LABOUR DEMAND AND SUPPLY
PROJECTIONS
ATLANTIC PROVINCES
1979 - 1986

This occasional research paper was prepared by the
Regional Analysis Branch of the Department of Regional
Economic Expansion, Atlantic Region Office in Moncton. While
prepared on behalf of the department by staff resources, it
is not intended to constitute or reflect the views, policies,
objectives or opinions of the Government of Canada. Rather,
it is meant to contribute to the level of general knowledge
and discussion of the particular subject area which it
examines.

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I INTRODUCTION

Objective

The principal objective of this paper is to
present projections of the labour force supply and labour
force demand for each of the Atlantic Provinces to the year
1986. This project was considered desirable for several
reasons. The reverse in net migration trend observed during
the seventies has contributed to a higher population growth
than in the previous decade, a substantial growth in the
labour force and, despite appreciably higher levels of
employment growth, to a dramatic increase in the level of
unemployment and unemployment rate. Earlier labour market
forecasts were predicting generally tight labour supply
conditions for Canada during the eighties, as the major
source of new entrants to the labour force, i.e., the younger
population 20 years of age or less, shrinks both relatively
and absolutely, creating labour supply bottlenecks and upward
pressure on prices. Although revised forecasts do not
foresee as tight a labour market as predicted earlier, severe
occupational and regional imbalances are still anticipated.
The economic boom associated with the oil crisis is already
creating serious shortages of skilled manpower in Western

Canada. This supply problem is anticipated to become much
more acute as the eighties progress. Another traditionally
important source of labour supply, immigration, has been
dramatically curtailed with the new Immigration Act of 1979.
These expected regional imbalances in labour supply and
demand call for coordinated manpower and economic development
policies in order to alleviate labour shortages where they
arise and stimulate necessary economic growth to absorb
labour surpluses where needed.

Structure of the Report

It is in view of the above mentioned anticipated
labour market developments that it was decided that
projections of labour supply and labour demand for the
Atlantic Provinces be undertaken. The second chapter will
deal with labour force supply projections while the third
chapter will present labour force demand projections. A
fourth chapter will show the anticipated employment gap and
unemployment rate, resulting from these two sets of
projections. The fifth and final chapter will present a
brief summary of the paper.

Before projecting labour supply, a few basic
concepts will be defined, the data source identified and the
method of projecting will be described.

Concepts and Data Source

The basic concepts used in projections of labour
supply are the labour force and the participation rate.
There exist several definitions and measures of the labour
supply or labour force. In the present report, the concept
refers to the total number of persons employed and those
unemployed but seeking work. This definition is that adopted
by Statistics Canada for the purpose of the Labour Force
Survey. This monthly survey indicates the state of the
labour market (except for vacancies) and a number of
characteristics about those who compose it. The survey
provided the data base from which projections of labour
supply were made. The second concept, the participation
rate, is also drawn from the Labour Force Survey. Briefly,
the overall participation rate, is the total labour force
expressed as a percentage of the population of working age,

i.e., the population 15 years of age and over. The
participation rate for a specific age group is the number of
persons employed and unemployed but seeking employment (the
labour force) of that specific age group expressed as a
percentage of the population in that particular age group.

Methodology and Assumptions

The projections of labour force supply involves
two separate projections: a projection of population (of
working age) and a projection of participation rate. Once
these two projections have been made, the labour force supply
is obtained by multiplying the participation rate(s) to the
population.

a) Population Projection

The population projection used for the purpose of
this exercise was drawn from Statistics Canada "Population
projections for Canada and the provinces, 1976-2001",
published in 1979. The publication contains four main
projection series and three supplemental series. The
projection which now appears to be the most realistic for the

Atlantic Region is projection #3 and the results from this projection will be used in this paper.[1] Table I below summarizes the basic assumptions underlying the projections for the Atlantic Provinces and Canada.

It is assumed that the fertility rate will continue to decrease. All Maritime provinces are expected to experience a gradual decline in fertility rate. In Newfoundland, the fertility is expected to fall from 2.41 in 1976 to 2.04 in 1986. In Nova Scotia, it is forecast to decline from 1.90 to 1.76, while it is expected to fall from 1.98 in Prince Edward Island and 1.99 in New Brunswick to 1.82. Net international migration is assumed to be 75,000 per year for Canada. Inter-provincial migration patterns are assumed to partially revert back to the "long term" patterns observed during the 1960's. This results in an annual net in-migration of 1,600 during the 1976-81 period in New Brunswick and an annual net out-migration of 600 during the 1981-86 period. In Nova Scotia an annual net out-migration of 1,100 is anticipated in the 1981-86 period compared to an annual net in-migration of 500 in the 1976-81 period. In Prince Edward Island, net migration is expected to fall from an annual gain of 600 in the first period to a

1 A scenario based on projection #4 is shown in Appendix A for Newfoundland. Provincial officials consulted believed that this projection is more relevant for Newfoundland.

TABLE I

LIFE EXPECTANCY AT BIRTH, TOTAL FERTILITY RATE
AND NET MIGRATION UNDERLYING PROJECTION 3
ATLANTIC PROVINCES AND CANADA

| | LIFE EXPECTANCY AT BIRTH | | | | TOTAL FERTILITY RATE | | NET MIGRATION FIVE YEAR AVERAGE | |
| | MALE | | FEMALE | | | | | |
	1976	1986	1976	1986	1976	1986	1976-1981	1981-1986
CANADA	69.61	70.22	76.90	78.26	1.86	1.73	75,000	75,000
NFLD.	69.74	70.72	76.27	77.83	2.41	2.04	-2,900	-3,900
P.E.I.	69.78	70.80	77.79	79.02	1.98	1.82	600	(1)
N.S.	68.86	69.39	76.60	77.96	1.90	1.76	500	-1,100
N.B.	69.44	70.20	76.85	78.15	1.99	1.82	1,600	-600

1. Less than 100

Source: Statistics Canada, Population Projections for Canada and the provinces, 1976-2001.

balance between in-migrants and out-migrants in the later period. In Newfoundland, a net annual loss of 2,900 is expected to increase to 3,900.

The migration component of population growth is the most difficult to predict. Factors in both sending and receiving areas are at play. It is not anticipated that the extent of net out-migration observed in the Atlantic Region during the fifties and sixties will prevail in the first half of the eighties. It is also unlikely that conditions of the seventies will persist, where significant net in-migration in the Maritime provinces and a substantial decline in the rate of out-migration in Newfoundland led to an increase in the rate of growth of the population in the Atlantic Region. It is now accepted that the three Maritime provinces may experience net out-migration during the first half of the present decade, although small in comparison to the experience of the sixties. In Newfoundland, the population projection accepted for the purpose of this study foresees an increase of net out-migration from 2,900 to 3,900 annually. If oil finds on the coast of Newfoundland prove to be substantial, early exploitation could prove these projections to be pessimistic.

Table II shows population projection results for the year 1986 for Canada and the Atlantic Provinces. The 1976 census population figures are also included for comparison. Detailed projections by sex and selected age group are shown in Appendix B-1, B-2, B-3 and B-4.

TABLE II

POPULATION PROJECTIONS[1]
CANADA AND ATLANTIC PROVINCES
(thousands)

	CENSUS 1976	PROJECTIONS 1986
Canada	22,992.6	25,726.3
Atlantic Region	2,181.7	2,362.0
Nfld.	557.7	597.9
P.E.I.	118.2	130.9
N.S.	828.6	887.5
N.B.	677.2	745.7

1. Projection # 3
Source: Statistics Canada, Population Projections for Canada and the provinces, 1976-2001.

b) Participation rate projection

There exist several methods of projecting the participation rate. A study on population done by the Department of Economic and Social Affairs, United Nations

entitled "Methods of Projecting the Economically Active Population" recognizes four principal methods of projecting labour supply, based on the following assumptions:

(a) the trend in the participation rates for future years will be an extrapolation of the past trend;

(b) the current participation rates will be maintained in the future;

(c) participation rates in the future years will be the same as those of other more advanced countries or the same as current rates in the more developed areas of the country concerned;

(d) participation rates will depend on projected changes in such factors as the economy's manpower needs, school enrolment, the growth of the urban population, the development of the pension system and nuptiality and fertility ratio.

In this paper, the basic method used is the extrapolation of past trends as in (a). Using the straight line equation, we proceeded to establish the time trend for sex-age-specific participation rates for the Atlantic Provinces (except for Prince Edward Island where, due to the absence and inadequacy of historical data, only projections of the labour force participation rates by sex were made).

The following age breakdown was utilized: 15-19,
20-24, 25-34, 35-44, 45-54, 55-64, and 65 years and over.
Based on the trend observed for the period from 1966 to 1979,
these sex-age-specific participation rates were projected to
the year 1986. This method works on the assumption that the
pattern of change in the participation rate of a particular
age group or cohort will continue during the projection
period. Results of these simulations to 1986 are presented
in Appendix C-1, C-2, C-3, and C-4.

The results obtained were then submitted to
careful scrutiny by age and sex. Past trends in the Atlantic
Provinces and the trends and performance for the country as a
whole were looked at, and other factors such as school
enrolment, pension systems, projections of educational
attainment of the population and labour force and the
changing attitudes with respect to female employment were
considered. The influence of economic growth on
participation rates was also examined. This factor appears
to be significant only for peripheral age groups such as the
younger and older age groups. In some instances, results
obtained by extrapolation of trend were judged to be
inacceptable and adjustments were made based on our best
judgement. The following underlying assumptions were
respected:

(a)   the major source of labour participation growth
       will continue to be forthcoming from the female
       segment of the population;

(b)   the female participation rate will grow for all
       age groups, except for those 65 years of age and
       over;

(c)   the gap between the male and female participation
       rates will continue decreasing for all age groups;

(d)   the male participation rate will:

       i - only grow in the 15 to 19 age group;

      ii - remain relatively constant in the 20-24,
           25-34, 35-44 and 45-54 age groups;

     iii - decline in the 55 to 64 age groups (except
           in Newfoundland where a slight increase is
           anticipated), in part due to greater
           frequency of early retirement associated
           with rising income and savings and the
           expansion of retirement pension plans;

      iv - also decline in the 65 and over age group,
           the elimination of mandatory retirement at
           age 65 having generally little effect on
           retirement.

Results

a) Participation rates

As shown in Table III, the overall participation rate for the Atlantic Region is anticipated to grow from 55.4 per cent in 1979 to 58.8 per cent in 1986, with both the male and female participation rates expected to contribute to the increase.

The male participation rate is expected to grow steadily from 71.0 per cent in 1979 to 72.6 per cent in 1986. This is contrary to the trend observed from 1966 to 1976 where fluctuations were noted. This expected increase is largely attributable to the ageing of the population, i.e., as the bulge in the population associated with the post war baby boom moves into higher age groups, a greater proportion of the population will be in those age groups where the participation rates are highest, namely the 20-24, 25-34 and 35-44 age groups. This reversal in trend was already noticeable between 1976 and 1979. On the other hand, the female participation rate is expected to grow for all age groups except for the 65 years of age and over. As a result, the overall female participation rate is projected to grow from 40.4 per cent in 1979 to 45.3 per cent in 1986.

TABLE III

PROJECTED PARTICIPATION RATE BY SEX
ATLANTIC PROVINCES
TO 1986

	1976	1979 Actual	1986 Projected
Atlantic Region			
M	67.7	71.0	72.6
F	36.9	40.4	45.3
T	52.2	55.4	58.8
Newfoundland			
M	66.6	68.7	71.9
F	31.8	36.2	41.6
T	49.4	52.7	56.8
Prince Edward Island			
M	72.4	72.9	74.0
F	41.7	46.2	51.0
T	56.7	59.3	62.4
Nova Scotia			
M	71.9	72.6	73.1
F	39.1	42.1	46.7
T	55.2	56.9	60.1
New Brunswick			
M	69.7	70.1	72.2
F	38.0	41.0	43.7
T	53.6	55.3	57.9

NOTE: The 1976 and 1979 figures are actual data drawn from
the Statistics Canada Labour Force Survey.

However, the participation rate for women is expected to grow at a more moderate pace than in the past. Two major factors are expected to contribute to the slower pace of growth. On the supply side, the positive effect of the decline in fertility rate on the female participation rate is expected to be less pronounced than in the past and, on the demand side, the rate of expansion of the service sector, which traditionally has provided most of the employment opportunities for women, is not expected to be sustained.

All four Atlantic provinces, as indicated in Table III, are anticipated to experience a similar growth pattern as the Atlantic Region as a whole, with both the male and female participation rates showing some increases. Newfoundland is expected to realize the highest relative growth.

A more detailed analysis of projection by sex and age group is included in Appendix D.

b) Labour Force

Applying the projected participation rates by sex and age group to the relevant projected population cohort

gives the labour force figures shown in Table IV. Total labour force is estimated to reach 1,056,000 in the Atlantic Region by 1986, compared to 892,000 in 1979. This represents an annual increase of 2.5 per cent compared to 3.6 per cent during the 1971-79 period (see Table V). The significant drop in the rate of growth is largely attributable to the fact that the bulge of the post war baby boom was absorbed in the labour force during the seventies. It is noteworthy that, from 1966 to 1971, the annual rate of growth of the labour force was only 1.8 per cent.

By sex, the male labour force is expected to increase at an annual rate of 2.0 per cent (see Table V) during the projection period to reach 646,000 by 1986. This represents a decline in the annual rate of growth as compared to the period 1971-79, but still is significantly higher than the rate recorded during the 1966-71 period. The female labour force is expected to grow from 330,000 in 1979 to 411,000 by 1986. This represents an annual rate of increase of 3.2 per cent but a sharp drop from the 4.9 per cent annual rate of growth recorded from 1971 to 1979.

Both Nova Scotia and New Brunswick are anticipated to have annual growth rates of 2.3 per cent. Labour force

TABLE IV

PROJECTED LABOUR FORCE BY SEX
ATLANTIC PROVINCES
TO 1986

	1976	1979 Actual	1986 Projected
Atlantic Region			
M	520	564	646
F	286	330	411
T	806	892	1,056
Newfoundland			
M	124	137	159
F	58	70	91
T	182	207	250
Prince Edward Island			
M	29	32	37
F	18	21	26
T	47	53	63
Nova Scotia			
M	204	218	247
F	119	134	167
T	323	352	414
New Brunswick			
M	163	175	203
F	91	105	126
T	254	280	329

NOTE: The 1976 and 1979 figures are actual data drawn from
the Statistics Canada Labour Force Survey. Figures
may not add up due to rounding.

TABLE V

PROJECTED ANNUAL RATE OF GROWTH OF THE LABOUR FORCE BY SEX
ATLANTIC REGION
1979-1986

	1966-71	1971-79	1979-86
		Actual	Projected
Atlantic Region			
M	1.1	2.9	2.0
F	3.7	4.9	3.2
T	1.8	3.6	2.5
Newfoundland			
M	1.7	3.9	2.2
F	5.2	5.7	3.8
T	2.3	4.4	2.7
Prince Edward Island			
M	0.0	2.6	2.1
F	6.4	4.3	3.1
T	1.6	3.6	2.5
Nova Scotia			
M	1.1	2.3	1.8
F	3.2	4.4	3.2
T	1.9	3.1	2.3
New Brunswick			
M	0.7	2.8	1.4
F	2.8	5.2	3.6
T	2.1	3.6	2.3

NOTE: The averages for 1976-71 and 1971-79 are based on data
      drawn from the Statistics Canada Labour Force Survey.

growth in Newfoundland is expected to average 2.7 per cent, while in Prince Edward Island it is expected to be 2.5 per cent. In all four provinces, the rate of growth of the female labour force is expected to be substantially higher than for men.

LABOUR DEMAND PROJECTION

This section considers the projection to 1986 of the other side of the labour market: the labour demand side. Employment is used as a proxy for labour demand. This brings a downward bias because total employment does not always satisfy total labour demand as shown by the presence of job vacancies.

Data Source

The "Labour Force Survey" appeared to be the most useful source of data for this projection; employment is available for fourteen industries from 1966 to 1979 (see Table VI, VII, VIII, IX). These industries are: agriculture, forestry, fishing, mining, manufacturing durable, manufacturing non-durable, construction, transport and communication, public utilities, wholesale trade, retail trade, finance, community, business and personal service, and public administration.

The use of the "Labour Force Survey" creates some problems. Based on a sample survey and also rounded at the

TABLE VI

EMPLOYMENT BY INDUSTRY, 1966-1979

NEWFOUNDLAND

(in thousands)

	AGRI	FOR	FISH	MIN	MANUF DURA	MANUF NON-DURA	CONS	TRANSP COMM	PUBLIC UTIL	WHOLE-SALE TRADE	RETAIL TRADE	FIN	SER	PUBLIC ADMIN	TOTAL
1966	*	6	7	2	2	10	13	13	1	6	19	3	27	9	124
1967	*	5	7	2	2	10	12	15	1	7	20	3	29	9	127
1968	*	5	7	2	2	9	13	14	1	6	21	3	30	9	127
1969	*	5	5	*	3	10	11	14	1	6	20	4	33	9	128
1970	*	6	4	*	3	12	10	13	1	6	22	4	32	10	129
1971	*	5	4	*	3	11	12	16	1	7	23	4	36	8	135
1972	*	3	4	*	3	12	12	17	1	9	22	4	37	10	140
1973	*	3	5	*	4	12	13	17	1	10	23	4	39	11	151
1974	*	5	5	*	4	13	14	18	1	9	22	5	37	10	149
1975	2	3	5	5	3	13	13	17	2	9	23	5	40	12	152
1976	*	2	6	5	2	16	13	17	3	8	23	4	44	12	157
1977	*	2	4	5	3	16	11	21	3	7	20	5	48	15	161
1978	*	2	5	4	3	19	12	17	3	8	24	6	47	16	166
1979	1	2	11	5	3	21	14	15	3	8	25	5	48	16	175

* estimates less than 2 thousand

N.B. Confidential data; the total does not add up due to roundings.

SOURCE: Labour Force Survey Division, Statistics Canada

TABLE VII

EMPLOYMENT BY INDUSTRY, 1966-1979

PRINCE EDWARD ISLAND

(in thousands)

	AGRI	FOR	FISH	MIN	MANUF DURA	MANUF NON-DURA	CONS	TRANSP COMM	PUBLIC UTIL	WHOLE -SALE TRADE	RETAIL TRADE	FIN	SER	PUBLIC ADMIN	TOTAL
1966	9	*	2	*	*	3	3	2	*	*	4	*	8	2	35
1967	8	*	*	*	*	3	4	2	*	*	4	*	8	2	35
1968	8	*	2	*	*	2	3	2	*	*	4	*	9	2	34
1969	9	*	*	*	*	2	4	2	*	2	4	*	9	2	36
1970	11	*	*	*	*	3	3	1	*	*	3	*	8	2	35
1971	8	*	2	*	*	3	4	2	*	*	4	*	9	3	37
1972	6	*	2	*	*	3	4	1	*	*	5	*	10	3	36
1973	6	*	2	*	*	3	5	2	*	*	5	*	10	3	39
1974	7	*	*	*	*	3	5	2	*	2	5	*	10	3	40
1975	7	*	*	*	*	2	4	2	*	2	6	*	12	3	42
1976	6	*	*	*	*	2	4	2	*	2	6	*	13	3	42
1977	6	*	*	*	*	2	4	3	*	2	5	*	13	4	44
1978	5	*	2	*	*	3	4	3	*	2	6	2	14	4	45
1979	6	*	2	*	1	4	4	3	*	2	6	2	13	4	47

* estimates less than 2 thousand

N.B. Confidential data; the total does not add up due to roundings.

SOURCE: Labour Force Survey Division, Statistics Canada

TABLE VIII

EMPLOYMENT BY INDUSTRY, 1966-1979

NOVA SCOTIA

(in thousands)

	AGRI	FOR	FISH	MIN	MANUF DURA	MANUF NON-DURA	CONS	TRANSP COMM	PUBLIC UTIL	WHOLE -SALE TRADE	RETAIL TRADE	FIN	SER	PUBLIC ADMIN	TOTAL
1966	12	4	7	9	19	20	15	27	2	9	32	8	56	20	241
1967	11	3	6	9	18	20	15	27	2	9	36	9	60	21	246
1968	10	3	6	8	19	20	16	26	3	9	36	9	63	20	249
1969	9	3	6	7	18	21	16	26	4	9	37	11	67	21	254
1970	8	3	6	6	16	25	17	25	3	10	37	11	70	21	256
1971	9	4	7	6	17	24	16	26	3	10	37	11	67	22	257
1972	7	4	6	5	19	25	17	24	4	11	41	9	69	22	262
1973	7	4	7	6	20	25	19	27	3	11	43	12	72	22	275
1974	8	4	6	6	22	24	20	26	4	14	42	13	79	24	292
1975	8	4	6	6	19	25	21	26	3	13	43	13	82	24	292
1976	8	4	5	6	16	26	20	27	3	14	42	13	81	28	292
1977	7	3	5	6	14	27	20	27	3	13	41	13	86	29	294
1978	7	3	6	6	16	29	20	26	4	14	43	14	87	31	306
1979	7	3	5	5	15	31	22	26	4	15	45	17	90	30	316

N.B. Confidential data; the total does not add up due to roundings.

SOURCE: Labour Force Survey Division, Statistics Canada

TABLE IX

EMPLOYMENT BY INDUSTRY, 1966-1979

NEW BRUNSWICK

(in thousands)

	AGRI	FOR	FISH	MIN	MANUF DURA	MANUF NON-DURA	CONS	TRANSP COMM	PUBLIC UTIL	WHOLE -SALE TRADE	RETAIL TRADE	FIN	SER	PUBLIC ADMIN	TOTAL
1966	11	6	2	2	9	19	17	20	3	9	27	7	42	13	185
1967	9	7	2	3	9	20	16	19	2	8	31	6	43	13	187
1968	8	8	2	2	10	21	13	19	2	9	31	7	45	13	190
1969	7	7	2	2	11	20	14	21	3	7	31	7	45	13	190
1970	7	6	2	3	10	21	14	22	2	8	31	6	48	13	193
1971	6	5	2	3	10	22	17	19	2	8	31	7	50	14	198
1972	6	6	2	2	9	21	17	19	2	10	33	8	55	16	205
1973	7	7	2	2	10	22	18	22	2	11	33	8	55	16	214
1974	6	8	2	3	10	23	20	24	3	10	34	8	54	17	220
1975	6	6	2	3	13	22	20	21	3	11	34	8	58	17	224
1976	6	6	2	3	13	20	19	22	3	11	33	9	59	19	226
1977	5	6	2	3	12	22	17	22	3	11	33	9	63	18	226
1978	4	6	2	3	14	25	18	22	3	11	34	9	69	19	238
1979	6	5	2	3	13	26	20	23	3	12	35	11	70	20	249

N.B. Confidential data; the total does not add up due to roundings.

SOURCE: Labour Force Survey Division, Statistics Canada

nearest thousand, its reliability is questionable for some small industries. It must also be remembered that annual data are used; this means that the employment data given for each industry represent the number of man-year employed by this industry. So, in the case of seasonal industries, the annual level of employment given by the "Labour Force Survey" is much lower than the employment registered during the peak season.

Projection Method

The idea of building a large econometric model to forecast employment was discarded from the start. Time constraint, data limitations and costs did not favour this option. Projections of time trends[1] observed in the past were considered more suitable for this objective.

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1. The time trend equation selected is the natural exponential equation because it assumes a constant growth rate. This equation has the form of: $Y = ae^{bt}$

   where:

   > y = variable endogenous (employment)
   > a = constant to be estimated
   > e = base of the natural logarithm
   > b = constant growth rate to be estimated
   > t = time

   The natural exponential function $Y = ae^{bt}$ implies that the percentage rate of growth (b) is constant at all points in time. It has been used by APEC (The Atlantic Vision – 1990) and by DREE Saskatoon (Gap Analysis of Western Canada Labour Market 1980-1990) in their employment projection. This function can be easily estimated by a logarithmic transformation which gives $\log Y = a + bt$.

When the coefficients were statistically
significant, the time trend obtained was projected to 1986.
Then the projected results were scrutinized and accepted if
judged reasonable. Otherwise, projected employment was based
on known future projects, expected projects and best
judgement of future developments.(1)

For the four provinces, employment was projected
for each industry listed above and the results were summed to
obtain total employment by province.

Projections by industry

The projections are summarized in Table X, Xl,
Xll, XIII, XIV.

1. Agriculture

The level of employment in agriculture is expected
to remain unchanged during the projection period for all
four provinces. This assumes that most of the effects of the
rationalization of production in this industry have taken

1 See Appendix E for list of major projects.

TABLE X

PROJECTION OF EMPLOYMENT BY INDUSTRY

NEWFOUNDLAND

TO 1986

(in thousands)

	AGRI	FOR	FISH	MIN	MANUF DURA	MANUF NON-DURA	CONS	TRANSP COMM	PUBLIC UTIL	WHOLE-SALE TRADE	RETAIL TRADE	FIN	SER	PUBLIC ADMIN	TOTAL
1979[1]	1	2	11	5	3	21	14	15	3	8	25	5	48	16	175
1986	1	3	13	6	4	28	15	19	4	10	27	6	60	18	214

AVERAGE ANNUAL GROWTH RATE

(percent)

	AGRI	FOR	FISH	MIN	MANUF DURA	MANUF NON-DURA	CONS	TRANSP COMM	PUBLIC UTIL	WHOLE-SALE TRADE	RETAIL TRADE	FIN	SER	PUBLIC ADMIN	TOTAL
79-86	0	5.9	2.4	2.6	4.2	4.2	1.0	3.4	4.2	3.2	1.1	2.6	3.2	1.7	2.9
71-79	*	-10.8	13.5	*	0	8.4	1.9	-0.8	14.7	1.7	1.0	2.8	3.7	9.1	3.3
66-71	*	-3.6	-10.6	*	8.4	1.9	-1.6	4.2	0.0	3.1	-3.9	5.9	5.9	-2.3	1.7

1 Actual Data

* No Data Available

TABLE XI

PROJECTION OF EMPLOYMENT BY INDUSTRY

PRINCE EDWARD ISLAND

TO 1986

(in thousands)

	AGRI	FOR	FISH	MIN	MANUFACTURING	CONS	TRANSP, COMM & OTHER UTIL.	WHOLE -SALE TRADE	RETAIL TRADE	FIN	SER	PUBLIC ADMIN	TOTAL
1979	6	*	2	*	4	4	4	2	6	2	13	4	47
1986	6	1	3	*	6	5	4	2	7	2	15	5	56

AVERAGE ANNUAL GROWTH RATE

(percent)

	AGRI	FOR	FISH	MIN	MANUFACTURING	CONS	TRANSP, COMM & OTHER UTIL.	WHOLE -SALE TRADE	RETAIL TRADE	FIN	SER	PUBLIC ADMIN	TOTAL
79-86	0.0	*	6.0	*	6.0	3.2	0	0	2.2	0	2.1	3.2	2.5
71-79	-3.6	*	0.0	*	*	0.0	*	*	5.2	*	4.7	3.7	3.0
66-71	-2.1	*	0.0	*	*	5.9	*	*	0.0	*	2.4	8.5	1.1

* No Data Available

TABLE XII

PROJECTION OF EMPLOYMENT BY INDUSTRY

NOVA SCOTIA

TO 1986

(in thousands)

	AGRI	FOR	FISH	MIN	MANUF DURA	MANUF NON-DURA	CONS	TRANSP COMM	PUBLIC UTIL	WHOLE-SALE TRADE	RETAIL TRADE	FIN	SER	PUBLIC ADMIN	TOTAL
1979[1]	7	3	5	5	15	31	22	26	4	15	45	17	90	30	316
1986	7	3	6	7	17	39	24	28	5	20	53	23	106	33	371

AVERAGE ANNUAL GROWTH RATE

(percent)

	AGRI	FOR	FISH	MIN	MANUF DURA	MANUF NON-DURA	CONS	TRANSP COMM	PUBLIC UTIL	WHOLE-SALE TRADE	RETAIL TRADE	FIN	SER	PUBLIC ADMIN	TOTAL
79-86	0.0	0.0	2.6	4.9	1.8	3.3	1.3	1.1	3.2	4.2	2.4	4.4	2.3	1.4	2.3
71-79	-3.1	-3.6	-4.1	-2.2	-1.6	3.3	4.1	0.0	3.7	5.2	2.5	5.6	3.8	4.0	2.6
66-71	-5.6	0.0	0.0	-7.7	-2.2	3.7	1.3	-0.8	8.4	2.1	2.9	6.6	3.6	1.9	1.3

1 Actual Data

TABLE XIII

PROJECTION OF EMPLOYMENT BY INDUSTRY

NEW BRUNSWICK

TO 1986

(in thousands)

	AGRI	FOR	FISH	MIN	MANUF DURA	MANUF NON-DURA	CONS	TRANSP COMM	PUBLIC UTIL	WHOLE -SALE TRADE	RETAIL TRADE	FIN	SER	PUBLIC ADMIN	TOTAL
1979	6	5	2	3	13	26	20	23	3	12	35	11	70	20	249
1986	6	5	3	4	16	32	20	25	4	15	39	13	85	22	289

AVERAGE ANNUAL GROWTH RATE

(percent)

	AGRI	FOR	FISH	MIN	MANUF DURA	MANUF NON-DURA	CONS	TRANSP COMM	PUBLIC UTIL	WHOLE -SALE TRADE	RETAIL TRADE	FIN	SER	PUBLIC ADMIN	TOTAL
79-86	0	0	6.0	4.2	3.0	3.0	0	1.2	4.2	3.2	1.6	2.4	2.8	1.4	2.2
71-79	0	0	0	0	3.3	2.1	2.1	2.4	5.2	5.2	1.5	5.8	4.3	4.6	2.9
66-71	-11.4	-3.6	0	8.4	2.1	3.0	0	-1.0	-7.8	-2.3	2.8	0	3.5	1.5	1.4

TABLE XIV

PROJECTION OF EMPLOYMENT BY INDUSTRY

ATLANTIC REGION

TO 1986

(in thousands)

	AGRI	FOR	FISH	MIN	MANUF DURA	MANUF NON-DURA	CONS	TRANSP COMM	PUBLIC UTIL	WHOLE-SALE TRADE	RETAIL TRADE	FIN	SER	PUBLIC ADMIN	TOTAL
1979[1]	20	10	20	13	32	81	60	67	10	37	111	35	221	70	787
1986	20	12	25	17	38	104	64	75	14	47	126	44	266	78	930

AVERAGE ANNUAL GROWTH RATE

(percent)

	AGRI	FOR	FISH	MIN	MANUF DURA	MANUF NON-DURA	CONS	TRANSP COMM	PUBLIC UTIL	WHOLE-SALE TRADE	RETAIL TRADE	FIN	SER	PUBLIC ADMIN	TOTAL
79-86	0.0	2.6	3.2	3.9	2.5	3.6	0.9	1.6	4.9	3.5	1.8	3.3	2.7	1.6	2.4
71-79	-1.8	-4.1	3.7	2.1	0.7	3.8	2.6	0.8	6.6	5.0	2.0	6.0	4.0	5.1	2.9
66-71	-6.4	-2.6	-3.6	-7.1	0.0	2.9	0.4	0.3	0.0	0.8	3.0	4.1	4.0	1.3	1.4

1 Actual Data

place and that employment has stabilized at about 20 thousand man-years in the Region.

2. Forestry

Employment in forestry will increase by two thousand during the projected period in the Region. This increase will follow the reopening of the Stephenville mill in Newfoundland and a project to use wood for energy production in Prince Edward Island. No increase is expected for the other provinces because inadequate resource management and spruce budworm infestation have seriously endangered the quality and quantity of wood supply. Employment would then reach 12 thousand in the Region by 1986. This represents a 2.6 per cent average annual growth rate.

3. Fishing

Following the introduction of extended fisheries jurisdiction to 200 miles in 1977, employment in the fishing industry is expected to grow to 25 thousand by 1986 from a level of 20 thousand in 1979; this represents a 3.2 per cent average annual growth rate. Nova Scotia, New Brunswick and Prince Edward Island will increase their employment by

one thousand while Newfoundland will gain two thousand. It
is believed that in the fishing activity most of the effects
on direct employment coming from the extended jurisdiction
have already been recorded in Newfoundland: employment rose
from five thousand man-years in 1978 to 11 thousand man-years
in 1979.

4. Mining

During the 1966-1979 period, employment in the
mining industry stagnated in the Region but future prospects
appear good. In Newfoundland, a vast quantity of unexploited
iron ore deposits and uranium deposits are promising for
development and employment is anticipated to grow by
one thousand. In Nova Scotia, employment in this industry
will be mainly affected by the proposed new coal mine in the
Donkin area and the recovery of other coal mines associated
with the growth of coal-fired thermal plants. As a result of
these developments, employment is expected to grow by
two thousand. In New Brunswick, the expansion of the
Brunswick Mining and Smelting lead-zinc mine, the development
of potash deposits in the Sussex area and of a
tungsten/tin/bismuth/ molybdenum mine at Mount Pleasant will
increase employment by about one thousand. Intensive

exploration in these three provinces in recent years may lead to other new developments.

Overall, the employment in the Region is then projected to reach 17 thousand by 1986. This corresponds to a 3.9 per cent average annual growth rate during the 1979-1986 period.

5. Manufacturing Durable

Manufacturing durable is still a marginal industry in the economy of Newfoundland. However, development of ocean industries is expected to lead to an employment increase in the manufacturing durable industry. In particular, with the extended fisheries jurisdiction, potential exists for the manufacture of fishing gears and the construction, repair and outfitting of fishing boats. Overall, employment in manufacturing durable is projected to reach 4 thousand by 1986. In Nova Scotia, structural and market weaknesses have affected this sector in past years; Sydney Steel and Halifax Shipyards are good examples. A more diversified growth is expected to raise employment to 17 thousand by 1986. A significant time trend was isolated from the 1966-1979 employment data in New Brunswick. According to this time trend, employment in manufacturing

durable is projected to 16 thousand by 1986. No employment increase is expected for Prince Edward Island in this sector.

Thus, employment in manufacturing durable for the Region is then anticipated to reach 38 thousand by 1986. This represents an average annual growth rate of 2.5 per cent.

6. Manufacturing non-durable

In the manufacturing non-durable industry, a significant time trend was isolated from the 1966-1979 employment data in Newfoundland and Nova Scotia. The projection of this time trend gives an employment in manufacturing non-durable of 28 thousand by 1986 in Newfoundland. The time trend projection was slightly adjusted for Nova Scotia to reflect the large employment increase of the last three years and employment in this industry is expected to reach 39 thousand by 1986. In New Brunswick, employment in this industry was projected assuming that the historical average ratio of 2:1 between manufacturing non-durable and manufacturing durable employment during the 1966-1979 period will continue during the projected period. An employment level of 32 thousand is then anticipated by 1986 in manufacturing non-durable. For

Prince Edward Island, employment is expected to increase by two thousand in manufacturing non-durable.

This sums up to an employment of 104 thousand in manufacturing non-durable for the Region by 1986. It represents an average annual growth rate of 3.6 per cent over the 1979-1986 period.

7. Construction

The construction industry is expected to grow slowly over the projected period. An employment increase of four thousand, representing an average annual growth rate of 0.9 per cent, is anticipated for the Region. In Newfoundland, excluding major oil developments and its effect on construction activity, employment is projected to rise by 1 thousand. In Nova Scotia, the medium-term prospects for the industry look bleak and a catchup may not occur much before the middle of the 1980's. Employment in the construction industry of Nova Scotia may then increase by 2 thousand. In New Brunswick, employment may remain at its high level of 1979 due to a backlog of demand for new housing and new investment intentions in the mining, transportation and commercial sectors. In Prince Edward Island, employment

in the construction industry may still increase by
one thousand

8. Transport & Communication

Employment in the transport & communication
industry is projected to increase by 8 thousand during the
1979-1986 period in the Region. This represents a 1.6 per
cent average annual growth rate. In Newfoundland, employment
in this industry fluctuated in the past years, but is
anticipated to reach 19 thousand by 1986. The slow
employment growth recorded in transport and communication for
Nova Scotia and New Brunswick in the past will continue and
employment is expected to increase by 2 thousand in each
province. No employment increase is expected for
Prince Edward Island in this sector.

9. Public Utilities

Employment in public utilities is projected to
reach 14 thousand by 1986 in the Region. This translates
into an average annual growth rate of 4.9 per cent.
Newfoundland, Nova Scotia and New Brunswick will increase by
one thousand each. In Prince Edward Island, employment in
this sector is expected to reach the one thousand level.

10.   Wholesale Trade

In the wholesale trade industry, a significant time trend was isolated from the 1966-1979 employment data in Nova Scotia and New Brunswick. The projection of this time trend up to 1986 gives an employment in this sector of 20 thousand in Nova Scotia and 15 thousand in New Brunswick. In Newfoundland, employment in the wholesale trade industry fluctuated in the past. The employment projection for this province is 10 thousand and that corresponds to the highest level registered in the past. No employment increase is forecast for Prince Edward Island in this sector.

Overall, the Region is then expected to have an employment of 47 thousand in the wholesale trade industry by 1986. This corresponds to a 3.5 per cent average annual growth rate.

11.   Retail Trade

In Nova Scotia and New Brunswick, a significant time trend was isolated from the 1966-1979 employment data in the retail trade industry. Using this time trend, employment in retail trade is expected to reach 53 thousand in Nova Scotia and 39 thousand in New Brunswick by 1986. In

Newfoundland, employment in this industry remained around
23 thousand during the 1971-1978 period and jumped to
25 thousand in 1979. Considering the investment intentions
in this sector, employment is projected to reach 27 thousand
in 1986. In Prince Edward Island, employment in retail trade
is expected to reach seven thousand by 1986.

Thus, employment in the retail trade industry will
then total 126 thousand by 1986 in the Atlantic Region. This
corresponds to an average annual growth rate of 1.8 per cent.

12. Finance

In Newfoundland, employment in the finance
industry stabilized at 5 thousand from 1974 to 1979. An
employment projection of 6 thousand seems reasonable by 1986.
In Nova Scotia, a significant time trend was isolated from
historical data, adjusted to reflect the large employment
increase of 1979 and projected to 1986. Employment in
finance is expected to reach 23 thousand in this province by
1986. In New Brunswick, the time trend was accepted and
projected as such. Employment in finance would then reach
13 thousand in New Brunswick by 1986. No employment increase
in the finance industry is projected for Prince Edward
Island.

Employment in the finance industry then adds up to 44 thousand in the Region by 1986. This represents a 3.3 per cent average annual growth rate.

13. Community, Business and Personal Services

Due to the high relative importance of the service sector in the total employment of each province, this sector was divided into its seven main components and each component was projected to 1986 for Newfoundland, Nova Scotia and New Brunswick (see Table XV, XVI, XVII). In the case of Prince Edward Island, only employment in total services was projected.

a) Education

While the aging of the population negatively effects full time employment in this sector, on the other hand, adult education, part-time education and special education (instruction to mentally retarded, gifted children, ...) have taken a more important place in the education sector. It is assumed that these two factors will compensate each other and that employment in the education sector will remain close to its actual level during the projected period.

TABLE XV

PROJECTION OF EMPLOYMENT IN THE SERVICE SECTOR
NEWFOUNDLAND
1986
(in thousands)

	EDUCATION	PHYSICIANS & HOSPITALS	RELIGION	RECREATION	BUSINESS SERVICES	PRIVATE HOUSEHOLDS	OTHERS	TOTAL
1979[1]	15	13	1	1	3	3	11	48
1986	16	15	2	2	5	3	17	60

1 Actual Data

TABLE XVI

PROJECTION OF EMPLOYMENT IN THE SERVICE SECTOR
NOVA SCOTIA
1986
(in thousands)

	EDUCATION	PHYSICIANS & HOSPITALS	RELIGION	RECREATION	BUSINESS SERVICES	PRIVATE HOUSEHOLDS	OTHERS	TOTAL
1979[1]	24	24	2	3	9	6	21	90
1986	25	26	2	4	15	6	28	106

1 Actual Data

TABLE XVII

PROJECTION OF EMPLOYMENT IN THE SERVICE SECTOR
NEW BRUNSWICK
1986
(in thousands)

	EDUCATION	PHYSICIANS & HOSPITALS	RELIGION	RECREATION	BUSINESS SERVICES	PRIVATE HOUSEHOLDS	OTHERS	TOTAL
1979[1]	17	20	3	2	6	4	19	70
1986	17	22	3	4	9	4	26	85

1 Actual Data

Employment in this sector has started levelling off in
Nova Scotia and Newfoundland but a further employment
increase of 1 thousand is expected in these two provinces
by 1986. In New Brunswick, no further employment
increase is expected.

b) Physicians and hospitals

The aging of the population will mean increasing needs
for health services. Consequently, employment in the
health sector is expected to grow during the projected
period. Employment in this sector is anticipated to
reach 15 thousand in Newfoundland, 26 thousand in
Nova Scotia and 22 thousand in New Brunswick.

c) Religion

No employment increase is forecasted in the religion
sector by 1986.

d) Recreation

More leisure time and a higher income will encourage
growth in the recreation sector. Employment in this
sector is expected to increase by one thousand in
Newfoundland and Nova Scotia and by two thousand in
New Brunswick during the 1979-1986 period.

e) Business Services

The business services sector includes high-order services which are expected to grow rapidly in the future. Employment in this sector is expected to reach 15 thousand in Nova Scotia, 9 thousand in New Brunswick and 5 thousand in Newfoundland by 1986.

f) Private households

Employment in private household services levelled off in the past years mainly because of the introduction of nurseries and kindergardens. No employment increase is expected for the projected period in the three provinces.

g) Others

Employment in other services (personal services excluding private households, accommodation and food services, miscellaneous services) is expected to reach 17 thousand in Newfoundland, 28 thousand in Nova Scotia and 26 thousand in New Brunswick.

By summing the projection obtained in each component of the service sector, total employment in the community, business and personal service industry by 1986 will reach 60 thousand in Newfoundland, 106 thousand in

Nova Scotia and 85 thousand in New Brunswick.   In
Prince Edward Island a projection of the total service sector
gives 15 thousand by 1986.   This adds up to an overall
employment in the service sector of 266 thousand in the
Atlantic Region and represents a 2.7 per cent average annual
growth rate.

14.   Public Administration

An era of budgetary restrictions will slow down
employment growth in public administration.   The Atlantic
Region, mainly because of federal departments relocation, is
expected to increase its employment in the public
administration sector by 8 thousand during the projected
period to reach 78 thousand.   This represents a 1.6 per cent
average annual growth rate.

Total Employment

Total projected employment for the Atlantic
Provinces is obtained by adding up projected employment in
each industry in the respective provinces (see Table XVlll).
Total provincial employment by 1986 adds up to 214 thousand
in Newfoundland, 371 thousand in Nova Scotia, 289 thousand in
New Brunswick and 56 thousand in Prince Edward Island.

TABLE XVIII

PROJECTION OF EMPLOYMENT

ATLANTIC PROVINCES

1986

(in thousands)

	1979[1]	1986
Atlantic Region	787	930
Newfoundland	175	214
Prince Edward Island	47	56
Nova Scotia	316	371
New Brunswick	249	289

1 Actual Data

Total employment in the Atlantic Region is then expected to increase to 930 thousand by 1986 from 787 thousand in 1979. This represents an average annual growth rate of 2.4 per cent. At the provincial level, the average annual growth rate of total employment will be 2.9 per cent for Newfoundland, 2.5 per cent for Prince Edward Island, 2.3 for Nova Scotia and 2.2 per cent for New Brunswick.

The major contributors to the absolute increase in employment over the projected period will remain the community, business and personal service industry and the manufacturing non-durable industry. The other leading industries in terms of growth rate will be public utilities, mining, wholesale trade and finance. It must also be noted that employment in the primary industries will stabilize (agriculture and forestry) or experience some growth (fishing and mining).

IV   EMPLOYMENT GAP

The classical theory of labour market states that perfect competition in the market place provides for a certain wage rate which ensures that the supply of labour is absorbed in productive employment, i.e. there will always be full employment.* Of course, perfect competition exists only in basic economic textbooks and, in reality, wages rates are not flexible downward and labour is not homogeneous nor completely mobile. As a result, labour supply and demand do not equate at the point where only frictional unemployment exists. Consistent with this reality, the projections foresee a gap between labour supply and labour demand called the unemployment or the employment gap.

Based on the labour supply and labour demand projections of the two previous chapters, the unemployment or employment gap is anticipated to increase from 105,000 in 1979 to 126,000 by 1986. This gap is the difference between a labour force projection of 1,056,000 and an employment projection of 930,000. All four provinces are expected to experience an increase in the level of unemployment from 1979

*Full employment in this sense is consistent with a level of frictional unemployment due to the movement of people from one job to the next.

to 1986. Moreover, the rate of unemployment, i.e.,
unemployment as a proportion of the labour force, is
anticipated to increase from 11.8 per cent in 1979 to
11.9 per cent in 1986, as the growth rate of employment will
be slightly lower than that of the labour force. Among the
four provinces, Nova Scotia and New Brunswick are expected to
show an increase in the rate of unemployment from 10.2 to
10.4 per cent and 11.1 to 12.2 per cent respectively. On the
other hand, Newfoundland is projected to experience the
largest decline in the rate of unemployment from 15.4 per
cent in 1971 to 14.4 per cent in 1986. In Prince Edward
Island, the rate of unemployment will decrease from 11.3 per
cent to 11.1 per cent. Table X and charts 1 to 5 below show
in more detail the evolution of the major labour market
indicators from 1966 to 1979 and the projections to 1986.
Chart 6 shows the changes in the rate of unemployment from
1966 to 1979 and the forecast level for 1986.

Finally, it should be stressed that these
projections should be interpreted as general indications of
expected trends, and not as precise predictions. The
analysis is essentially static. That is to say, projections
of the working age population, labour supply and labour
demand were done independently of one another. In reality,
these are interrelated, each influencing one another. This
document presents one possible scenario with its build-in

TABLE X
PROJECTED EMPLOYMENT GAP
ATLANTIC PROVINCES
1986

	Population 15 years & over	Participation Rate	Labour Force	Employ-ment	Un-employ-ment	Un-employ-ment Rate
Atlantic Region						
1986	1,797	58.8	1,056	930	126	11.9
1979	1,606	55.8	892	787	105	11.8
1971	1,351	49.8	673	625	48	7.1
1966	1,221	50.4	615	583	32	5.2
Newfoundland						
1986	440	56.8	250	214	36	14.4
1979	393	52.7	207	175	32	15.4
1971	327	45.0	147	135	12	8.4
1966	292	44.8	131	123	8	5.8
Prince Edward Island						
1986	101	62.4	63	56	7	11.1
1979	89	59.3	53	47	6	11.3
1971	74	54.3	40	37	3	7.5
1966	68	54.3	37	35	2	5.4
Nova Scotia						
1986	687	60.3	414	371	43	10.4
1979	618	56.9	352	316	36	10.2
1971	528	52.2	276	256	19	7.0
1966	479	52.5	251	239	12	4.7
New Brunswick						
1986	569	57.8	329	289	40	12.2
1979	506	55.3	280	249	31	11.1
1971	422	49.8	210	197	13	6.1
1966	382	51.3	196	186	10	5.3

NOTE: The figures, for 1966, 1971 and 1979 are drawn from the Statistics Canada Labour Force Survey.

assumptions.   Other scenarios are also possible.   For

example, in regions where human resources are underemployed,

such as the Atlantic Region, an increase in employment may

stimulate labour force participation and therefore have

little impact on the unemployment rate.   On the other hand,

the lack of job opportunities in a given region may lead to

out-migration and hence to a decline in the working age

population.   This last scenario may still be consistent with

a high level of participation rate.   Therefore, while it is

believed that the general direction of change projected in

this scenario is reasonable, it is possible that weak

employment growth could lead to an increase in net

out-migration and, hence, a decline in the rate of

unemployment.   Vice versa, a strong growth in employment may

lead to a substantial increase in participation rate, hence,

the labour force will rise and the net additional job

formation may have little impact on the unemployment rate.

CHART 1

PROJECTED LABOUR MARKET INDICATORS
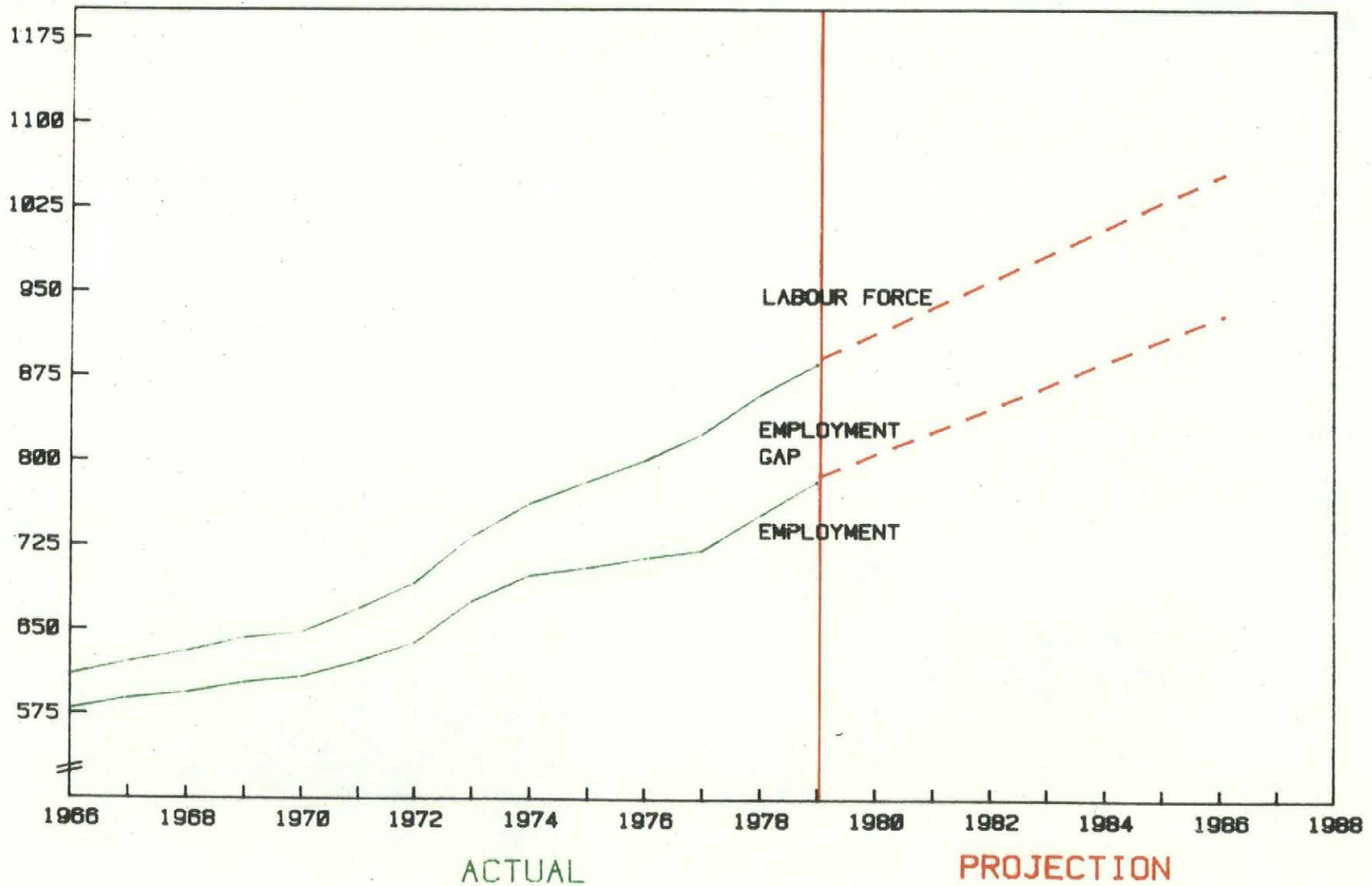## ATLANTIC REGION

THOUSAND

LABOUR FORCE

EMPLOYMENT
GAP

EMPLOYMENT

ACTUAL   PROJECTION

CHART 2

PROJECTED LABOUR MARKET INDICATORS
NEWFOUNDLAND

THOUSAND

300
280
260
240
220 LABOUR FORCE
200 EMPLOYMENT GAP
180
160 EMPLOYMENT
140
120

1966 1968 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988

ACTUAL   PROJECTION
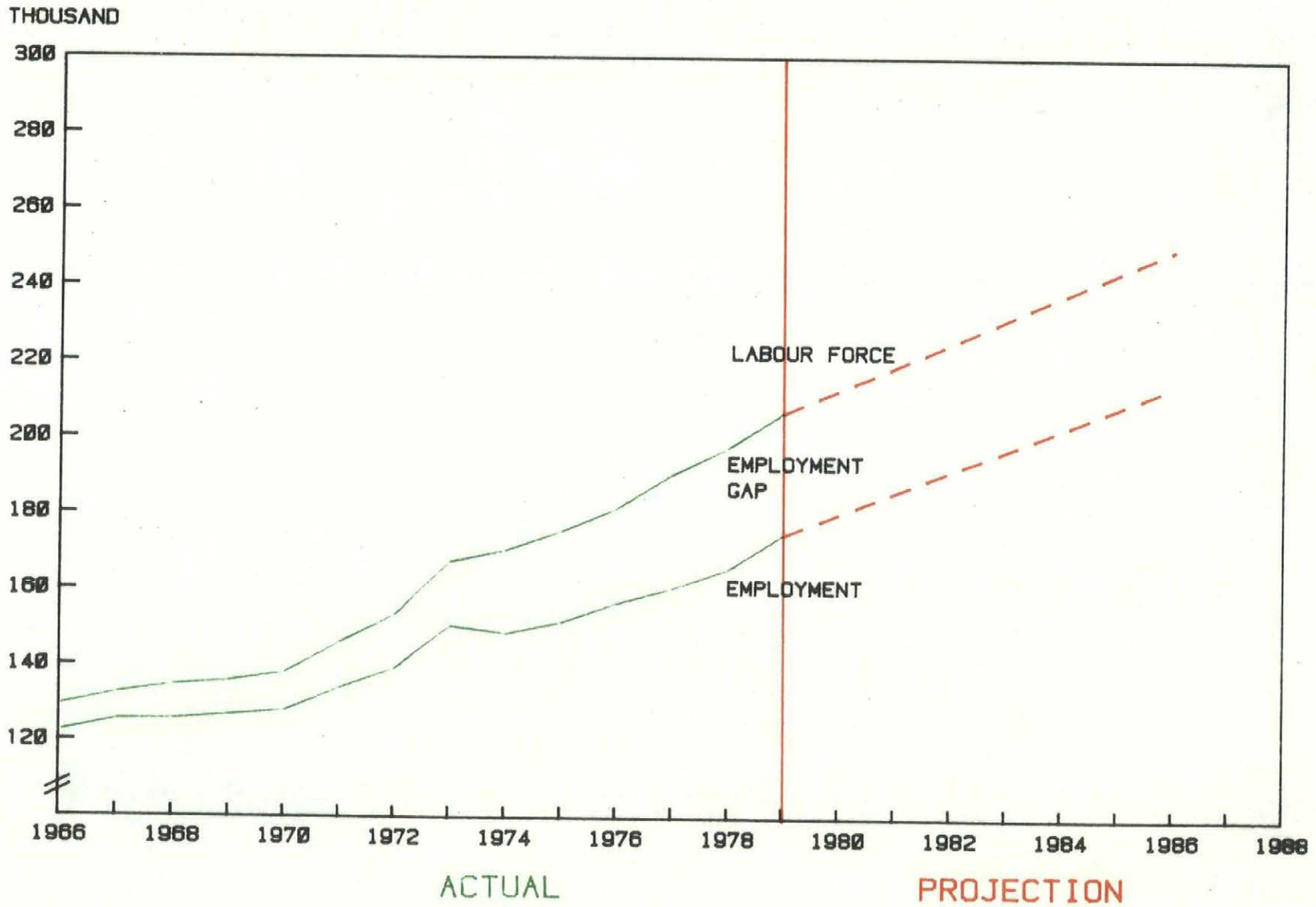
CHART 3

PROJECTED LABOUR MARKET INDICATORS
PRINCE EDWARD ISLAND

THOUSAND

LABOUR FORCE

EMPLOYMENT
GAP

EMPLOYMENT

70

65

60

55

50

45

40

35

30

1966   1968   1970   1972   1974   1976   1978   1980   1982   1984   1986   1988

ACTUAL   PROJECTION
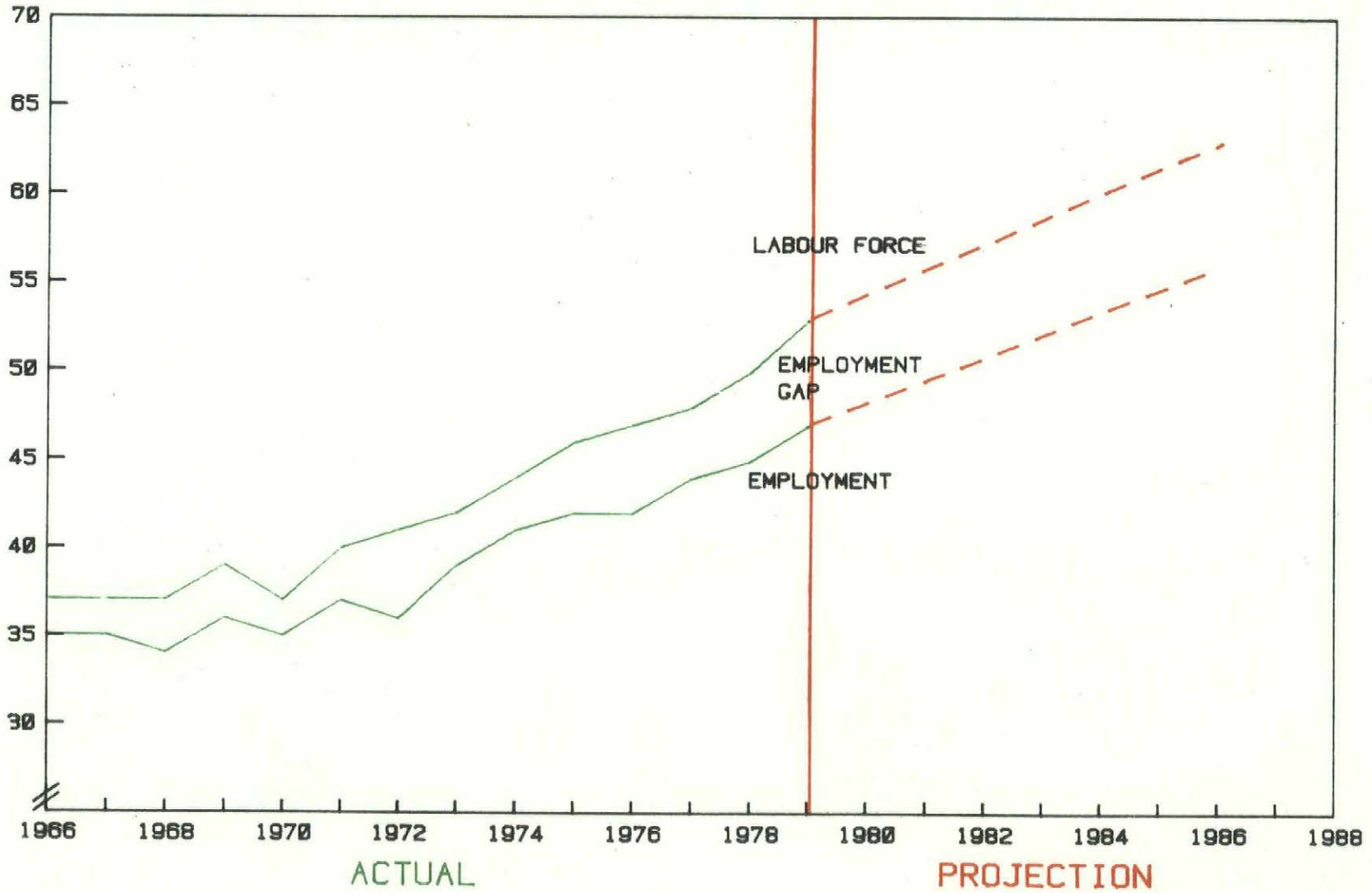
CHART 4

PROJECTED LABOUR MARKET INDICATORS
NOVA SCOTIA

THOUSAND

430
410
390
370   LABOUR FORCE
350
330   EMPLOYMENT
       GAP
310
290   EMPLOYMENT
270
250

1966 1968 1970 1972 1974 1976 1978 1980 1982 1984 1986 1988

ACTUAL   PROJECTION
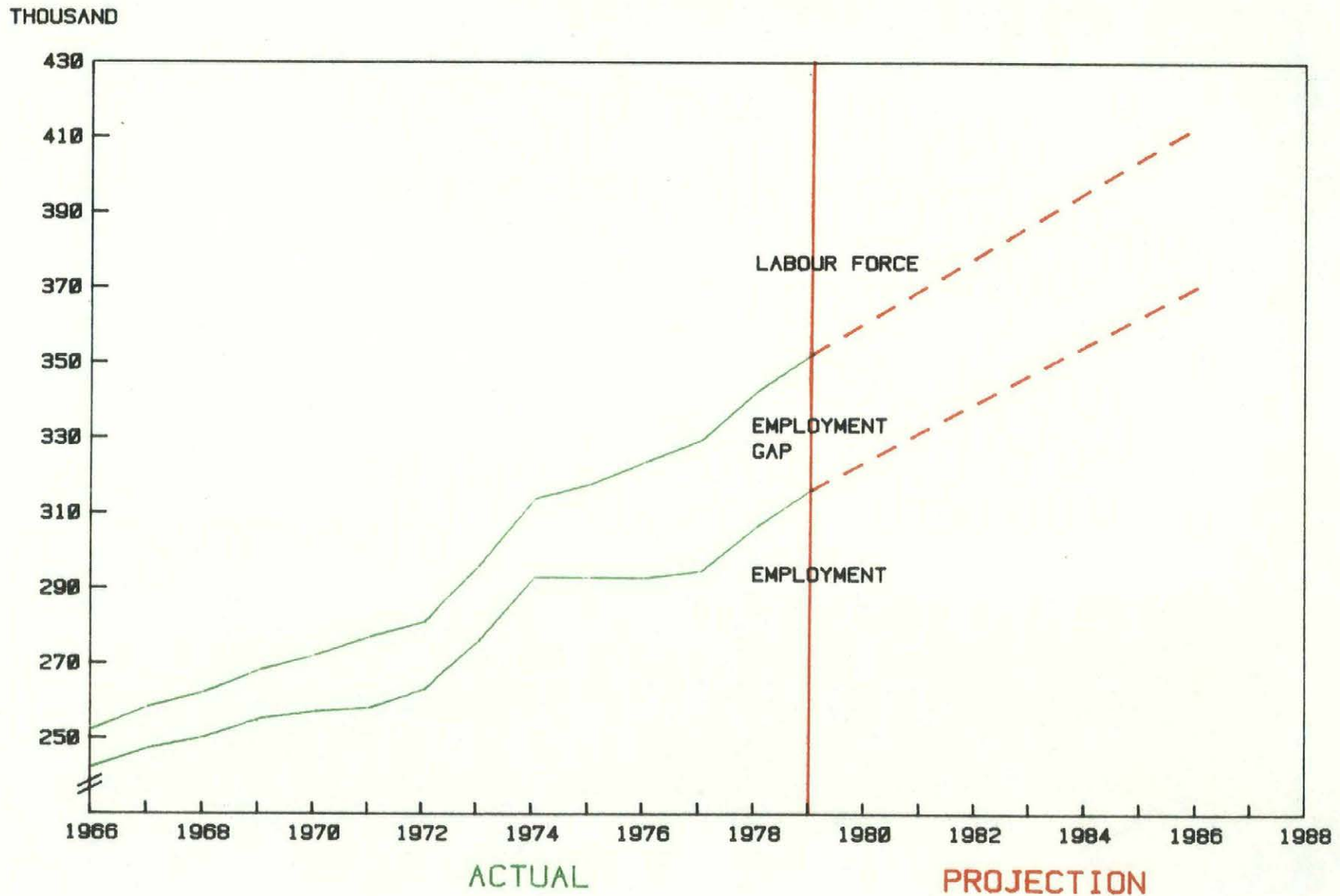
CHART 5

PROJECTED LABOUR MARKET INDICATORS
NEW BRUNSWICK

THOUSAND
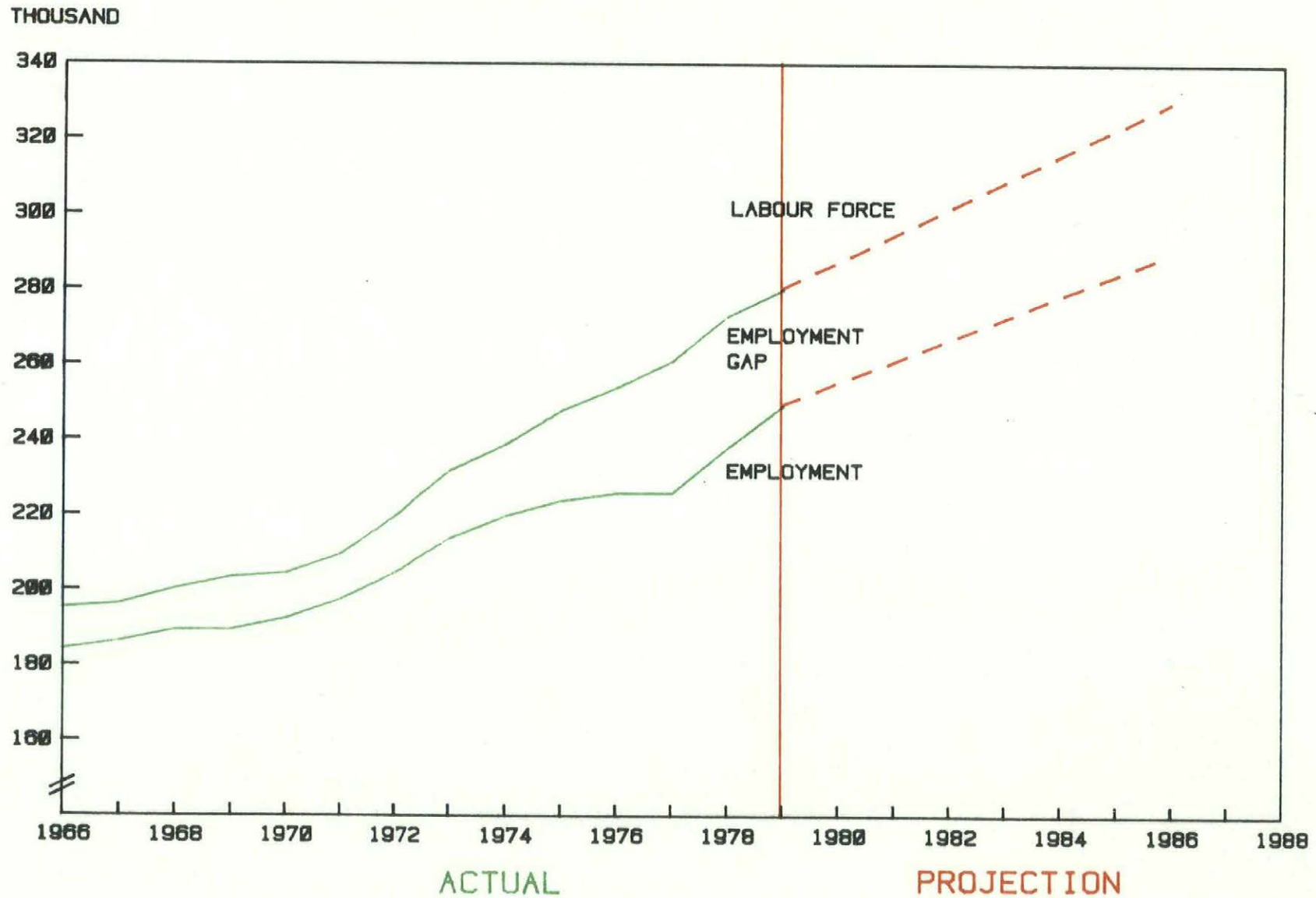
CHART 6

UNEMPLOYMENT RATES
ATLANTIC PROVINCES

PERCENT

ATLANTIC REGION
NEWFOUNDLAND
PRINCE EDWARD ISLAND
NOVA SCOTIA
NEW BRUNSWICK

ACTUAL   PROJECTION
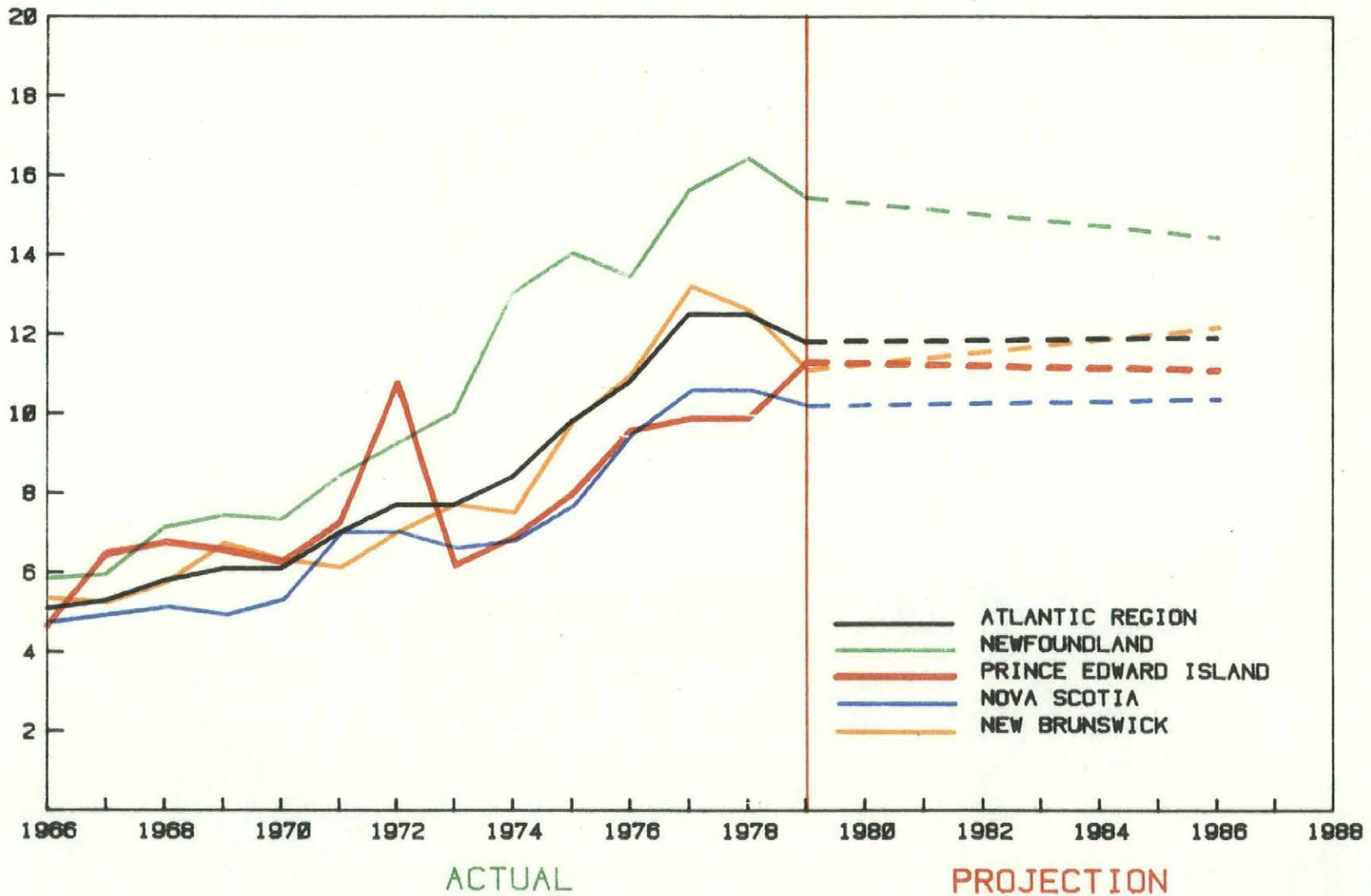
V   SUMMARY AND MAJOR CONCLUSIONS

The relationship between the supply of labour and the demand for labour is a complex one. Risking over-simplification, for the purpose of this paper it was assumed that past trends will generally endure during the projection period from 1979 to 1986, with some adjustments where departures from trends were likely. Both the supply of and the demand for labour are expected to continue increasing during the projection period, although at a slower pace than during the seventies.

On the supply side, the participation rates for both men and women are projected to increase for all four Atlantic provinces. For the Region as a whole, the male participation rate will edge upward from 71.0 per cent in 1979 to 72.6 per cent in 1986. This increase is largely due to the aging of the population. With the aging of the population, the bulge in the population associated with the postwar baby boom generation (those born between 1946 and 1966) will move into those age groups where participation rates are highest, namely the 25-34, 35-44 and 45-54 age group. Thus, the overall male participation rate will increase. The female participation rate will continue to increase at a faster pace than the male participation rate, although at a much slower pace than was experienced in the

seventies. The major reason for the slower growth rate is that the effect of a slowdown in fertility, although still positive, will be less important than in the past. Another reason for the slower growth in the female participation rate is the slower growth of employment in the service sector, which traditionally has provided a large proportion of job opportunities for women. Except for minor variance in growth rate, the general pattern of growth for both the men and women participation rates is expected to be similar for all four provinces. Newfoundland is expected to experience the highest relative growth for both the male and female participation rates.

The anticipated growth in participation rates translates into an overall net increase in the labour force of 164,000 between 1979 and 1986, from 892,000 to 1,056,000. This represents an average annual increase of 2.5 per cent and compares to 3.6 per cent during the seventies. By sex, the female labour force is anticipated to grow at 3.2 per cent annually compared to 2.0 per cent for men. Despite these differing growth rates, both men and women are expected to share about equally in the absolute increase in the labour force. Similar patterns of growth are forecast for each province, except that, women are expected to account for slightly over half the absolute increase in Prince Edward

TABLE XVIII

PROJECTED CHANGES IN MAJOR LABOUR MARKET INDICATORS
ATLANTIC PROVINCES
FROM 1979 TO 1986

	Population 15 years & over ('000)	Labour Force ('000)	Employment ('000)	Unemployment ('000)	Unemployment Rate (percentage) (points)
Atlantic Region	191 (1.6%)	164 (2.5%)	143 (2.4%)	12	+0.1
Newfoundland	47 (1.6%)	43 (2.7%)	39 (2.9%)	4	-1.1
Prince Edward Island	12 (1.8%)	10 (2.5%)	9 (2.5%)	1	-0.2
Nova Scotia	69 (1.5%)	62 (2.3%)	55 (2.3%)	7	+0.2
New Brunswick	54 (1.7%)	49 (2.3%)	40 (2.2%)	9	+1.1

NOTE: Figures in brackets represent the average annual increase from 1979 to 1986.

Island and Nova Scotia, whereas the opposite is anticipated for Newfoundland and New Brunswick.

Employment growth in the Atlantic Region is expected to be slightly lower than the increase in the labour force, 2.4 per cent compared to 2.5 per cent. Consequently the rate of unemployment is anticipated to slightly increase from 11.8 per cent in 1979 to 11.9 per cent in 1986. The pace of growth of employment is expected to be faster than the labour force in Newfoundland. In Nova Scotia and Prince Edward Island, both the labour force and employment are anticipated to grow about the same over the projection period, while in New Brunswick the projected labour force growth is somewhat higher than employment growth. Thus, the rate of unemployment is expected to decline in Newfoundland, remain about the same in Prince Edward Island and Nova Scotia and rise marginally in New Brunswick. Moreover, the rate of employment growth is expected to exceed substantially the growth in the working age population, that is to say, the economy will absorb a greater proportion of its working age population in productive employment than in 1979. Indeed, according to projected figures, 518 persons would be employed for every 1,000 persons 15 years of age and over by 1986 in the Atlantic Region compared to 490 in 1979. By province, the corresponding figures are (1979 figures are in brackets):

Newfoundland, 486 (445); Prince Edward Island, 554 (528);
Nova Scotia, 540 (511); and New Brunswick, 508 (492).

The annual rate of growth in employment is
expected to be lower during the first half of the current
decade than the rate observed in the seventies for all four
Atlantic provinces. The major reason for the lower growth
rate is the slower rate of expansion anticipated in the
service sector. Manufacturing development is expected to
grow at about the same rate as in the seventies and the
primary sector is generally anticipated to perform better
than in the previous decade. Following is a brief summary of
expected developments by industry.

Employment in agriculture is expected to remain at
the same level during the projection period as it was in
1979. This sector has experienced an annual decline in
employment of 6.4 per cent from 1966 to 1971. During the
seventies (1971 to 1979) the rate of decline dropped to
1.8 per cent annually. This decline was accompanied by an
increase in the average size of farms and in productivity. It
is expected that this rationalization process has run its
course and employment should remain stationary until 1986.

Employment in the forestry industry is expected to increase by about 2,000 during the forecast period. This increase is largely associated with the conversion of the linerboard mill to a pulp and paper mill in Stephenville, Newfoundland and to a greater use of wood for energy production in Prince Edward Island.

The mining industry is expected to experience substantial growth during the first half of the eighties. New potash mines are expected to be brought under production in New Brunswick. An expansion of Brunswick Mining and Smelting operation is underway in Northeast New Brunswick. Coal mining in Nova Scotia will continue expanding with the opening of coal-fired thermal plants in the Sydney area and there is a possibility that a new coal mine (Donkin) will be be opened before the end of the projection period. Exploration activities in recent years has led to the identification of a number of potential new mining developments. It is thus expected that employment in this industry will increase by about 4,000 from 1979 to 1986. This represents an average annual increase of 3.9 per cent.

The growth of employment in the manufacturing industry is expected to be 3.3 per cent during the forecast period. This increase is slightly higher than the all

industry average. However, the rate of growth in the durable goods manufacturing is expected to be 2.5 per cent compared to an annual rate of increase of 0.7 per cent during the seventies. On the other hand, growth in non-durable goods is anticipated to drop to 3.6 per cent from 3.8 per cent annually during the 1971-79 period.

Employment growth in the <u>construction</u> industry is expected to be more moderate than during the seventies, 0.9 per cent annually compared to 2.6 per cent. Housing and commercial construction is expected to be lower than in the previous decade. However, the forecast could prove to be pessimistic if the gas pipeline was constructed between central Canada and the Maritime provinces. Moreover, if oil findings in Newfoundland prove to be substantial, construction activity could be much higher in that province than projected here.

Employment growth in the <u>trade</u> industry is expected to be slightly lower in the projection period as was in the seventies. Growth of employment is expected to moderate from 2.0 per cent to 1.8 per cent in retail trade and from 5.0 per cent to 3.5 per cent in wholesale trade.

Employment growth in <u>finance, real estate and insurance</u> has experienced substantial growth in both the sixties and seventies, 4.1 per cent annually from 1966 to 1971 and 6.0 per cent from 1971 to 1979. Growth in real estate and insurance was in part related to the demand generated by the postwar baby boom generation and it should subside somewhat during the forecast period. Increased employment in finance is in part related to the increase in population and also partly to expansionary policies of financial institutions which opened regional headquarters during the sixties and seventies. During the forecast period the annual rate of growth of this industry (finance, real estate and insurance) is expected to be 3.3 per cent.

The <u>business, commercial and personal service</u> industry has also experienced tremendous growth during the sixties and seventies. This is largely due to increased demand related to the growth in population. While growth is still expected to be substantial relative to the all industry average during the forecast period (2.7 per cent), it is expected to be lower than in the sixties and seventies.

Following a period of rapid expansion in the seventies, employment in <u>public administration</u> is expected to grow only moderately from 1979 to 1986. In recent years,

federal and provincial governments have adopted restrictive
policies with regard to public service employment which are
expected to persist throughout the forecast period. Some
growth, however will be forthcoming due to the
decentralization of federal government departments and
expansion of essential services. Employment growth is
expected to be held to about 1.6 per cent annually. This is
a sharp contrast to the annual growth rate of 5.1 per cent
observed during the seventies.

To recap, the major contributors to the absolute
increase in employment over the projected period will remain
the service (business, commercial and personal service), and
the non-durable goods manufacturing industries. Other
relatively significant contributing industries to overall
growth in employment are public utilities, mining, wholesale
trade and finance.

Finally, the overall unemployment rate for the
Region is expected to slightly increase. However, the
composition of unemployment is expected to change and may
call for some policy change or program re-orientation. In
the past, the unemployed were largely the young people and
the least educated older member of the labour force. The
ageing of the postwar baby boom generation will likely lead

to an increase in the average age and level of education of the unemployed. The importance of women among the unemployed may rise because of the lower projected growth in employment in the service sector which has traditionally provide a large proportion of job opportunities for women.

APPENDIX A

Following comments by Newfoundland government officials, it was decided to do a scenario using the Statistics Canada population projection #4. This projection assumes the same decrease in fertility as projection #3, which was used ih the body of this report. It also assumes the same mortality projections. However, net international migration is taken as 50,000 per year for Canada as a whole compared to 75,000 in projection #3 and the pattern of interprovincial migration observed during the period 1975-76 to 1977-78 is assumed to continue for the duration of the projection period. In projection #3, you will recall, interprovincial migration patterns are assumed to partially revert back to the long-term patterns observed during the 1960's.

As shown below, the substitution of projection #4 for projection #3 results in an increase in the labour force population. Assuming that the labour force participation rate projected is maintained, the labour force would also be higher than that forecast using projection #3. Again assuming that the employment forecast is still valid, the number of unemployed persons would be higher than that

resulting from the use of projection #3 and, consequently, the rate of unemployment would also be higher, 16.4 per cent compared to 14.4. This level of unemployment is also higher than that recorded for Newfoundland in 1979.

LABOUR MARKET FORECAST, 1986

NEWFOUNDLAND

	PROJECTION	
	#4	#3
Population 15 years and over ('000)	450	440
Participation rate (%)	56.8	56.8
Labour force ('000)	256	250
Employment ('000)	214	214
Unemployment ('000)	42	36
Unemployment rate (%)	16.4	14.4

APPENDIX B-1

POPULATION BY AGE GROUP
NEWFOUNDLAND

	MALE			FEMALE			TOTAL		
	1976 ACTUAL	1979	1986 PROJECTED	1976 ACTUAL	1979	1986 PROJECTED	1976 ACTUAL	1979	1986 PROJECTED
0-14	96.1	92.0	80.6	91.6	89.0	76.9	187.7	181.0	157.6
15-19	32.1	33.0	29.5	30.6	32.0	28.3	62.7	65.0	57.8
20-24	26.0	29.0	31.4	26.1	28.0	29.9	52.2	57.0	61.3
25-34	41.6	47.0	53.0	40.5	45.0	51.6	82.1	92.0	104.6
35-44	26.9	28.0	38.9	25.0	27.0	38.1	52.0	55.0	77.1
45-54	23.4	23.0	25.0	22.0	22.0	23.8	45.4	45.0	48.8
55-64	19.9	20.0	20.6	19.0	19.0	20.6	39.0	40.0	41.1
65 +	17.2	18.0	22.8	19.4	21.0	26.9	36.5	39.0	49.7
15 +	187.1	199.0	221.2	182.6	194.0	219.2	369.9	393.0	440.4
TOTAL	283.4	291.0	301.8	274.3	282.7	296.1	577.7	573.7	597.9

SOURCE: Statistics Canada, Population Projections for Canada and the Provinces,
1976-2001

Statistics Canada, Labour Force Survey

Statistics Canada, Population Estimates

APPENDIX B-2

POPULATION BY AGE GROUP
PRINCE EDWARD ISLAND

	MALE			FEMALE			TOTAL		
	1976 ACTUAL	1979	1986 PROJECTED	1976 ACTUAL	1979	1986 PROJECTED	1976 ACTUAL	1979	1986 PROJECTED
0-14	17.2	17.0	15.5	16.0	15.0	14.6	33.2	34.0	30.2
15-19	6.5	7.0	5.4	6.4	7.0	5.2	12.9	13.0	10.5
20-24	5.0	6.0	6.5	5.0	6.0	6.1	10.0	11.0	12.7
25-34	8.3	9.0	11.8	8.0	8.0	11.8	16.3	18.0	23.6
35-44	6.0	6.0	8.9	5.7	6.0	8.7	11.7	12.0	17.5
45-54	5.3	5.0	5.9	5.3	5.0	5.7	10.5	11.0	11.6
55-64	5.0	5.0	4.8	5.3	5.0	5.0	10.3	10.0	9.9
65 +	6.1	6.0	6.4	7.2	7.0	8.6	13.2	13.0	14.9
15 +	42.2	44.0	49.7	42.9	45.0	51.1	84.9	89.0	100.7
TOTAL	59.3	61.6	65.2	58.9	61.5	65.7	118.2	123.0	130.9

SOURCE: Statistics Canada, Population Projections for Canada and the Provinces, 1976-2001

Statistics Canada, Labour Force Survey

Statistics Canada, Population Estimates

APPENDIX B-3

POPULATION BY AGE GROUP
NOVA SCOTIA

	MALE			FEMALE			TOTAL		
	1976 ACTUAL	1979	1986 PROJECTED	1976 ACTUAL	1979	1986 PROJECTED	1976 ACTUAL	1979	1986 PROJECTED
0-14	114.7	122.0	102.9	109.0	107.0	97.9	223.8	230.0	201.0
15-19	44.7	43.0	36.2	42.1	42.0	34.4	86.7	86.0	70.6
20-24	38.2	40.0	42.3	37.2	40.0	40.8	75.5	80.0	83.1
25-34	62.3	65.0	80.8	60.4	67.0	78.3	122.6	131.0	159.1
35-44	42.9	42.0	61.8	41.9	45.0	60.5	84.9	87.0	122.3
45-54	39.1	37.0	40.4	40.7	40.0	40.5	79.8	77.0	80.9
55-64	36.2	35.0	34.2	38.3	39.0	38.1	74.6	74.0	72.3
65 +	35.9	37.0	41.8	44.7	46.0	56.7	80.6	83.0	98.4
15 +	299.3	300.0	337.5	305.3	318.0	349.3	604.7	618.0	686.7
TOTAL	414.1	422.4	440.5	414.4	425.2	447.0	828.6	847.7	887.5

SOURCE: Statistics Canada, Population Projections for Canada and the Provinces, 1976-2001

Statistics Canada, Labour Force Survey

Statistics Canada, Population Estimates

APPENDIX B-4

POPULATION BY AGE GROUP
NEW BRUNSWICK

	MALE			FEMALE			TOTAL		
	1976	1979	1986	1976	1979	1986	1976	1979	1986
	ACTUAL		PROJECTED	ACTUAL		PROJECTED	ACTUAL		PROJECTED
0-14	98.9	101.0	90.5	94.1	94.0	86.2	193.2	195.0	176.8
15-19	38.0	38.0	31.2	35.8	36.0	29.5	73.8	73.0	60.7
20-24	32.0	35.0	36.2	31.8	34.0—	34.8	63.8	68.0	71.0
25-34	51.1	56.0	69.2	48.7	56.0	67.3	99.9	112.0	136.4
35-44	33.5	35.0	52.0	33.0	36.0	50.2	66.6	71.0	102.3
45-54	31.1	30.0	32.4	32.2	31.0	32.7	63.4	61.0	65.1
55-64	27.3	27.0	27.7	28.4	29.0	30.6	55.7	57.0	58.2
65 +	27.4	28.0	31.9	33.7	34.0	43.1	61.1	63.0	75.2
15 +	240.4	249.0	280.6	243.6	257.0	288.2	484.3	506.0	568.9
TOTAL	339.3	350.4	371.3	337.9	350.5	374.5	677.2	700.9	745.7

SOURCE: Statistics Canada, Population Projections for Canada and the Provinces, 1976-2001

Statistics Canada, Labour Force Survey

Statistics Canada, Population Estimates

APPENDIX C-1

SIMULATION OF PARTICIPATION RATE TREND
OBSERVED DURING 1966 TO 1979, BY SEX AND AGE GROUP
NEWFOUNDLAND
1980-1986

MALE

	All Age Group	15-19	20-24	25-34	35-44	45-54	55-64	65 +
1980	68.9	43.4	80.7	89.3	89.7	81.3	60.0	5.4
1981	69.6	44.6	81.5	89.9	90.3	82.0	60.2	5.3
1982	70.2	45.7	82.3	90.5	91.0	82.7	60.5	5.1
1983	70.9	46.9	83.0	91.2	91.7	83.4	60.7	5.0
1984	71.6	48.0	83.7	91.8	92.3	84.1	61.0	4.8
1985	72.3	49.1	84.5	92.4	93.0	84.8	61.2	4.7
1986	73.0	50.0	85.2	93.1	93.7	85.5	61.5	4.5

FEMALE

	All Age Group	15-19	20-24	25-34	35-44	45-54	55-64
1980	36.5	35.7	58.7	45.9	43.3	30.8	16.5
1981	37.3	36.1	59.7	47.5	44.7	31.3	16.5
1982	38.2	36.6	60.8	49.1	46.2	31.8	16.5
1983	39.1	37.0	61.9	50.6	47.7	32.3	16.6
1984	39.9	37.5	62.9	52.2	49.2	32.8	16.6
1985	40.8	37.9	64.0	53.8	50.6	33.3	16.6
1986	41.6	38.4	65.0	55.3	52.1	33.8	16.6

APPENDIX C-2

SIMULATION OF PARTICIPATION RATE TREND
OBSERVED DURING 1966 TO 1979, BY SEX
PRINCE EDWARD ISLAND
1980-1986

	TOTAL	MALE	FEMALE
1980	58.2	71.0	46.5
1981	58.6	70.9	47.5
1982	59.0	70.8	48.5
1983	59.5	70.8	49.5
1984	59.9	70.7	50.5
1985	60.3	70.7	51.5
1986	60.7	70.6	52.5

APPENDIX C-3

SIMULATION OF PARTICIPATION RATE TREND
OBSERVED DURING 1966 TO 1979, BY SEX AND AGE GROUP
NOVA SCOTIA
1980-1986

MALE

	All Age Group	15-19	20-24	25-34	35-44	45-54	55-64	65 +
1980	71.3	51.9	84.0	93.4	91.9	85.4	64.1	9.1
1981	71.1	52.6	83.8	93.4	91.7	84.8	63.2	8.1
1982	71.0	53.4	83.7	93.4	91.4	84.3	62.4	7.0
1983	70.9	54.1	83.5	93.3	91.1	83.8	61.5	6.0
1984	70.7	54.8	83.4	93.3	90.9	83.2	60.6	4.9
1985	70.6	55.6	83.2	93.3	90.6	82.7	59.7	3.9
1986	70.5	56.3	83.0	93.2	90.3	82.2	58.8	2.8

FEMALE

	All Age Group	15-19	20-24	25-34	35-44	45-54	55-64	65 +
1980	42.5	43.0	68.3	56.0	51.8	44.0	28.1	
1981	43.2	43.8	68.2	57.6	52.9	44.2	28.0	
1982	43.9	44.6	69.0	59.3	54.0	44.5	28.0	
1983	44.6	45.4	69.8	60.9	55.1	44.8	28.0	
1984	45.3	46.2	70.7	62.5	56.2	45.0	28.0	
1985	46.0	46.9	71.5	64.2	57.4	45.3	28.0	
1986	46.7	47.7	72.3	65.8	58.5	45.6	28.0	

APPENDIX C-4

SIMULATION OF PARTICIPATION RATE TREND
OBSERVED DURING 1966 TO 1979, BY SEX AND AGE GROUP
NEW BRUNSWICK
1980-1986

MALE

	All Age Group	15-19	20-24	25-34	35-44	45-54	55-64	65 +
1980	69.3	48.7	81.8	90.1	88.9	82.0	64.4	
1981	69.3	49.5	82.3	90.0	88.7	81.7	63.5	
1982	69.3	50.3	82.8	89.8	88.5	81.4	62.6	
1983	69.3	51.0	83.2	89.8	88.3	81.1	61.8	
1984	69.3	51.8	83.6	89.7	88.1	80.7	60.9	
1985	69.3	52.6	84.1	89.6	87.9	80.4	60.1	
1986	69.2	53.4	84.4	89.5	87.6	80.1	59.2	

FEMALE

	All Age Group	15-19	20-24	25-34	35-44	45-54	55-64	65 +
1980	41.3	36.9	62.7	53.7	52.1	42.9	29.6	
1981	42.2	34.4	63.7	55.3	53.4	43.7	29.4	
1982	43.1	40.1	64.8	56.8	54.7	44.4	29.2	
1983	44.0	42.0	65.8	58.3	56.0	45.1	29.0	
1984	44.9	44.0	66.9	59.3	57.2	45.4	28.8	
1985	45.8	46.4	68.0	61.3	58.5	46.6	28.5	
1986	46.7	48.9	69.1	62.8	59.6	47.4	28.1	

APPENDIX D

PARTICIPATION RATE PROJECTIONS BY AGE GROUP AND SEX

Newfoundland, Nova Scotia and New Brunswick[1]

(a) Male

15 - 19

The male participation rate for this age group has fluctuated dramatically for all three provinces during the 1966 to 1979 period. For all three provinces, the participation rate for this age group is significantly correlated with economic growth. During periods of slow growth, persons in this age group tended to stay out of the labour market and, conversely during periods of strong growth they tended to join the labour force in greater number. However, the trend over the whole period shows a tendency to rise. A similar pattern was also observed for Canada as a whole. Among the three Atlantic Provinces, Newfoundland has shown the most growth, although it still shows the lowest participation rate for this age group.

The participation rate for this age group is also affected by school enrollment rates. These in turn

1 In Prince Edward Island, due to the absence and inadequacy of historical data by age group, projections of labour force participation rates were only done by sex.

are influenced by employment opportunities available to graduates in their field of training. Despite substantial employment growth in the seventies, the demand for post-secondary graduates was exceeded by the supply in many fields, particularly in humanities and social sciences. Partly as a result, university enrollment dropped in the late seventies. Concurrent with this fall in enrollment, the participation rate of young people started to rise. Projections made by Statistics Canada suggest that enrollment in post-secondary institutions will further decline from 19.2% in 1978 to 17.3% by the middle of the eighties. Thus, it may be surmised that participation rate will continue to rise for this age group through the first half of the eighties. This is the assumption which underlies our participation rate projection for this particular age group. Thus, we anticipate that the rate will grow for all three provinces, reaching 50 per cent in both Newfoundland and New Brunswick and 55 per cent in Nova Scotia.

20 - 24

The male participation rate in this age group has tended to rise in both New Brunswick and

Newfoundland and has fluctuated widely in Nova Scotia.
In both New Brunswick and Newfoundland, it is
anticipated to stabilize at 82 per cent whereas in
Nova Scotia it is anticipated to remain about 85 per
cent.

25 - 34

The male participation rate in this age group
has varied little during the 1966 to 1979 period for
Nova Scotia and New Brunswick. The same stability is
also noted for Canada as a whole. No change is
anticipated for these two provinces over the forecast
period and, hence, we expect the male participation rate
to be about 91 per cent in New Brunswick in 1986 and
94 per cent for Nova Scotia. In Newfoundland, however,
there has been a sharp increase in the male
participation rate for that age group over the 1966 to
1979 period, from 82.6 per cent to 88.8 per cent. This
rate of increase is not expected to endure over the
forecast period, but some increase is still anticipated
and the rate is expected to reach 91 per cent by 1986.

35 - 44

Similarly as in the previous age group, the male participation rate in the 35 to 44 age group has remained almost unchanged during the seventies for both New Brunswick and Nova Scotia and has increased considerably in Newfoundland. In New Brunswick and Nova Scotia, the rate is expected to remain stable at about 90 per cent and 93 per cent respectively. In Newfoundland, the rate reached 89.6 per cent in 1979 and is expected to remain at about 90 per cent for the forecast period.

45 - 54

The male participation rate in this age group has tended to decrease over the period 1966 to 1979 in Nova Scotia and New Brunswick while it has increased in Newfoundland. However, it appears to have stabilized at about 83 per cent in New Brunswick and 87 per cent in Nova Scotia. A similar pattern is also noted for Canada as a whole although it has remained at a much higher level. As for the two previous age groups and for the same reason (i.e. being in the prime working age), participation rate in this age group bears little

relationship with changing economic conditions. In
Newfoundland, the male participation rate in this age
group rose from 75.9 per cent in 1966 to 82.9 per cent
in 1979. It is expected that the rate will remain at
about 83 per cent throughout the forecast period, the
same as in New Brunswick and compares to 87 per cent in
Nova Scotia.

55 - 64

The male participation rate in this age group
has been decreasing for both New Brunswick and
Nova Scotia over the 1966 to 1979 period, the same as
observed in Canada as a whole. This decline is in part
due to pension plans. More and more people reaching
this age group participate into pension plans which
permit early retirement. In Nova Scotia and
New Brunswick, the rate is expected to stabilize at
65 per cent. In Newfoundland, the rate in 1979 was
little changed from 1966, although for most of the
seventies the rate appears to be higher than for the
sixties. It is anticipated that a slight rise may again
occur in the first half of the eighties and reach about
62 per cent by 1986.

65 and over

The male participation rate in this age group has been declining fairly rapidly over the period 1966 to 1979 and is expected to continue decreasing during the forecast period, although at a slightly slower pace. It is expected that the rate will drop to 4 per cent in Newfoundland and 8 per cent in both Nova Scotia and New Brunswick.

(b)   Female

15 - 19

The female participation rate in this age group has fluctuated very erratically during the 1966 to 1979. Both, time (changing attitudes) and economic growth have influenced the movement of the participation rate, but these two variables together are insufficient to explain entirely the very erratic behaviour of the rate over the period of observation. All three provinces have registered increases during the period of observation. It is noteworthy that a decline was observed from 1966 to 1970, after which substantial growth has been achieved. The trend observed is

expected to continue for the forecast period for both Nova Scotia and New Brunswick while in Newfoundland it is anticipated that growth will slightly exceed the trend. As a result, the female participation rate for this age group is expected to reach 43 per cent in New Brunswick, 48 per cent in Nova Scotia, and 40 per cent in Newfoundland.

20 - 24

The female participation rate in this age group has grown dramatically over the period 1966 to 1979 for all three provinces. The same is true for Canada as a whole. Growth of the participation rate in this age group is significantly and positively correlated to a time trend. Changing attitudes and life style are prime factors affecting women's attachment to the labour force in this age group. The fertility rate in this age group has been declining and a larger proportion of women who bear children in this age group tend to return to work soon after giving birth. For both Nova Scotia and Newfoundland, it is expected that the trend observed from 1966 to 1979 will endure throughout the forecast period and, as a result, by 1986 participation rates will be 72 and 65 per cent

respectively. In New Brunswick, the increase is
expected to be slower than the trend observed from 1966
to 1979 and the rate is anticipated to reach 66 per cent
by 1986. In all three provinces, the gap between the
male and female particiaption rate is expected to
narrow.

25 - 34

The female participation rate in this age
group increased dramatically by over 20 percentage
points in all three provinces from 1966 to 1977.
Nevertheless, the fertility rate for women of this age
group is the highest of any age group and as a result
the participation rate drops substantially from the
level observed in the previous age group, as women
withdraw from the labour force to raise children.
However, the fertility rate has been declining and this,
coupled with changing life styles, has led to a
narrowing of the participation rates between these two
age groups. From the demand side, there is no doubt
that substantial increases in employment in the service
industries were also a contributing factor to the rapid
increase in participation rates. The rate in this age

group is further expected to increase during the
forecast period, following the trend in both
Newfoundland and Nova Scotia and at a slightly slower
pace than the trend in New Brunswick. As a result, the
female participation rate is expected to reach 66 per
cent in Nova Scotia by 1986, 55 per cent in
Newfoundland, and 56 per cent in New Brunswick. The
difference between the male and female rate is thus
expected to decline substantially.

35 - 44

The female participation rate in this age
group also rose dramatically over the 1966 to 1979
period. Growth in this age group was also highly
correlated to time, suggesting again that the prime
factor affecting change in the labour force attachment
is changing life styles. On the demand side, growth of
the service sector was again a contributing factor. It
is expected that the female participation rate in this
age group will continue to increase over the forecast
period to 1986. Following the trend, the rate is
expected to rise to 59 per cent in Nova Scotia and
52 per cent in Newfoundland. In New Brunswick, it is
expected to reach 54 per cent by 1986. Again, the gap

between the male and female rates is anticipated to decline.

45 - 54

The female participation rate in this age group has fluctuated throughout the period from 1966 to 1979. Over the whole period, it has tended to rise but much less than for the previous age groups. It is expected to continue increasing over the forecast period and reach 45 per cent in New Brunswick, 34 per cent in Newfoundland, and 46 per cent in Nova Scotia. Again, the difference in the male and female participation rates is expected to drop.

55 - 64

The female participation rate in this age group has fluctuated from one year to the next but overall the trend for all three provinces has been fairly stable. Over the forecast period, the participation rate is expected to rise although only slightly. In Newfoundland, it is expected to rise from about 16 per cent in 1966 to 20 per cent in 1986, in

Nova Scotia from 29 per cent to 32 per cent, and in
New Brunswick from 29 per cent to 31 per cent.

65 and over

The participation rate for women in this age
group has tended to decline and it is expected to,
again, decline slightly over the forecast period. It is
anticipated to reach 3 per cent in Newfoundland, 2.5 per
cent in New Brunswick, and 2 per cent in Nova Scotia.

PROJECTED PARTICIPATION RATE

BY SEX AND AGE GROUP

NEWFOUNDLAND

MALE

	15-19	20-24	25-34	35-44	45-54	55-64	65 +	TOTAL
1976	36.9	79.7	87.8	86.4	80.5	61.0	5.9	66.6
1979	43.4	80.2	88.8	89.6	82.9	59.2	5.6	68.7
1986	50.0	82.0	91.0	90.0	83.0	62.0	4.0	71.9

FEMALE

	15-19	20-24	25-34	35-44	45-54	55-64	65 +	TOTAL
1976	33.2	52.9	38.0	36.1	28.2	15.8	5.2	31.8
1979	35.2	57.4	47.2	42.2	31.0	15.8	4.8	36.2
1986	40.0	65.0	55.0	52.0	34.0	20.0	3.0	41.6

TOTAL

	15-19	20-24	25-34	35-44	45-54	55-64	65 +	TOTAL
1976	35.1	66.3	63.2	62.0	55.1	38.4	5.5	49.4
1979	39.4	69.0	68.2	66.4	57.8	37.4	5.1	52.7
1896	44.1	73.8	72.4	71.4	59.4	41.4	4.0	56.8

PROJECTED PARTICIPATION RATE

BY SEX AND AGE GROUP

<u>NOVA SCOTIA</u>

<u>MALE</u>

	<u>15-19</u>	<u>20-24</u>	<u>25-34</u>	<u>35-44</u>	<u>45-54</u>	<u>55-64</u>	<u>65 +</u>	TOTAL
1976	47.5	85.4	94.1	92.7	87.2	69.9	13.8	71.9
1979	51.9	87.2	94.6	93.1	87.1	65.2	11.5	72.6
1986	55.0	85.0	94.0	93.0	87.0	65.0	8.0	73.1

<u>FEMALE</u>

	<u>15-19</u>	<u>20-24</u>	<u>25-34</u>	<u>35-44</u>	<u>45-54</u>	<u>55-64</u>	<u>65 +</u>	TOTAL
1976	40.4	63.5	49.1	46.2	42.6	28.4	2.4	39.1
1979	43.3	65.8	56.0	51.4	42.0	29.1	2.2	42.1
1986	48.0	72.0	66.0	59.0	46.0	32.0	2.0	46.7

<u>TOTAL</u>

	<u>15-19</u>	<u>20-24</u>	<u>25-34</u>	<u>35-44</u>	<u>45-54</u>	<u>55-64</u>	<u>65 +</u>	TOTAL
1976	44.0	74.3	71.2	68.2	64.2	48.6	8.1	55.2
1979	47.7	76.5	75.1	71.7	63.9	46.5	6.7	56.9
1896	52.0	77.1	80.5	76.2	65.4	67.2	5.1	60.1

PROJECTED PARTICIPATION RATE

BY SEX AND AGE GROUP

NEW BRUNSWICK

MALE

	15-19	20-24	25-34	35-44	45-54	55-64	65 +	TOTAL
1976	45.7	83.1	90.6	89.2	83.7	68.4	11.5	69.7
1979	46.8	81.6	90.6	89.6	82.8	67.2	10.7	70.1
1986	50.0	82.0	91.0	90.0	83.0	65.0	8.0	72.2

FEMALE

	15-19	20-24	25-34	35-44	45-54	55-64	65 +	TOTAL
1976	37.9	58.2	46.3	46.2	41.7	27.1	3.2	38.0
1979	39.1	63.4	51.8	49.8	42.1	29.5	2.9	41.0
1986	43.0	66.0	56.0	54.0	45.0	31.0	2.5	43.7

TOTAL

	15-19	20-24	25-34	35-44	45-54	55-64	65 +	TOTAL
1976	41.9	70.5	68.6	67.3	62.2	47.3	6.9	53.6
1979	43.0	72.6	71.2	69.6	62.0	47.7	6.3	55.3
1896	47.1	75.2	73.8	72.3	63.9	47.2	5.2	57.9

NOTE: The 1976 and 1979 figures are actual data drawn from The Statistics Canada Labour Force Survey.

APPENDIX E

MAJOR PROJECTS INCLUDED AND EXCLUDED
IN THE EMPLOYMENT PROJECTION

INCLUDED	EXCLUDED
Stephenville mill reopening (Nfld.)	Come-by-Chance Oil Refinery reopening (Nfld.)
Donkin coal mine development (N.S.)	Gull Island hydro electricity project (Nfld.)
Expansion of Michelin Tire (N.S.)	Offshore oil and gas production (Nfld. and N.S.)
Expansion of Halifax Shipyards (N.S.)	Pipeline Construction (Maritimes)
Expansion of the Brunswick Mining and Smelting lead-zinc mine (N.B.)	Construction of a zinc refinery (N.B.)
Potash deposits development in the Sussex area (N.B.)	Potential expansion of Saint John Drydocks (N.B).
Tungsten/tin/bismuth/molybdenum mine development at Mount Pleasant (N.B.)	
Decentralization of federal departments (Region)	