5 | 2.5 | 2.4 | 2.5 | 2.6 | 2.6 | 2.7 | 18 |  |
| 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 19 |  |
| 89.2 | 89.3 | 89.3 | 89.4 | 89.4 | 89.5 | 89.4 | 89.3 | 89.3 | 89.2 | 20 |  |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 21 |  |


| 16.6 | 16.6 | 16.6 | 16.6 | 16.6 | 16.3 | 16.0 | 16.0 | 16.0 | 16.5 | 22 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  | 23 |
| 20.6 | 20.6 | 20.7 | 20.9 | $2 C .9$ | 21.0 | 21.4 | 21.6 | 21.8 | 22.1 | 24 |
| 3.7 | 3.7 | 3.6 | 3.6 | 3.5 | 3.4 | 3.4 | 3.5 | 3.6 | 3.6 | 25 |
| 0.5 | 0.5 | 0.4 | C. 4 | 0.5 | 0.4 | 0.4 | 0.5 | 0.5 | 0.4 | 26 |
| 58.7 | 58.7 | 58.6 | 58.5 | 58.5 | 58.8 | 58.8 | 58.4 | 58.2 | 57.3 | 27 |
| 100.0 | 100.0 | 100.0 | $1 \mathrm{CC.O}$ | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 28 |
| 22.4 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.3 | 23.5 | 23.7 | 29 |
| 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.1 | 14.2 | 14.3 | 14.5 | 14.6 | 30 31 |
| 11.5 | 11.3 | 11.0 | 16.8 | 10.6 | 10.3 | 10.1 | 10.0 | 9.8 | 9.6 | 32 |
| 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 33 |
| 51.1 | 50.8 | 51.1 | 51.3 | 51.5 | 51.8 | 51.9 | 51.7 | 51.4 | 51.2 | 34 |
| 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 35 |


| 25.5 | 25.6 | 25.7 | 26.0 | 26.0 | 25.9 | 25.9 | 26.2 | 26.4 | 26.6 | 36 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 37 38 |
| 12.5 | 12.2 | 12.2 | 12.1 | 12.0 | 11.7 | 11.6 | 11.5 | 11.4 | 11.3 | 39 |
| 1.2 | 1.2 | 1.5 | 1.8 | 1.7 | 1.7 | 1.9 | 1.8 | 1.9 | 1.8 | 40 |
| 60.8 | $61 . \mathrm{C}$ | 60.6 | 6 C .2 | 60.3 | 60.7 | 60.6 | 60.6 | 60.2 | 60.4 | 41 |
| 100.0 | 100.0 | 100.0 | $1 \mathrm{CC}$. | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 42 |
| 26.0 | 26.0 | 26.0 | 26.0 | 26.0 | 26.0 | 26.0 | 26.0 | 26.0 | 26.0 | 43 |
| 7.4 | 7.6 | 7.8 | 8.0 | 8.2 | 8.4 | 8.6 | 8.8 | 8.9 | 9.1 | 44 |
| 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 3.7 | 46 |
| 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 0.4 | 47 |
| 62.5 | 62.3 | 62.1 | 61.9 | 61.7 | 61.5 | 61.3 | 61.1 | 61.0 | $60.8$ | 48 |
| 100.0 | 100.0 | 100.0 | $1 \mathrm{CC}$. | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | $100.0$ | 49 |
| 13.9 | 14.1 | 14.4 | 14.8 | 15.0 | 15.1 | 15.1 | 15.3 | 15.3 | 15.5 | 50 51 |
| 1.1 | 1.1 | 1.1 | 1.1 | 1.0 | 1.2 | 1.1 | 1.2 |  | 1.1 | 51 52 |
| 4.2 | 4.0 | 4.0 | 3.7 | 3.6 | 3.7 | 3.5 | 3.5 | 3.6 | 3.4 | 53 |
| 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.5 | 0.5 | 0.4 | 0.4 | 54 |
| 80.4 | 80.4 | 80.2 | 80.1 | 80.0 | 79.7 | 79.8 | 79.5 | 79.6 | 79.5 | 55 |
| 100.0 | 100.0 | 100.0 | 1 CO .0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 56 |

## Table 32 Footnotes

(1) Year refers to the academic year of graduation.
(2) Historical data up to and including 1974-75. Historical data include many estimates.
(3) Refers to Grade 12 graduates including Grade 11 graduates in Newfoundland and Secondary 5 graduates in Quebec. All Grade 13 students are also included on the assumption that Grade 13 students are Grade 12 graduates.
(4) Part-time refers to Grade 12 graduates who studied part-time. Continuing their education refers to Grade 12 graduates continuing to Grade 13 plus secondary graduates continuing to university or non-university institutions.

## APPENDIX H

## GENERAL METHODOLOGY

The following is a general description of the methodology. More detailed information is available from the authors.

The purpose of this study is to calculate the historical and projected number of students who leave the Canadian education systems each year and are potentially available to the labour force. This number is subdivided according to the highest level of education achieved at the time of leaving (i.e., educational attainment of a leaver).

A leaver is a person who was enrolled full-time at any educational institution one year but not the next (graduates, dropouts, and students who return on a part-time basis). For example, a person enrolled fulltime in 1973-74 would be classified as a 1974 leaver. Only full-time enrolment is considered, as the majority of part-time students are already part of the labour force.

The number of leavers and their educational attainment are derived directly from projections of enrolment and graduates. In fact, calculation of the number of leavers is part of a hierarchical model which begins with a projection of elementary-secondary enrolment by sex. Several steps are involved in projecting enrolment:

1) initial input to the education system (Kindergarten and Grade 1) is proportional to the number of births five and six years earlier;
2) grade ratios are used to project enrolment in Grades 2 to 13 ;
3) elementary-secondary age-enrolments are derived from grade enrolments;
4) graduation rates are applied to Grade 12 and Grade 13 enrolment to obtain the number of secondary school graduates;
5) a pool of potential post-secondary entrants from secondary school is estimated, which includes graduates from the final year of secondary school in each province except Ontario, where the potential post-secondary entrants pool consists of all Grade 12 graduates not continuing to Grade 13 , and all Grade 13 enrolment.
6) a proportion of the pool is taken to determine the first-year post-secondary (university and non-university) enrolment. Non-university first year enrolment is categorized by program type (i.e., first year enrolment in university transfer programs, CEGEP general programs, and "career or technical" programs).
7) post-secondary upper year enrolments are calculated by using transition ratios (similar to elementary-secondary grade ratios);
8) the number of Master's students is estimated by projecting the percentage of third, fourth and fifth year students continuing to a Master's program;
9) PhD enrolment is estimated by projecting the percentage of Master's students continuing to a doctoral program;
10) graduation rates are applied to enrolments to obtain the numbers of diplomas, certificates and degrees.

The easiest way to calculate the number of leavers, given the available data, is by examining age-enrolments. Differences in age-enrolment cohorts in consecutive years are rough indicators of the number who leave the system. As all students grow a year older from one academic year to the next, a 16 -year-o1d student must be either a 17 -year-o1d student or a 17 -year-old leaver the following year.

## The Calculation of the Number of Potential Labour Force Entrants

## Apparent Leavers

In this study, the difference in age-enrolment cohorts in consecutive years, summed over all ages, is referred to as the number of apparent leavers. For example, the difference between 17 -year-old enrolment in one year and 16 -year-old enrolment the previous year gives the number aged 17 who apparently left the education system (i.e., 17 -year-old apparent leavers).

Example 1.
Calculation of Apparent Leavers

| Age | Enrolment <br> (academic year $t$ ) | Enrolment <br> (academic year $t+1)$ | Apparent Leavers <br> (from year $t+1)$ |
| :---: | :---: | :---: | :---: |
| 16 | 100,000 |  |  |
| 17 |  | 90,000 | 10,000 |

The number of apparent leavers from the elementary-secondary and post-secondary systems is calculated separately. The number of apparent leavers at the post-secondary level is obtained by calculating apparent leavers at all levels, subtracting the number of elementary-secondary apparent leavers and adding the number of secondary graduates proceeding directly to post-secondary (This is equivalent to calculating the difference in total post-secondary enrolment from one year to the next and adding the number of secondary graduates proceeding directly to post-secondary).

## Leavers

The apparent leavers calculation underestimates the number of people who leave the education system because the re-entry of persons to the education system has not been accounted for. Some students re-enter from the labour
force or households; some immigrate to Canada; still others come from other countries on student visas. Due to this entry of students to the education system, 17-year-old enrolment overestimates the actual number of 16 -year-old students of the previous year who continue their education. Adjustments must be made to the number of apparent leavers to account for new entrants.

Example 2.
Calculation of the Number of Leavers
From the Education System
A. Composition of the 90,00017 -year-old students in year $t+1$ from Example 1:

1) Total number of 17 -year-old students enrolled (in year $t+1$ )

90,000
2) 17-year-olds who were not in the Canadian education systems the previous year
a) Student immigrants
2,000
b) Foreigners with student visas

1,000
c) Re-entrants from the labour force or household

2,000
Total new students $\quad \frac{2,000}{5,000}$
$-5,000$
3) Number of 17-year-o1d students in the Canada education system (in year $t+1$ ) who were enrolled the previous year (i.e., year $t$ ) 85,000
B. Number of leavers from the education system in year $t+1$

1) Apparent leavers (from Example 1)

$$
10,000
$$

2) Adjustments for new entrants
(add total A2)
Number of leavers from the education system
$\overline{15,000}$

Note: In the study, adjustments for new entrants were applied to the total number of apparent leavers rather than the number by single-year-of-age as in the example which was used for illustrative purposes.

## Potential Labour Force Entrants

A11 school leavers are not potential labour force entrants: many leave the country, a few die, and after completing an academic year, foreign students are not permitted to work in Canada (this excludes landed immigrants). Downward adjustments are made for these three groups, to obtain the number of leavers potentially available to the labour force. Such adjustments are necessary for the elementary-secondary and postsecondary levels. As an example, the number of potential labour force entrants from the post-secondary institutions is shown below.

Example 3.

> Number of Post-secondary Leavers Potentially Available to the Labour Force, 1976 (Both Sexes, from Table 31)
> (Thousands)

1) Persons leaving the education system at the
post-secondary leve 1
2) Less persons not potentially available to the
Canadian labour force
a) Deaths
b) Students emigrating
c) Foreign students leaving the country* $\underline{28.3}$

> Total not potentially available to the labour force
3) Post-secondary leavers potentially available to the labour force

## Educational Attainment of Potential Labour Force Entrants

The number of leavers potentially available to the labour force is subdivided into seven educational attainment categories:

1) Less than secondary school graduation;
2) Secondary graduation;

[^71]3) Some post-secondary education (includes university transfer and CEGEP general graduates);
4) Non-university certificates, diplomas, and undergraduate diplomas;
5) Bachelor's and first professional degrees;
6) Master's degrees and graduate diplomas, and
7) Doctorates (earned).

The number of leavers who are graduates with degrees, diplomas or certificates (i.e., categories 2, 4, 5, 6 and 7) are estimated first. The number who are non-graduates (i.e., categories 1 and 3) are then determined simply by subtracting the number of graduate leavers from the total number of leavers potentially available to the labour force.
(i) Graduates

The number of graduates potentially available to the labour force in each attainment category is calculated by distributing graduates by destination and/or type of attendance, into four groups:

1) Graduates who had been part-time students, and hence are assumed to be in the labour force already.
2) Graduates who continue directly to a higher level of full-time study.
3) Foreign graduates who return to their home country.
4) Other graduates who leave the country.

These four groups represent an exhaustive set of graduates who are not, by the definition employed here, potentially available to the labour force. The remainder are, then, potential labour force entrants. For example, the number of PhD graduates who are potential labour force entrants is calculated below:

Example 4.

> Distribution of Ph.D. Graduates by Destination and Type of Attendance, 1975-76 (Both Sexes from table 32)
\(\left.\begin{array}{l}1. Graduating as part-time students <br>
2. Graduating as full-time students <br>
a) Continuing their education <br>
b) Foreign students returning to <br>
home country <br>

c) Other graduates leaving Canada\end{array}\right) 33.8\)| Number |
| :---: |
| Total not available to the labour force |
| d) Residual number of graduates potentially <br> available to the labour force |
| 3. Total number of Ph.D.'s (full-time and |
| part-time |

## ii) Non-graduates

Given both the total number of leavers potentially available to the labour force and those who are graduates, the number who leave before graduation can be calculated by subtracting the latter from the former. This is shown in Example 5.

Example 5
Leavers Potentially Available to the Labour Force By Educational Attainment, 1975 (Both Sexes from Table 25)

1. E1ementary-secondary

Total
Completed secondary school
Less than secondary school graduation
Thousands351.6 107.5 244.1
2. Post-secondary

Total
Graduates potentially available to the labour force
a) Certificates and diplomas 36.5
b) Bachelor's and 1st professional 48.8
c) Master's $\quad 6.8$
d) Ph.D. $\quad 1.0$

Total completed 93.0
$-93.0$
Some post-secondary education 98.1

Note: Each number in this example has been rounded independently to the nearest hundred from figures computed to the last digit; hence, detail may not add to totals.

At this point, the number of potential labour force entrants with

1) less than secondary school graduation
2) secondary school graduation
3) "some" post-secondary education
4) a certificate or diploma
5) a bachelor's or first professional degree
6) a Master's degree
7) a doctorate
has been calculated.

Enrolment projections by age and by grade or year level, projections of the numbers of graduates and their destinations, and projections of the various adjustments are all necessary to obtain the final number of leavers potentially available to the labour force by educational attainment. The model that calculates enrolments, graduates and leavers has been computerized, permitting fast and easy alteration of the parameters. It can be used at the national level or at the provincial level.

## APPENDIX I <br> DATA SOURCES AND DATA RELIABILITY

1. Reliability of Historical and Projected Data
2. Data Sources
3. Comparison Between the Current Study and a Similar 1973 Study
4. Differences in the Historical Enrolment Data Presented in this Report and Other Statistics Canada Publications.

## 1. RELIABILITY OF HISTORICAL AND PROJECTED DATA

In projections, "trend" is the message, not precise numbers. The authors do not consider the projections to be predictions of actual values, but rather, indicators of the direction of trends.

## HISTORICAL DATA

The historical data consist both of actual counts and computations. Most past enrolment and graduate figures are actual, obtained from annual surveys. Data about the number of school leavers and the number of potential labour force entrants were calculated according to the methodology in Appendix I.

Survey Data

In general, the historical enrolment and graduation counts are quite reliable, although there are some classification and reporting problems. Table C-1 indicates overall quality and availability of these data. Elementary-secondary breakdowns (by grade and sex) are very good. All are derived from annual enrolment counts except for the breakdown by sex in the Quebec data, which was estimated.

The study would be improved if more reliable statistics about the movement or "flow" of students from year to year were available; for example, the activity or location of students before entering university or college, and the activity of graduates the year after graduation. Some "flow" data have been obtained from the Statistics Canada University Student Information System (USIS) and the 1974-75 Post-secondary Student Survey. Unfortunately, not all students provide the required information, and some institutions do not report on the USIS system.

The age reference date - i.e., the date of the enrolment count at the elementary-secondary level has changed during the past in several provinces. The accurate calculation of apparent leavers requires a consistent age reference date over time. To achieve this consistency, the enrolment by age for some provinces had to be re-computed.

At the graduate level, computation of some graduation rates was complicated by the fact that often the classification of graduates does not correspond with the classification of enrolment. Another difficulty was presented by counts of foreign students (with student visas).

## Computed Data

Computed output from the school system falls into four categories, a different level of accuracy associated with each. The calculations, in descending order of accuracy, are:
(1) The total number of apparent "school leavers" from the elementarysecondary system. Any error in this calculation is likely to be small, since the major determinant is enrolment by single-year-ofage, which is reasonably reliable.
(2) The total number of apparent "school leavers" from the postsecondary system. The difference in total post-secondary enrolment from one year to the next and the number of secondary graduates proceeding directly to a post-secondary institution determine the number of post-secondary apparent leavers. As the number of secondary graduates continuing directly to post-secondary institutions is an estimate the calculation of apparent leavers at the post-secondary level is less accurate than at the elementary-secondary level.
(3) The annual number of "potential labour force entrants" from the two major educational levels (elementary-secondary and post-
secondary). This calculation is based on (1) and (2) but additional estimates of the number of apparent leavers who immigrate, emigrate or die and the number of students returning from the labour force are required. Emigration data and the number returning from the labour force are estimates derived from various sources. Therefore this calculation is less accurate than (1) or (2).
(4) The annual number of potential labour force entrants by seven levels of schooling. While based on (1) to (3), this calculation requires more data, often of a detailed nature. But since the methodology is new, the necessary information is often not available. Therefore, some essential historical values were estimated, and accuracy is substantially below that of (1) (2) and (3). The weakest variable in this calculation is the activity of graduates the year after graduation (i.e., the proportion who continue their education, leave the country, or enter the labour force). Estimates were based on partial data from USIS, the 1974-75 Post-secondary Student Survey, and discussions with informed persons.

Notwithstanding these problems, the authors believe that the number of labour force entrants by level of schooling, although imprecise, is indicative of historical quantitative changes.

## PROJECTIONS

Generally, the higher the level of education, the less accurate the enrolment projections. Short- and medium-range elementary projections are quite accurate, secondary less so (especially in the higher grades), and post-secondary least. This is because students at higher levels have more choice. The accuracy of the annual number of potential labour force entrants from each educational category reflects this situation, since the projections are based on projected enrolments.

Of necessity, data are often shown for small categories (e.g., Ph.D. graduates), although the smaller the numbers, the less reliable they are.

## 1. Good Quality Data

The data contain no problems or only minor ones; usually annual total enumeration counts.
a) Elementary and secondary enrolment by grade and sex.
b) Total number of secondary graduates.
c) Total university and nonuniversity enrolment.
d) Population for Census year.
e) Annual number of births.
f) Annual number of deaths by age.
g) Total number of university graduates by degree type.
h) Total number of nonuniversity graduates (career and CEGEP general).
2. Data of Medium Quality

The data may contain some classification problems, or for some other reason, reliability is in question
3. Data of Poor Quality or Questionable Accuracy
The reliability of the data is in considerable question. The count is usually incomplete, or the variable cannot be reliably measured.
a) Number re-entering the education system from the labour fource.
b) Number emigrating from Canada by single-year-ofage. (1)
c) Activity of non-university and university graduates the year after graduation.
d) Distribution of first-year non-university enrolment by activity the previous year.
e) Distribution of first-year university enrolment by activity the previous year
f) Number of foreign students (on student visas) in the education system.
g) University and non-university graduation rates.
4. Data not Available

The data do not exist in the form required. Figures shown are estimates derived from partial and/or related data.
a) Number of school leavers emigrating from the country.
b) Activity of secondary and university graduates the year after graduation
c) Number of Grade 12 students continuing directly to Grade 13.
d) Student status (fulltime, part-time, student visa) before graduation, for secondary.
(1) From Statistics Canada population projection model and historical estimates of total emigration.

Note: Of course, all the data listed above do not equally influence the outcome of the study. For example, errors in the annual number of deaths would have little effect, whereas serious errors in enrolment by age would make the results worthless. Furthermore, some missing data can be readily and accurately estimated (e.g., breakdown by sex of secondary graduates), while other estimates are more difficult and uncertain. If readers wish more details about the data required to "drive" the model, they should contact the authors.

## 2. DATA SOURCES

## Population

All population data, both historical and projected, were obtained from the Population Estimates and Projections Division of the Census Field, Statistics Canada. The assumptions on which the projections are based were, however, provided by the authors.

## Elementary-secondary Enrolment and Graduates

Elementary-secondary enrolment and graduates data were obtained from the Elementary-secondary Section of the Education, Science and Culture Division, Statistics Canada.

## Post-secondary Enrolment and Graduates

The majority of the enrolment and graduates data were obtained from the Post-secondary and Vocational-continuing Education Sections of the Education, Science and Culture Division, Statistics Canada. The Statistics Canada University Student Information System (USIS) provided detailed university enrolment data. Some provincial sources, such as the Ontario Ministry of Colleges and Universities, provided detailed statistics on college enrolments. Data from the Statistics Canada 1974-75 Post-secondary Student Survey were also used.

The Labour Force - The majority of the labour force statistics were obtained from the Labour Force Survey Division, Statistics Canada. However, other data sources were used in chapter 5, including:

- The Economic Council of Canada
- A joint Statistics Canada/Ontario Ministry of Colleges and Universities survey of Ontario college and university graduates
- The National Centre for Education Statistics, U.S. Department of Health, Education and Welfare
- Organization for Economic Co-operation and Development (OECD)
- The Highly Qualified Manpower survey, co-ordinated by the Secretary of State for Science and Technology and conducted by Statistics Canada
- preliminary output from a manpower forecasting model developed by the Forecasting Division, Ministry of State for Science and Technology
- Pay Research Bureau, Public Service Staff Relations Board, Ottawa
- (Federal) Public Service Commission (annual review)
- The Census Field, Statistics Canada
- numerous other papers and reports cited in chapter $V$.

The American Population, Enrolment and Labour Force Statistics

- Bureau of the Census, U.S. Department of Commerce
- The National Centre for Education Statistics, U.S. Department óf Health, Education and Welfare
- Bureau of Labour Statistics, U.S. Department of Labour
- Employment and Training Administration, U.S. Department of Labour (a report -"Employment and Training Report to the President", 1977)

In 1973 Statistics Canada sponsored a publication under the joint authorship of Zoltan E. Zsigmond and Edith Rechnitzer called "Projected Potential Labour Force Entrants from the Canadian Educational Systems, 1971 to 1985 - Enrolments, Graduates and Leavers". This was the first use of the age cohort method to estimate and project the number of students leaving the Canadian education system who were potentially available to the labour force. Most of the methodology for the current study was developed during this first pilot study. In the Spring of 1977 Statistics Canada published Future Trends in Enrolment and Manpower Supply in Ontario, under the authorship of Zsigmond, Picot, Devereaux and Clark. This document dealt with the trends and implications of enrolment and the number of leavers from the Ontario education system.

The current report is an updated version of the 1973 study, incorporating new and revised data and more labour force supply information. Introduction of new data changed the historical and projected time series significantly. The following table compares the number of potential labour force entrants shown here and in the 1973 study.

Table I-2 - Summary Comparison of the Number of Potential Labour Force Entrants in the 1973 Study and in the Current Study

|  | 1971 |  | 1975 |  | 1980 |  | 1985 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | $\begin{gathered} \hline 1973 \\ \text { Study } \\ \text { Historical } \end{gathered}$ | Current <br> Study <br> Hist. | 1973 Study Projected | $\begin{gathered} \text { Current } \\ \text { Study } \\ \text { Hist. } \end{gathered}$ | $\begin{aligned} & 1973 \\ & \text { Study } \\ & \text { Proj. } \end{aligned}$ | Current Study Proj. | 1973 <br> Study <br> Proj. | Current Study Proj. |
| Elem.- | 269.3 | 367.8 | 292.3 | 351.6 | 274.6 | 372.1 | 218.1 | 299.0 |
| Post-sec. | . 151.4 | 150.3 | 185.8 | 191.0 | 224.6 | 217.9 | 251.4 | 218.9 |
| Total | 420.7 | 518.1 | 478.1 | 542.6 | 499.4 | 590.0 | 469.5 | 517.9 |

Note: For the 1973 study, the number of leavers in 1971 is estimated and the years thereafter are projected. For the current study, leavers are estimated from 1971 to 1975 and projected thereafter.

The table reveals a difference of nearly 100,000 in the number of potential labour force entrants for 1971. The difference which persists throughout the forecast period (to 1985), is caused by several factors:
I) Elementary-secondary
a) Roughly half the difference can be accounted for by a downward revision of 1971-72 enrolment (primarily Quebec), and a revision of the age distribution of enrolment since the 1973 report was written.
b) The remaining half of the difference results from changes in the adjustments ${ }^{1}$ applied to compute leavers at the elementary-secondary level. In particular, the estimated number of persons returning to elementarysecondary school from the labour force or household sector was adjusted upwards in the current study.
c) It should be noted that although population projections with different total fertility assumptions were used in the two studies, this does not influence the number of elementary-secondary leavers until after 1986.
II) Post-secondary

Only a minor difference exists between the two studies in the number of 1971 leavers. The discrepancy is caused by updated adjustments at the post-secondary level. The current study projects a less dramatic increase in the number of potential labour force entrants with post-secondary education after 1975, which reflects the lower post-secondary enrolment rate assumptions.

All the differences in the historical and projected time series are attributable to revisions of past data, updated adjustments in the model, or new enrolment rate assumptions.

1. Such as the number of persons returning to school from the labour force or household sector, the number of immigrants, the number continuing from secondary school to college or university, etc.

## 4. SUMMARY OF DIFFERENCES IN THE HISTORICAL ENROLMENT DATA PRESENTED IN THIS REPORT AND OTHER STATISTICS CANADA PUBLICATIONS

Several minor differences exist between enrolment data in this report and that in another Statistics Canada publication, Education in Canada, 1977. Table I-3 gives a brief comparison of enrolment totals.

Total elementary-secondary enrolment in this study is equivalent to the enrolment reported in Education in Canada for all years. Total postsecondary enrolment in the current study is the same as enrolment reported in Education in Canada for 1971-72, 1972-73 and 1973-74; however, data in this study are $0.3 \%$ higher in $1974-75,0.2 \%$ higher in $1975-76$ and $0.4 \%$ higher in 1976-77. The non-university enrolment differs because here it includes data from the Ontario Ministry of Universities and Colleges. ${ }^{1}$ Some one-year program enrolment included in the Ministry data is classified as vocationa1, not "post-secondary", in routine Statistics Canada publications. Consequently, total post-secondary enrolment in this report is 1,000 to 2,000 higher after 1973-74 than reported in Education in Canada. This difference is also carried into the projected time period.

Other differences in non-university and university enrolment result from the classification of approximately 500 students (1ess than $0.1 \%$ of all post-secondary enrolment). About 400 students are considered as undergraduate enrolment here for 1974-75 to 1976-77, whereas they are in the non-university career category in the 1977 edition of Education in Canada. For 1976-77 approximately 100 students at another institution are classified university transfer students in "Education in Canada", whereas this study includes them with career non-university enrolment. These differences do not affect total post-secondary enrolment, but rather, the numbers recorded in the career, university transfer and undergraduate categories. A11 of the classification differences are carried through the projections.

The differences in classification, and the inclusion of some one-year vocational students attending CAAT's in Ontario create minor deviations from enrolment reported in Education in Canada. But these differences have only a minute effect on the number of potential labour force entrants, and do not influence the general trends nor the implications of these trends.

[^72]Table I-3 - Comparison of Enrolment Data from Education in Canada 1977(1) and this Study, 1971-72 to 1976-77

(1) To be published during the summer of 1978.
(2) Includes preliminary and projected data.

Note: Other Statistics Canada publications containing enrolment data include:
catalogue 81-204 - Fall Enrolment in Universities; Cat. 81-210 - Elementary-Secondary School Enrolment; Cat. 81-220 Advanced Statistics of Education; Cat. 81-222 - Enrolment in Community Colleges; Cat. 81-229 - Education in Canada.

* Indicates discrepancy between the figure included in the current study and Education in Canada.


## GLOSSARY

admission requirements - specifications of educational and other experiences required of new students for admission to an educational institution; usually stated in terms of pattern and amount of credits, scores on standardized achievement tests, age, etc.
career program (post-secondary) - non-university program of one or more years' duration that prepares students to enter a career directly upon successful completion. A secondary school diploma or equivalent is required for admission.

Collèges d'enseignement général et professionel (CEGEP) - non-university community colleges in Quebec financially supported by the provincial government.
-CEGEP general program (post-secondary) - non-university program of two years' duration that prepares students to enter the first year of university. A secondary school diploma or equivalent is required for admission.
-CEGEP professional program (post-secondary) - non-university program of three years' duration that prepares students to enter a career directly upon completion. A secondary school diploma or equivalent is required for admission. (Similar to career programs in other provinces).

Colleges of Applied Arts and Technology (CAAT) - post-secondary non-university institutions established by the Ontario provincial government, providing vocational, technical and semi-professional programs.
compulsory ages - the youngest and oldest ages at which children normally are required by law to attend school. The age range is 5 to 16 , although it varies by province.
degree - a title conferred by a university as official recognition of completion of a program of study.
degree, bachelor's - usually the first degree conferred by a university after completion of three or more years of academic work at the undergraduate level.
degree, doctoral (Ph.D.) - the highest academic degree conferred by a university, usually after two full years of residence following the master's degree or three years following an honour bachelor's degree, and completion of a program of study and a thesis. It includes Ph.D.'s in any field, but excludes degrees defined as first professional such as Doctor of Medicine, Doctor of Divinity, etc. It must normally be completed within five to seven years from the initial date of admission.
degree, first professional - a degree which usually requires six years of undergraduate work for completion, including at least two years of pre-professional training or a bachelor's degree, e.g., Doctor of Medicine (M.D.), Doctor of Dental Surgery (D.D.S.), Doctor of Veterinary Medicine (D.V.M.), Bachelor of Laws (LL.B.)
degree, graduate - a general term for degrees at the master's and doctor's level.
degree, master's - a degree conferred after one year of study beyond the honour bachelor's degree, or two years beyond the pass bachelor's degree. In most cases, it must be completed within three to six years from the initial date of admission. In this report, the master's educational attainment category includes graduate diplomas.
diploma - a formal documentary credential given by an educational institution certifying completion of a program below the degree level.
diploma, graduate - document granted by a university after completion of a program in which only persons with at least one degree may enrol.
diploma, undergraduate - document granted by a university after completion of a credit program, which usually does not require a degree for admission.
educational attainment - the highest level of formal schooling completed.
educational attainment, elementary-secondary (some) - level of educational attainment describing persons who did not obtain a secondary school diploma (grade 11 in Newfoundland, Secondary V in Quebec, grade 12 in all other provinces ), although they may have completed a trade, occupational or other special program.
educational attainment, secondary (completed) - leve 1 of educational attainment describing persons who have obtained a diploma by completing the final grade of secondary school.
educational attainment, post-secondary (some) - level of educational attainment describing persons who were enrolled in a post-secondary institution, but left before obtaining a certificate, diploma, or degree; or having obtained a university transfer or CEGEP general diploma, did not continue to a university undergraduate program.
educational attainment, post-secondary (completed) - level of educational attainment describing persons who have obtained a certificate, diploma or degree from a post-secondary institution. (Exludes those who obtained a diploma from a university transfer or CEGEP general program).
elementary - level of education entending from kindergarten to grade 8 , including public, private and separate denominational elementary schools, and Indian schools under federal jurisdiction. Private schools offering only kindergarten are excluded.
emigration - the number of people who leave the country of residence legally and voluntarily for permanent residence elsewhere.
enrolment rate (gross) - total enrolment at any level of education (e.g., elementary, secondary, etc.), regardless of the students' ages, divided by the population of a specific age group; for example, total postsecondary enrolment related to the 18-24 population.
enrolment rate (net) - total enrolment of specific ages divided by the population of the same ages; for example, all 19-year-olds enrolled at a given level, related to the 19-year-old population, or all 16-18-year-olds enrolled in secondary school, related to the $16-18$-year-old population.
fertility rate (total) - the average number of children that 1,000 women could be expected to have if birth rates for each age were to persist throughout their child-bearing years (15-49).
first-year non-university enrolment - all enrolment in the first year of study of any post-secondary non-university program.
first-year university enrolment - all undergraduates in the first year of any university program, including students in the first year of a professional program who already have a bachelor's degree.
foreign student - student who has been granted a visa or special visa for the purpose of studying in Canada as a full-time student.
full-time enrolment - all students at any level carrying a full course load. For statistical purposes, the elementary-secondary figure usually refers to a count as of early autumn, and the post-secondary as of late autumn.
ful1-time student - student carrying a full course load as determined by the province, local school system or institution, as of a given date.
grade ratio - at the elementary-secondary level, enrolment in each grade expressed as a percentage of enrolment in the final year(s) of a program.
graduate - a person who has completed a program of study and has received a diploma, certificate or degree.
graduate enrolment - all students enrolled in master's, doctor's, or graduate diploma programs, and those taking qualifying studies to be eligible for admission to a master's or doctor's program. Resident physicians taking advanced study are included; enrolment in first professional programs is excluded.
graduation rate - the number of graduates expressed as a percentage of enrolment.
immigration - the number of people who enter a foreign country with the intention of settling there permanently.
kindergarten - a section of the school system devoted to the education of young children, usually four- and five-year-olds. Private schools offering only kindergarten are excluded.
labour force - that portion of the civilian non-institutional population 15 and over, who are employed, or unemployed and actively seeking work.
leaver (school) - a person enrolled full-time at any level of the education system in a given academic year, who does not return as a full-time student the following year.
leavers (number of apparent) - the difference between enrolment of a single-year-of-age cohort in two consecutive years (e.g., in 1976, the number of apparent leavers who were 17 is equal to the number of 16 -year-olds in school in 1975 minus the number of 17 -year-olds in 1976).
migration, net - the difference between the number of people who move into an area and the number who move out during a specified time.
non-university institution - a post-secondary educational institution offering terminal (vocational, technical and semi-professional) and/or university transfer programs. Diplomas or certificates, but not degrees, are granted on completion.
non-university diploma or certificate - a formal documentary credential given by a post-secondary non-university institution certifying completion of a program.
participation - see enrolment rate.
part-time student - a student carrying less than a full course load as determined by the province, local school system or educational institution.
post-secondary full-time enrolment - the number of full-time students enrolled in post-secondary institutions, excluding students enrolled in trade courses and all other courses of less than one year's duration. The minimum requirement for entrance to a post-secondary program is a secondary school diploma or its equivalent (e.g., mature student).
post-secondary institutions - all universities (and their affiliated and associated colleges) and non-university institutions (CAAT's, CEGEP's, community colleges, hospital schools of nursing and other colleges). Trade schools and trade-level enrolment in non-university institutions are excluded.
potential labour force entrants - all full-time students who leave Canada's education systems in a particular year, but remain in the country.
potential post-secondary entrants - people eligible and available to enter a post-secondary institution directly from secondary school (i.e., graduates of the final year of secondary school; in Ontario, all grade 12 graduates not continuing to grade 13 and all grade 13 enrolment).
private school - elementary or secondary school established by an individual or an agency other than the province. Not tax-supported, private schools usually rely on non-public funds.
projection - extension into the future of a variable or quantity by extrapolation of historical trends. In this report, parameters (ratios, proportions, etc.) upon which computation of the projected values is based, are extrapolated by taking account of past trends and assumptions about the future.
projection period - 1976-77 to 1986-87.
re-entrant to the education system - a person who returns to the education system as a full-time student, and was not a full-time student in an educational institution the previous year.
relevant age group - the age group to which the majority of students in a specific level of education belong.
retention rate - the percentage of grade 9 students who complete secondary school (sometimes used to indicate the percentage of students proceeding from one grade to the next). (See grade ratio).
secondary - in this report, grades 9 to 12 (in Quebec, Secondary I to $V$; in Ontario, includes grade 13) regardless of whether programs are academic, vocational, or commercial.
trade level - type of education offering skill courses that prepare students for occupations not at the professional or semi-professional level. Periods of less than one year are normally sufficient to complete these courses. Often, less than secondary school completion is required for admission.
transition rate - in post-secondary institutions, enrolment in each year level expressed as a percentage of enrolment in the previous year level one year earlier (similar to grade ratio).
underemployment - a situation in which persons with high educational attainment (in terms of years of schooling) accept employment requiring less education.
undergraduate - a university student enrolled in a program that offers a bachelor's or first professional degree upon completion. Those who have bachelor's degrees but are studying for a first professional degree are considered undergraduates (e.g., medicine, law, dentistry, etc.).
unemployed - all persons who are without work and actively seeking work, or who are temporarily laid off and waiting to be called back to a job.
unemployment rate - the number of unemployed as a percent of the labour force.
university - post-secondary educational institution and its affiliated, associated and federated colleges that has the power to grant degrees.
university transfer program - non-university program of one or two years' duration that prepares students to enter the first or second year of a university undergraduate degree program. A secondary school diploma or equivalent is required for admission.



[^0]:    (1) INCLUDES GRADE 11 GRADUATES IN NEWFGUNDLAND AND SECONDARY 5 GRADUATES IN QUEBEC.
    (2) INCLUDES SOME PREL IMINARY DATA.
    (3) INCLUDES GRADUATE DIPLOMAS.

[^1]:    1. This is a special projection produced by the Population Estimates and Projections Division of the Census Field, Statistics Canada.
[^2]:    1. The total fertility rate for any given year is the average number of children expected to be born, per 1,000 women, if the age-specific birth rates as of that year were to persist throughout the women's childbearing ages (15-49). For easier reading, the total fertility rate will be referred to only as the fertility rate, and this will be expressed as the average number of births per woman.
[^3]:    1. Dr. Campbell Gibson, former chief of the Population Projections Branch, Population Division, U.S. Bureau of the Census, has observed: "...The onset of unfavourable economic conditions and the onset of the sharp decline in fertility appear to have been correlated.... It seems unlikely that there will be a substantial rise in annual fertility until the effects of recent adverse economic conditions have been offset by a more prosperous economic milieu. When this might occur is extremely difficult to foresee, because economic forecasts are about as precarious as demographic forecasts." (Science, Volume 196, April 29, 1977, p. 502).
[^4]:    8. These projections are based on the 1.80 fertility assumption and constant annual net migration of 100,000 .
[^5]:    * Assumptions: total fertility rate $=1.80$
    annual net migration $=+100,000$

[^6]:    1. The following grades are included:

    Nf1d. - Grades 9-11
    Que. - Secondary II-V until 1974, Secondary III-V thereafter N.S., P.E.I., Alta., N.W.T., B.C., Yukon, Sask., Man. - Grades 9-12 Ont. - Grades 9-13

[^7]:    * Time series inconsistent beyond 1971

[^8]:    * 1976 not comparable with earlier data because of structural change in Quebec.

[^9]:    1. Determining a single source population for the ten provincial systems is difficult. For example, in Quebec and Newfoundland students graduate from high school after the eleventh year; hence, there are many 17-yearolds in the post-secondary system. On the other hand, students who attend Grade 13 in Ontario are 19 when they enter the post-secondary system. Also, many students are older than 24 . However, approximately $80 \%$ of all full-time post-secondary students are in the 18-24 age group.
[^10]:    1. Richard Barry Freeman, The Over-educated American (New York: Academic Press, 1976), 53.
[^11]:    1. Partially due to an "artificial" increase because of the structural change in the Quebec school system.
[^12]:    1. Proportion of all expenditures of the federal, provincial and municipal governments in Canada allocated to Education. (Statistics Canada, Education, Science and Culture Division, Education in Canada 1977, Catalogue 81-229).
[^13]:    * The high proportion of women is due to their dominance in nursing and teacher training. As education programs were transferred to the universities, and nursing was shortened from three to two years, this proportion declined.

[^14]:    1. Agriculture, Commerce and Business Administration, Engineering and Applied Sciences, Fine and Applied Arts, Medical and Health Professions, Household Science, Law, Religion and Theology and Veterinary Medicine.
[^15]:    1. After 1973-74 university degrees are counted on a calender year basis rather than an academic year basis.
    2. There are some variations. For example, to determine the number of bachelor's degrees, the historical ratio of graduates to third, fourth and fifth year university enrolment is projected and applied to projected enrolment in these years.
[^16]:    1. For example, the number of students who emigrated, immigrated, died, etc. See Appendix $G$ for further details.
[^17]:    1. A forthcoming O.E.C.D. (Organization for Economic Co-ordination and Development) Educational Statistics Yearbook shows that the average age of Canadian school leavers was 18.9 in 1974.
[^18]:    1. During this period far more than $20 \%$ became teachers, since many graduates in arts and perhaps science entered teaching after a short (one-year) training course.
[^19]:    * Includes agriculture, architecture, commerce and business administration, engineering, environmental studies, fine arts, forestry, household science, journalism, law, library science, medical and health professions, music, theology and veterinary medicine.

[^20]:    1. Some manpower demand projections are now being made by the Economic and Labour Market Analysis Division of the Canada Employment and Immigration Commission.
[^21]:    1. The Canadian Classification Dictionary of Occupations (CCDO) and the 1971 Occupational Classification Manual (OCM) developed for the 1971 Census are the basis of this work. Each occupation has a "General Educational Development (GED) level - an index of the education required. Some adjustments were made to update the GED levels.
[^22]:    1. More complete understanding of recent changes in participation rates requires analysis by age group. Labour force projections are produced by applying projected participation rates for various male and female age groups to the relevant populations. The participation rates quoted are the overall results.
[^23]:    1. Source: Labour Force Statistics, 1964-75, Organization for Economic Co-operation and Development (OECD), Paris, 1977 and Labour Force Statistics, Quarterly supplement to yearbook, OECD, Paris, 1977.
[^24]:    1. This assumes that the Canadian economy will be expanding and creating a substantial number of jobs.
[^25]:    1. A further breakdown indicates a major difference in the "employability" of persons with uncompleted and completed secondary education. Secondary graduates resemble persons with "some" post-secondary education in their "employability", while non-graduates resemble the elementary-educated.
[^26]:    1. For a comprehensive discussion of underemployment see:

    Glyde, Snyder, Stemberger, Underemployment: Definition, Causes and Measurement, (Institute for Research in Human Resources, Pennsylvania State University, 1975), prepared for the U.S. National Institute of Education. The study defines underemployment as:
    "involuntary employment conditions where individuals are working in jobs... in which their skills, including formal training and work experience, are undervalued and/or technically underutilized."
    2. Ministry of State for Science and Technology and Education, Science and Culture Division, Statistics Canada, Highly Qualified Manpower Survey, 1973.

[^27]:    1. Detailed salary data by discipline.
[^28]:    1. Harold Howe, II, "The Value of College as Seen by a Non-economist", The College Board Review, No. 100 (Summer, 1976), pp. 6-14.
[^29]:    1. Such a conference was held at the University of Victoria in February, 1978 at the instigation of the university president, Mr. Petch. A background paper written to clarify the issues for this conference is available: Dr. H.D. Beach, Education and Employment of Youth, University of Victoria, Victoria, B.C.
[^30]:    Projection "A" (high) - rises from 1.85 in 1976 to 2.10 by 1990, and remains constant thereafter.

    Projection "B" (medium) - declines from 1.85 in 1976 to 1.80 by 1978 , and remains constant thereafter.

    Projection "C" (1ow) - declines from 1.85 in 1976 to 1.60 by 1990, and remains constant thereafter.

[^31]:    1. The Canadian and American graphs are not exactly comparable. Irregularities in the American data on Chart 41 are caused by inclusion of refugees as of the date of Congressional approval, rather than actual arrival. The result is a "bunching" of immigration figures.
[^32]:    * For Canada, enrolment in degree programs in universities and transfer enrolment in community colleges, including Quebec's CEGEP academic enrolment. For the United States, all degree-credit enrolment in fouryear institutions and two-year institutions such as junior and community colleges, public or private.
    ** Comparable 1976 data unavailable; after 1975 statistical distinction between degree-credit and non-degree credit enrolment no longer made.

[^33]:    Sources: U.S. Department of Commerce, Bureau of the Census, Current Population Reports, Series P-20, Nos. 190, 260 and 303,
    "School Enroiment - Social and Economic Characteristics of Students: October, 1968, 1972 and 1975"
    Statistics Canada, Education Division, Estimated participation rates in Canadian education, 1968-69, Catalogue 81-552, Occasional
    Unpublished tabulations

[^34]:    * In Canada, all full-time enrolment in universities and post-secondary non-university institutions (community colleges, technical schools, Ontario's CAAT's, Quebec's CEGEP's, etc.) related to the 18-24 age group; in the U.S., all full-time degree-credit and non-degree-credit enrolment in two- and four-year institutions of higher education related to the 18-24 age group.
    ** American analysts suspect accuracy of high U.S. enrolment figures for 1975.

[^35]:    1. Based on preliminary data. Includes degrees that could not be classified by discipline.
    2. Includes bachelor's, first professional, master's and doctoral degrees. Based on estimates of American degrees by discipline for 1975-76, and preliminary Canadian data. Excludes degrees that could not be classified.
    $\begin{array}{cc}\text { Sources: Canada - Education, Science \& Culture Div., Stats. Can. - preliminary tabs. } \\ & \text { United States - National Centre of Education Statistics, }\end{array}$ Projection of educational statistics to 1985-86.
[^36]:    Source: U.S. Dept. of Labour, Special Labour Force Reports, Educational Attainment of Workers.

[^37]:    (1) PROJECTED CATA IS FROM A SPECIAL STATISTICS CANADA POPULATION PROJECTION WITH 1975 POPULATION ESTIMATES AS THE PROJECTION BASE.
    ASSUMPTIONS: TOTAL FERTILITY RATE 1.80 BY 1978

[^38]:    (1) PROJECTED DATA IS FROM A SPECIAL STATISTICS CANADA POPULATION PROJECTION WITH 1975 POPULATION ESTIMATES AS THE PFOJECTION BASE.
    ASSUMPTIONS: TOTAL FERTILITY RATE 1.80 BY 1978
    NET ANNUAL MIGRATICN $100,000$.
    SOURCE: POPULATION ESTIMATES ANC PROJECTIONS DIVISIDN, STATISTICS CANADA.

[^39]:    (1) PROJECTED DATA IS FROM A SPECIAL STATISTICS CANADA POPULATION PROJECTION WITH 1975 POPULATION ESTIMATES AS THE PFOJECTION BASE.
    ASSUMPTIONS: TOTAL FERTILITY RATE 1.80 BY 1 G78
    NET ANNUAL MIGRATICN $10 \mathrm{C}, 000$.
    SOURCE: POPULATION ESTIMATES AND FROJECTIONS DIVISION, STATISTICS CANADA.

[^40]:    (1) OFFICIAL STATISTICS CANADA POPULATION ESTIMATES FOR 1971-1975(UNREVISED).
    (2) A SPECIAL POPULATION PROJECTION IS USED FOR 1976-1986 WITH 1975 POPULATION ESTIMATES AS THE BASE.

    ASSUMPTIONS: TOTAL FERTILITY RATE 1.80 BY 1978
    NET ANNUAL MIGRATION 100,000

[^41]:    (1) OFFICIAL STATISTICS CANADA POPULATION ESTIMATES FOR 1971-1975(UNREVISED).
    (2) A SPECIAL POPULATION PROJECTION IS USED FOR 1976-1986 WITH 1975 POPULATION ESTIMATES AS THE BASE.

    ASSUMPTIONS: TOTAL FERTILITY RATE 1.80 BY 1978
    NET ANNUAL MIGRATION 100,000

[^42]:    (1) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND.
    (2) INCLUDES SOME PRELIMINARY DATA.
    (3) INCLUDES UNGRADED STUDENTS.

[^43]:    (1) FALL ENROLMENT RELATED TO POPULATION AS OF PREVIOUS JUNE 1.
    (2) INCLUDES ALL ENROLMENT IN ELEMENTARY, SECONDARY AND POST-SECONDARY INSTITUTIONS.
    (3) HISTORICAL DATA UP TO ANO INCLUDING 1975-76, PROJECTED BEYOND. historical data include some estimates.
    (4) INCLUDES SOME PRELIMINARY DATA.
    (5) RELATED TO 4 YEAR OLD POPULATION.

[^44]:    (1) FALL ENROLMENT RELATED TO POPULATION AS OF PREVIOUS JUNE 1.
    (2) INCLUDES ALL ENROLMENT IN ELEMENTARY, SECONDARY AND POST-SECONDARY INSTITUTIONS.
    (3) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND. historical cata include some estimates.
    (4) INCLUDES SOME PRELIMINARY DATA.
    (5) RELATED TO 4 YEAR OLD POPULATION.

[^45]:    (1) FALL ENROLMENT RELATED TO POPULATION AS OF PREVIOUS JUNE 1.
    (2) INCLUDES ALL ENROLMENT IN ELEMENTARY, SECONDARY AND POST-SECONDARY INSTITUTIONS.
    (3) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND. historical data include some estimates.
    (4) INCLUDES SOME PRELIMINARY DATA.
    (5) RELATED TO 4 YEAR OLD POPULATION.

[^46]:    (1) AGE AS OF FALL.
    (2) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND. HISTORICAL DATA INCLUDES ESTIMATES.
    (3) INCLUDES SOME PRELIMINARY DATA.

[^47]:    (1) AGE AS OF FALL.
    (2) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND. HISTORICAL DATA INCLUDES ESTIMATES.
    (3) INCLUDES SOME PRELIMINARY DATA.

[^48]:    (1) HISTORICAL CATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND.
    (2) INCLUDES SOME PRELIMINARY DATA.

    NOTE: FROM 1971-72 TO 1974-75, ELEMENTARY 7 IN QUEBEC IS ADDED TO GRADE 7 OF THE OTHER PROVINCES AND SECONDARY 1 IS ADDED TO GRADE 8. BEGINNING IN 1975-76, ELEMENTARY 6 AND 7 ENROLMENT IN QUEBEC IS ADDED TO GRADE 6 OF THE OTHER PROVINCES AND SECONDARY 1 IS ADDED TO GRADE 7. SEE ENROLMENT CHAPTER FOR FURTHER EXPLANATION.

[^49]:    (1) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND.
    (2) INCLUDES SOME PRELIMINARY DATA.

    NOTE: FROM 1971-72 TO 1974-75, ELEMENTARY 7 IN QUEBEC IS ADDED TO GRADE 7 OF THE OTHER PROVINCES AND SECCNDARY 1 IS ADDED TO GRADE 8. BEGINNING IN 1975-76, ELEMENTARY 6 AND 7 ENROLMENT IN QUEBEC IS ADDED TO GRADE 6 OF THE OTHER PROVINCES AND SECCNDARY 1 IS ADDED TO GRADE 7. SEE ENROLMENT CHAPTER FOR FURTHER EXPLANATION.

[^50]:    (1) INCLUDES OVERSEAS STUDENTS, AND EXCLUDES QUEBEC STUDENTS.
    (2) INCLUDES SOME PRELIMINARY DATA.

[^51]:    (1) INCLUDES OVERSEAS STUDENTS, AND EXCLUDES QUEBEC STUDENTS.
    (2) INCLUDES SOME PRELIMINARY DATA.

[^52]:    (1) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND. HISTORICAL DATA INCLUDES MANY ESTIMATES.
    (2) INCLUDES PRELIMINARY DATA.

[^53]:    (1) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND. HISTORICAL DATA INCLUDES MANY ESTIMATES.
    (2) INCLUDES PRELIMINARY DATA.

[^54]:    $2,747.8 \quad 2,678.5 \quad 2,615.6 \quad 2,558.1 \quad 2,507.7 \quad 2,470.3 \quad 2,449.5 \quad 2,450.1 \quad 2,463.4 \quad 2,483.8 \quad 18$

[^55]:    $2,603.7 \quad 2,542.2 \quad 2,486.4 \quad 2,435.7 \quad 2,391.5 \quad 2,356.4 \quad 2,338.9 \quad 2,340.1 \quad 2,352.9 \quad 2,372.1 \quad 18$

[^56]:    (1) ENROLMENT RELATED TO POPULATION AS OF JUNE 1 ST PRECEDING THE ACADEMIC YEAR
    (2) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND. HISTORICAL DATA INCLUDE MANY ESTIMATES.
    (3) INCLUDES SOME PRELIMINARY DATA.
    (4) RELATED TO THE FOUR YEAR OLD POPULATION.

[^57]:    (1) ENROLMENT RELATED TO POPULATION AS OF JUNE IST PRECEDING THE ACADEMIC YEAR
    (2) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND. HISTORICAL DATA INCLUDE MANY ESTIMATES.
    (3) INCLUDES SOME PRELIMINARY DATA.
    (4) RELATED TO THE FOUR YEAR OLD POPULATION.

[^58]:    (1) ENROLMENT RELATED TO POPULATION AS OF JUNE $1 S T$ PRECEDING THE ACADEMIC YEAR
    (2) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND. HISTORICAL DATA INCLUDE MANY ESTIMATES.
    (3) INCLUDES SOME PRELIMINARY. DATA.
    (4) RELATED TO THE FOUR YEAR OLD POPULATION.

[^59]:    (1) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND.
    (2) INCLUDES SOME PRELIMINARY DATA.

[^60]:    (1) AGE AS OF FALL.
    (2) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND. historical data include many estimates.

[^61]:    (1) FALL ENROLMENT RELATED TO POPULATION AS OF PREVIOUS JUNE 1.
    (2) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND. HISTORICAL DATA INCLUDES ESTIMATES.

[^62]:    (1) GRADUATES RELATED TO POPULATION AS OF JUNE 1 AT END OF ACADEMIC YEAR.
    (2) HISTORICAL DATA UP TO AND INCLUDING $1974-75$, PROJECTED BEYOND.
    (3) INCLUDES GRADE 11 GRADUATES IN NEWFOUNDLAND AND SECONDARY 5 GRADUATES IN QUEBEC.
    (4) NON-UNIVERSITY AND UNIVERSITY UNDERGRADUATE DIPLOMAS AND CERTIFICATES.
    (5) INCLUDES FIRST PROFESSIONAL DEGREES.

[^63]:    (I) INCLUDES COMPLETED TRADE TND OCCUPATIONAL COURSES.
    (2) INCLUDES CEEGEP GENERAL GRADUATES IN QUEBEC AND UNIVERSITY TRANSFER STUDENTS IN OTHER PROVINCES,
    (3) FROM NON-UNIVERSITY CAREER PROGRAMS OR UNDERGRADUATE DIPLOMA PROGRAMS.
    (4) INCLUDES GRADUATE DIPLOMAS
    (5) INCLUDES PRELIMINARY DATA.

[^64]:    (1) HISTORICAL CATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND.
    (2) INCLUDES SOME PRELIMINARY DATA.
    (3) ELEMENTARY-SECONDARY PROJECTIONS "A", "B" AND "C" ARE DERIVED FROM POPULATION PROJECTIONS WITH HIGH 2,100 ), MEDIUM $(1,800)$ AND LOW $(1,600)$ TOTAL FERTILITY RATE ASSUMPTIONS RESPECTIVELY. THE THREE PROJECTICNS BEGIN TO DIFFER IN THE EARLY 1980'S WHEN THE DIFFERENT FERTILITY RATE ASSUMPTIONS START TO INFLUENCE THE SCHOOL AGE POPULATION.
    (4) ALL FOUR POST-SECONDARY PROJECTICNS ARE DERIVED FROM ELEMENTARY-SECONDARY PROJECTION 'B'.
    (5) ELEMENTARY-SECONDARY PROJECTION 'E' IS ADDED TO EACH POST-SECONDARY PROJECTION TO OBTAIN THE GRAND TOTAL.

[^65]:    (1) FALL ENROLMENT RELATED TO THE PRECEDING JUNE 1 ST POPULATION.
    (2) HISTORICAL DATA UP TO AND INCLUDING 1975-76, PROJECTED BEYOND.
    (3) INCLUDES SOME PRELIMINARY OATA
    (4) ELEMENTARY-SECONDARY PROJECTIONS 'A', ' $B$ ' AND ' $C$ ' ARE DERIVED FROM POPULATION PROJECTIONS WITH HIGH 2,100 ), MEDIUM(1,800) AND LOW(1,600) TOTAL FERTILITY RATE ASSUMPTIONS RESPECTIVELY. EACH ELEMENTARY-SECONDARY PROJECTION IS RELATED TO ITS RESPECTIVE POPULATION PROJECTION.
    (5) ALL FOUR POST-SECONDARY PROJECTIONS ARE DERIVED FROM ELEMENTARY-SECONDARY PROJECTION 'B' AND ARE RELATED TO THE MEDIUM POPULATION PROJECTION WITH 1,800 TOTAL FERTILITY RATE.
    (6) ELEMENTARY-SECONDARY PROJECTION 'B' IS ADDED TO EACH POST-SECONDARY PROJECTION TO OBTAIN THE GRANO TOTAL.

[^66]:    * All graduates in jobs classified as clerical, craftsman, labourer; sales, service or operative and who stated their job did not require a degree were said to be underemployed.
    ** In most cases this refers to a 9 or 10 month contract.

[^67]:    * Less than 0.5 percent.

[^68]:    (1) INCLUDES PERSONS LEAVING THE EDUCATION SYSTEM THE PREVIOUS ACADEMIC YEAR.
    (2) HISTORICAL DATA UP TO AND INCLUDING 1975, PROJECTIONS BEYOND; ADJUSTMENTS INCLUDE MANY ESTIMATES.
    (3) INCLUDES SOME PRELIMINARY DATA.
    (4) SUM OF (POSITIVE) DIFFERENCES BETWEEN SINGLE YEAR OF AGE COHORTS IN SUCCESSIVE YEARS
    (SEE METHODOLOGY FOR DESCRIPTION AND EXAMPLE.)
    NOTE: THIS TABLE WILL BE MORE MEANINGFUL IF THE READER CONSULTS THE
    EXAMPLE IN THE METHODOLOGY CHAPTER.

[^69]:    (1) INCLUDES PERSONS LEAVING THE EDUCATION SYSTEM THE PREVIOUS ACADEMIC YEAR.
    (2) HISTORICAL CATA UP TO AND INCLUDING 1975, PROJECTIONS BEYOND; ADJUSTMENTS INCLUDE MANY ESTIMATES.
    (3) INCLUDES SOME PRELIMINARY DATA.
    (4) SUM OF (POSITIVE) DIFFERENCES BETWEEN SINGLE YEAR OF AGE COHORTS IN SUCCESSIVE YEARS (SEE METHODCLDGY FOR DESCRIPTION ANC EXAMPLE.)
    NGTE: THIS TABLE WILL BE MORE MEANINGFUL IF THE READER CONSULTS THE EXAMPLE IN THE METHODOLOGY CHAFTER.

[^70]:    see footnctes at end cF table．

[^71]:    * It was assumed that the number leaving is equivalent to the number entering the previous year.

[^72]:    1. These data were also used in the Statistics Canada publication Future Trends in Enrolment and Manpower Supply in Ontario.
