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New Brunswick



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NEW BRUNSWICK

ECONOMIC DEVELOPMENT PERSPECTIVE

1986

**Federal Economic Development Coordinator
Fredericton, New Brunswick**

(All statistics and conclusions are contingent upon data available
as of April 9, 1986.)

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1. SUMMARY

Taking into consideration the depth of the 1982 recession both nationally and internationally, New Brunswick did not fare badly in terms of economic performance over the past five years. Total growth in output over the 1980-84 period of 8.7 percent was significantly higher than the 5.9 percent growth experienced nationally.

The real disappointment, however, has been with employment creation. Significant rationalization and modernization in the province's major industrial sectors and a substantial drop in construction activity combined to produce an overall decrease of 1000 jobs over the period. However, preliminary data for 1985, indicating a 4.4 percent increase in employment during the year, suggest that the period of rationalization is over and further increases in output will correlate more closely with job creation.

In other positive developments, growth in both earned and personal income per capita outpaced that for Canada over the 1980-84 period and investment continued to be strong.

Despite this relatively good economic performance in the 1980s, large differences remain between New Brunswick and Canada in terms of unemployment, participation rates and income levels.

As has been the case elsewhere, New Brunswick has seen a dramatic increase in the prominence of the service sector. Today, more than two-thirds of provincial output and employment is derived from services. In the goods-producing industries, the traditional resource sectors have shaped the character of the provincial economy and had a major impact on the evolution of the manufacturing and services sectors. While New Brunswick now has a more diversified economy than is commonly perceived, it remains the case that outside the principal urban centres, economic activity is heavily resource-based.

The future growth and development of the New Brunswick economy will clearly be influenced by a variety of factors, including changes in the international environment. However, four areas have been identified as particularly important in strengthening the longer-term performance of the provincial economy.

i) Improving the Productivity and Competitiveness of the Resource Sectors

Despite the rapid growth of the provincial service sector over the past decade and promising new opportunities in a number of non-resource-based manufacturing industries, the New Brunswick economy remains highly dependent upon natural resources and their primary processing.

Notwithstanding the current cyclical weaknesses with respect to such commodities as potatoes and base metals, the short-to-medium-term outlook for the resource sectors appears relatively favourable at present. However, given the rapid pace of technological and market change, substantial new investment and innovation will be required over the long-term to improve the productivity, competitiveness and contribution of these sectors to the provincial economy.

ii) Ensuring a Positive Climate for Entrepreneurship and Investment

While the province's resource industries will undoubtedly continue to be the major contributors to goods production in the New Brunswick economy, capacity constraints and the introduction of new technology will limit their potential to create new employment opportunities. Increasingly, growth in the province's non-resource-based sectors will have to be relied upon to generate new jobs. Improving the growth of non-resource-based employment will require efforts to improve the provincial climate for entrepreneurship and investment.

The creation of an improved climate for entrepreneurship and investment is a long-term process and warrants re-examination of the wide range of economic and social factors which currently influence the decisions of residents and non-residents alike to establish, maintain or expand business enterprises within the province.

Among the factors to be considered are the general level and incidence of taxation, the effectiveness of federal and provincial business assistance programs, access to venture capital, support for industrial innovation and technology development, the quality of management training, the relationship of unemployment insurance to work attachment and the extent of regulatory overburden.

iii) Achieving the Economic Benefits of Urban Growth

New Brunswick is unique among Canadian provinces (with the possible exception of Saskatchewan) in that it has neither a single dominant urban centre nor an urban centre which would be ranked among those in the first tier of the Canadian urban hierarchy.

The division of the major elements of urban-oriented economic activity among three centres (Saint John, Moncton, and Fredericton) limits both the potential economic benefits of urban agglomeration and scale and the capacity of the province to compete for investment with other Canadian and U.S. centres.

Accordingly, New Brunswick's ability to improve the growth of its non-resource-based manufacturing and service sectors will depend upon the establishment of a "critical mass" of related economic activity in a number of priority areas in each of its three principal centres.

iv) Securing Employment Through Investment in People

One of the most pervasive features of New Brunswick's recent economic performance has been the persistence of high rates of unemployment, particularly in areas of the province where seasonal employment predominates.

Investment in people and efforts to improve the operation of the labour market are likely to be of increasing importance in enhancing employment opportunity and facilitating adjustment in the face of fast-paced technological change and of efforts to strengthen the competitiveness of the private sector.

New Brunswick has a well-developed education system and post-secondary institutions have geared their programming increasingly to the needs of the work force. Close co-operation between the public sector, business, labour and learning institutions, each with a stake in effective investment in people, is vital to achieve the flexibility, diversity and adaptability that are required to respond to the needs of individuals and of the work place.

2. INTRODUCTION

The purpose of this document is to provide an overview of the structure and performance of the New Brunswick economy from an economic development perspective.

The document is organized into three main sections. The first section, entitled Economic Overview, examines characteristics and trends relating to the development of the New Brunswick economy and compares these with the Canadian economy. The second section, entitled Major Sectors, provides a review and assessment of characteristics and trends from a sectoral perspective. The third section, entitled Key Issues, attempts to draw from the preceding analysis a limited number of issues concerning the economic development of New Brunswick.

3. ECONOMIC OVERVIEW

i) Summary

Taking into consideration the depth of the 1982 recession both nationally and internationally, New Brunswick has done relatively well in terms of economic performance over the last five years. Total growth in output over the period 1980-84 of 8.7 percent was significantly higher than the 5.9 percent growth experienced nationally.

The real disappointment, however, has been with employment creation. Significant rationalization and modernization in the province's major industrial sectors and a substantial drop in construction activity combined to produce an overall decrease of 1000 jobs over the period. However, preliminary data for 1985, indicating a 4.4 percent increase in employment during the year, suggests that the period of rationalization is over and further increases in output will correlate more closely with job creation.

In other positive developments, growth in both earned and personal income per capita outpaced that for Canada over the 1980-84 period and investment continued to be strong.

Despite this relatively good economic performance in the 1980s, large differences remain between New Brunswick and Canada in terms of unemployment and participation rates and income levels.

ii) Economic Structure

New Brunswick's economic structure bears many similarities to that of Canada, as is indicated in Table 1 (Page 6).

In the goods-producing industries, the principal difference in structure between New Brunswick and Canada is the smaller share of manufacturing in New Brunswick. In the services sector, public administration and transportation, storage and communications are of greater importance to New Brunswick than to Canada as a whole, while finance, insurance and real estate, and community, business and personal services are less important. Overall, New Brunswick is significantly more dependent upon output from the services-producing sector than is Canada as a whole.

Interestingly, the finance, insurance and real estate, and the community business and personal services sectors in New Brunswick together account for only 1.6 percent of the total Canadian output in these sectors, while the New Brunswick population represents 2.8 percent of the Canadian total. This situation may, in part, be a reflection of the urban-oriented nature of many functions associated with these services, the absence of a single principal urban centre in the province and a resulting tendency for the New Brunswick market to be served from outside the province.

Table 1 - Sector Share of Total Output

	1980			1984		
	<u>N.B.</u>	<u>Canada</u>	<u>Difference</u>	<u>N.B.</u>	<u>Canada</u>	<u>Difference</u>
Agriculture	1.4%	2.5%	-1.1	1.3%	2.6%	-1.3
Forestry	1.7%	0.7%	+1.0	1.4%	0.7%	+0.7
Fishing	0.5%	0.2%	+0.3	0.7%	0.2%	+0.5
Mining	1.9%	3.0%	-1.1	2.8%	2.8%	0.0
Manufacturing	15.3%	21.9%	-6.6	14.8%	21.3%	-6.5
Construction	6.5%	6.0%	+0.5	6.5%	5.1%	+1.4
Utilities	3.8%	3.2%	+0.6	4.1%	3.5%	+0.6
Total Goods-Producing Industries	<u>31.2%</u>	<u>37.5%</u>	<u>-6.3</u>	<u>31.6%</u>	<u>36.1%</u>	<u>-4.5</u>
Transportation, Storage and Communications	14.7%	10.6%	+4.1	14.3%	10.5%	+3.8
Wholesale and Retail Trade	13.3%	12.8%	+0.5	13.2%	12.5%	+0.7
Finance, Insurance and Real Estate	11.2%	13.1%	-1.9	10.6%	13.5%	-2.9
Community, Business and Personal Services	18.4%	19.3%	-0.9	18.7%	20.5%	-1.8
Public Administration	11.2%	6.8%	+4.4	11.6%	6.9%	+4.7
Total Service Industries	<u>68.7%</u>	<u>62.5%</u>	<u>+6.2</u>	<u>68.5%</u>	<u>63.9%</u>	<u>+4.6</u>

Source: Conference Board of Canada, July 1985.

iii) Output

In terms of growth in output over the 1980-84 period, New Brunswick outperformed Canada in three of the five years, the exceptions being 1980 and 1981. The cumulative growth rate over the period was 2.8 percentage points higher in New Brunswick than in Canada.

Importantly, New Brunswick's output fell less during the 1982 recession and recovered more strongly than was the case nationally (Table 2, Page 7).

For 1986, it is anticipated that growth in output will closely parallel that of Canada, around two percent. Over the medium term, with the possible exception of mining and agriculture, potential for expansion in the resource sector is limited by resource availability and future expansion of provincial output will have to come primarily from growth in the services and non-resource-based manufacturing sectors.

In sectoral terms (Table 3, Page 7), the greatest gains in output in New Brunswick were made in the goods-producing industries which experienced growth of 9.9 percent, compared to only two percent for Canada. Among the resource sectors, fishing and mining showed exceptional growth. Manufacturing output grew slightly more in New Brunswick than for Canada as a whole. The performance of the service industries overall was equal to that of Canada.

Table 2 - Real Domestic Product (millions of 1971 dollars)

	<u>New Brunswick</u>	<u>Growth Rate</u>	<u>Canada</u>	<u>Growth Rate</u>
1980	2 258	-0.3	117 822	+1.3
1981	2 276	+0.8	121 065	+2.8
1982	2 239	-1.6	115 869	-4.3
1983	2 316	+3.4	119 032	+2.7
1984	2 454	+6.0	124 749	+4.8
Cumulative Growth Rate over Period		+8.7		+5.9

Source: Conference Board of Canada, July 1985

Table 3 - Real Domestic Product by Sector (millions of 1971 dollars)

<u>Sector</u>	<u>New Brunswick</u>			<u>Canada</u>		
	<u>1980</u>	<u>1984</u>	<u>% Growth</u>	<u>1980</u>	<u>1984</u>	<u>% Growth</u>
Agriculture	31	33	+6.5	2 955	3 254	+10.1
Forestry	38	35	-7.9	843	878	+4.2
Fishing	12	17	+41.7	183	188	+2.7
Mining	44	68	+54.5	3 496	3 440	-1.6
Manufacturing	346	362	+4.6	25 797	26 561	+3.0
Construction	146	159	+8.9	7 062	6 341	-10.2
Utilities	87	101	+16.1	3 828	4 406	+15.1
Total Goods-Producing Industries	<u>705</u>	<u>775</u>	<u>+9.9</u>	<u>44 165</u>	<u>45 068</u>	<u>+2.0</u>
Transportation, Storage, Communications	331	352	+6.3	12 505	13 118	+4.9
Wholesale and Retail Trade	300	324	+8.0	15 025	15 569	+3.6
Financial, Insurance and Real Estate	253	261	+3.2	15 394	16 819	+9.3
Community, Business and Personal Services	416	458	+10.1	22 748	25 559	+12.4
Public Administration	253	284	+12.3	7 984	8 616	+7.9
Total Service-Producing Industries	<u>1 552</u>	<u>1 680</u>	<u>+8.2</u>	<u>73 657</u>	<u>79 681</u>	<u>+8.2</u>
Total All Industries	<u>2 258</u>	<u>2 454</u>	<u>+8.7</u>	<u>117 822</u>	<u>12 4749</u>	<u>+5.9</u>

Source: Conference Board of Canada, July 1985

Table 4 - New Brunswick's Share of Total Canadian Investment By Sector

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	Revised Intentions <u>1985</u>
<u>Sectors</u>						
Primary and Construction	1.2%	1.6%	1.8%	1.5%	1.7%	1.5%
Manufacturing	2.0%	2.1%	3.3%	2.9%	1.6%	2.8%
Utilities	3.5%	2.2%	1.9%	1.2%	1.7%	1.7%
Trade, Finance, Insurance and Real Estate	1.7%	1.4%	1.5%	1.8%	1.6%	1.6%
Institution and Government	3.4%	2.9%	3.3%	3.2%	3.6%	3.4%
Housing	1.8%	1.3%	1.2%	2.3%	2.1%	2.5%
Total	2.2%	1.9%	2.2%	2.0%	2.1%	2.2%

Source: Statistics Canada

iv) Investment

As shown in Table 4, New Brunswick's share of total Canadian investment has been extremely stable over the 1980-84 period, a share which is slightly higher than New Brunswick's share of Canadian output.

Manufacturing investment has averaged about 2.5 percent of the Canadian total, while New Brunswick manufacturing output represents about 1.3 percent of total Canadian manufacturing output. This reflects the capital-intensive nature of New Brunswick's largely resource-based manufacturing sector and the high level of investment in modernization and technological improvements which has been underway in recent years.

Table 5 - Investment as Percentage of GDP by Sector

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>
<u>Primary and Construction:</u>				
New Brunswick	26.2%	36.1%	41.6%	32.4%
Canada	32.7%	34.5%	34.0%	31.5%
<u>Manufacturing:</u>				
New Brunswick	21.7%	29.8%	45.1%	26.5%
Canada	17.4%	20.3%	19.5%	13.2%
<u>Utilities:</u>				
New Brunswick	200.2%	142.9%	133.9%	44.2%
Canada	153.6%	171.7%	164.9%	131.5%
<u>Total Goods-Producing:</u>				
New Brunswick	46.3%	47.4%	56.2%	32.2%
Canada	34.0%	37.8%	38.8%	31.7%

Source: Statistics Canada, Conference Board of Canada

This substantial investment in new technology partly explains the fact that the province has experienced employment losses despite significant increases in output that have led to improved productivity.

Finally, housing investment has increased significantly in recent years, reversing what had been an extremely depressed housing market.

Generally, investment as a percentage of the Gross Domestic Product by sector (Table 5, Page 8) has been significantly higher in New Brunswick than for Canada in all goods-producing industries except for utilities. Decreasing levels of investment in the utility sector reflect the completion of the Lepreau nuclear power plant in 1982 and the fact that no new projects have been initiated.

v) Labour Market

As shown in Table 6, New Brunswick experienced a slightly higher rate of growth in the labour force than did Canada over the 1981-85 period and the unemployment rate rose steadily. As a result of these trends, there was a slight deterioration in the relative performance of the New Brunswick economy in terms of unemployment rates and employment ratios.

Table 6 - Principal Labour Market Indicators

	Labour Force		Percent Growth	Unemployment Rate		Participation Rate		Employment Ratio *	
	1981 ('000)	1985		1981	1985	1981	1985	1981	1985
N.B.	286	304	6.3	11.5	15.2	56.2	56.8	49.7	48.1
Canada	11 904	12 639	6.2	7.5	10.5	64.8	65.2	59.9	58.4
Gap				+4.0	+4.7	-8.6	-8.4	-10.2	-10.3

* Ratio of employment to total population 15+ years.

Source: Statistics Canada, Labour Market Survey

Overall, employment in New Brunswick declined by 1000 jobs over the 1980-84 period and employment at the end of 1984 had not yet reached pre-recession levels. As shown in Table 7 (Page 10), the greatest number of jobs lost were in the finance, insurance and real estate, and in the manufacturing and construction sectors. Only four sectors recorded employment increases with the greatest gains made in the community, business and personal services sector.

Table 7 - Employment by Sector ('000)

<u>Sector</u>	<u>New Brunswick</u>			<u>Canada</u>		
	<u>1980</u>	<u>1984</u>	<u>% Growth</u>	<u>1980</u>	<u>1984</u>	<u>% Growth</u>
Primary Agriculture	6	7	+16.7	479	476	-0.6
Other Primary	11	12	+9.1	300	292	-2.7
Manufacturing	36	34	-5.6	2 111	1 968	-6.8
Construction	16	13	-18.8	624	572	-8.3
Transportation, Communi- cations and Utilities	26	25	-3.8	906	858	-5.3
Trade	47	48	+2.1	1 837	1 929	+5.0
Financial, Insurance and Real Estate	11	10	-9.1	611	631	+3.3
Community, Business and Personal Service	75	79	+5.3	3 096	3 483	+12.5
Public Administration	22	21	-4.5	744	791	+6.3
Total	<u>250</u>	<u>249</u>	<u>-0.4</u>	<u>10 708</u>	<u>11 000</u>	<u>+2.7</u>

Source: Statistics Canada

For Canada, the largest number of jobs lost occurred in the manufacturing, construction and transportation, communications and utilities sectors. As in New Brunswick, the largest gains were made in the community, business and personal services sector.

Within New Brunswick, there are significant variations among the various sub-regions with respect to the major labour market indicators.

Table 8 (Page 11) shows that while none of New Brunswick's regions match the Canadian average in terms of labour market performance, some come close and others are considerably worse off. In the central region of New Brunswick, which is the province's best performer, unemployment rates are still slightly higher than the Canadian average and there is a four-point gap in the participation rate and a five-point gap in employment ratio even though the labour force growth was substantially lower than for Canada. In the worst-off region, the northeast, there is an eight-point gap in unemployment rates, a 17-point gap in participation rates and a 19-point gap in employment ratios as compared to Canadian averages.

Table 8 - Sub-Regional Labour Market Comparisons*

	Labour Force		Percent Growth	Unemploy- ment Rate		Partici- pation Rate		Employment Ratio	
	1981 ('000)	1985		1981	1985	1981	1985	1981	1985
Northeast	60	66	10	13.4	18.6	47.5	48.6	41.1	39.6
Southeast	69	78	13	12.9	14.4	57.4	60.7	50.0	51.9
Southwest	73	76	4	8.7	15.0	60.7	59.3	55.4	50.4
Central	49	50	2	10.8	12.6	63.5	61.2	56.7	53.5
Northwest	32	35	9	12.6	14.8	54.4	55.3	47.6	47.1
N.B.	286	304	6	11.5	15.2	56.2	56.8	49.7	48.1
Canada	11 904	12 639	6	7.5	10.5	64.8	65.2	59.9	58.4

* Annex I provides a map of New Brunswick delineating the five sub-regions.

Source: Statistics Canada, Labour Market Survey

As shown in Table 9, by far the largest number of unemployment claimants are in the 25-34 age group. Unemployment recipients between the ages of 16 and 34 account for more than 60 percent of the total claim load. Although higher participation rates by males probably account for the greater percentage of male unemployment insurance claimants, part of this difference may also be attributable to the better-than-average job creation recorded by the service sector where employment opportunities for women are concentrated.

**Table 9 - Unemployment Insurance Claim-Load Distribution
by Age and Sex (Sept. 1985)**

<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Total</u>
	60%	40%	100%
16-19	3.8%	3.3%	3.6%
20-24	22.3%	22.3%	22.3%
25-34	33.7%	35.4%	34.4%
35-44	19.1%	20.5%	19.7%
45-54	10.9%	10.9%	10.9%
55-64	7.8%	5.6%	7.1%
65 +	2.3%	1.4%	2.0%
	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>

Source: Canada Employment and Immigration Commission (CEIC)

vi) Incomes and Transfers

Significantly, both earned income and personal income per capita increased at a higher rate in New Brunswick than in Canada as a whole over the 1980-84 period. While transfers to individuals and unemployment insurance benefits grew at a slower pace than in Canada, the fact remains that in both Canada and New Brunswick these transfers grew faster than income and "dependency" increased.

Table 10 - Personal and Earned Income Per Capita (dollars)

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>Growth Rate</u>
<u>New Brunswick</u>						
Personal Income	7 417	8 386	9 279	10 025	10 724	+44.7
Earned Income	5 947	6 721	7 290	7 815	8 318	+39.9
<u>Canada</u>						
Personal Income	10 178	11 853	12 887	13 542	14 412	+41.5
Earned Income	8 895	10 411	11 125	11 540	12 268	+37.9
<u>N.B. as a percent of Canada</u>						
Personal Income	72.9	70.8	72.0	74.1	74.5	-
Earned Income	66.9	64.6	65.5	67.7	67.8	-

Source: Statistics Canada

Table 11 - U.I. Benefits and Government Transfers to Persons Per Capita (dollars)

	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>Growth Rate</u>
<u>New Brunswick</u>						
U.I. Benefits	335	402	547	629	692	+106.6
Government Transfers To Persons	1 471	1 665	1 989	2 221	2 416	+64.2
<u>Canada</u>						
U.I. Benefits	180	195	343	407	398	+121.1
Government Transfers To Persons	1 283	1 442	1 761	2 001	2 223	+73.3
<u>Ratio: N.B.-Canada</u>						
U.I. Benefits	1.97	2.06	1.59	1.55	1.74	-
Government Transfers To Persons	1.15	1.15	1.13	1.11	1.09	-

Source: Statistics Canada, CEIC

Differences within the province in earned income are significant and appear to be associated with the degree of urbanization. As shown in Table 12, the counties of York, Kings, Saint John, Albert and Westmorland, which are immediately adjacent to the province's three largest urban centres, display the highest earned-income levels while the counties of Queens and Kent, which are remote from the major urban centers and contain no significant urban concentration, display the lowest earned incomes.

Table 12 - 1981 Earned Income Per Capita by County*

Kent	\$ 4 639
Queens	5 845
Victoria	5 978
Northumberland	6 042
Carleton	6 242
Madawaska	6 252
Gloucester	6 504
Sunbury	6 875
Restigouche	6 982
Charlotte	7 568
Westmorland	8 086
Albert	8 459
Saint John	8 529
Kings	8 920
York	9 345
New Brunswick	\$ 6 721
Canada	\$10 411

* Annex I provides a map of New Brunswick by county and region.
Source: Statistics Canada

With the exception of Restigouche County, all counties where earned income is higher than the New Brunswick average are located in the south where the province's three principal urban centres are located.

vii) Provincial Fiscal Position

Measures adopted in 1982-83 by the New Brunswick government, in order to control its deficit are showing results. While the budgetary deficit reached 18.7 percent of total expenditures in 1982-83, it is now estimated to account for 9.7 percent of total expenditures in 1985-86.

As Table 14 (Page 14) shows, the share of the provincial government's expenditures funded from own-source revenues has increased by 3.8 percent over the period 1982-86, while the share of expenditures funded from federal transfers has decreased by 3.1 percent.

Table 13 - Revenue as a Percentage of Expenditures (\$ millions)

	Year Ending March 31				4th Quarter Estimate 1985	2nd Quarter Estimate 1986
	Actual					
	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>		
Revenue	1534.9	1772.2	1945.2	2213.4	2368.8	2600.1
Expenditures	1684.9	1978.5	2393.4	2546.2	2708.3	2879.6
Percentage	91.0	89.6	81.2	86.7	87.5	90.3

Table 14 - Source of Funding as a Percentage of Expenditures

<u>Source</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	Difference	
					<u>1986</u>	<u>1986-82</u>
New Brunswick	48.3	46.2	49.4	50.9	52.1	+3.8
Canada	41.3	35.1	37.6	36.8	38.2	-3.1
Budgetary Deficit	10.4	18.7	13.0	12.4	9.7	-0.7

Despite significant measures to control spending and a systematic approach to government reform, the provincial government remains in a position of limited fiscal flexibility. Its poor fiscal position has led to a gradual erosion of funds available for economic development initiatives. Currently, only 9.9 percent of the total provincial budget, including federal transfers, is spent by all economic departments, including Transportation. There is also growing concern with respect to the province's ability to maintain current levels of important education and health services.

New Brunswick currently fully utilizes its fiscal capacity. In 1984-85, its fiscal capacity for all own-source revenues was estimated at 66.4 percent of the national average, while its actual per capita own-source revenue was estimated at 66.7 percent of the national average. Tax effort was higher only in the provinces of Quebec, Newfoundland and Prince Edward Island.

4. MAJOR SECTORS

i) Introduction

The post-war period has seen a dramatic increase in the prominence of the service sectors throughout Canada.

New Brunswick is no exception. More than two-thirds of provincial output and employment is derived from services. In the goods-producing industries, the traditional resource sectors have shaped the character of the provincial economy and had a major impact on the evolution of the manufacturing and services sectors.

While New Brunswick now has a more diversified economy than is commonly perceived, it remains the case that outside of the principal urban centres, economic activity is heavily resource-based. The following sub-sections review the structure of the provincial economy from a sectoral perspective.

ii) Agri-Food

The agri-food sector is second to forestry as a contributor to total goods production in the New Brunswick economy, with gross domestic product estimated to exceed \$250 million, 14 percent of total goods production. Wages generated by the sector exceed \$165 million, while employment of 11 000 represents one in every six jobs in the goods-producing sector.

Approximately 4000 farm units generate \$225 million in farm cash receipts annually and total employment of over 7000. In addition, the primary sector supplies raw product to the agri-food processing sector which is one of the province's largest employers. Major components of the processing sector include two frozen-food processing plants, two red-meat processors, two poultry plants, and several dairies.

The provincial potato industry, which contributes over 25 percent on average to farm cash receipts, has been suffering from low prices and increasing competition in its traditional markets, including a move toward table-stock self-sufficiency in Ontario and Quebec.

With the prices farmers are receiving for potatoes covering less than half of production costs, there have been renewed calls to establish a Canadian potato-marketing agency. While such an initiative would have beneficial effects for producers in terms of the domestic market, it could invite a renewed threat from American potato interests for a countervailing duty on New Brunswick potato exports to the United States. The American market has grown in importance over the past three years with the decline of the overseas and domestic markets and the declining value of the Canadian dollar.

Pork production is now a major element of total farm output. In the last five years, production has tripled and the value of output has increased substantially despite the fact that prices have declined in the last two years. Because of its rapid expansion during the early 1980s, the pork industry has suffered disproportionately under the pressure of declining farm commodity prices. The domestic market for pork is still supplied mostly from outside the province and a return to stronger prices would likely encourage increased production in response to the demand of the local processing sector for reliable, high-quality animals to increase the utilization of excess capacity.

Poultry, dairy and egg production, which generates close to 40 percent of farm cash receipts, is geared to local markets and subject to supply management. Poultry and egg production has grown significantly in recent years as local consumption has grown and quotas have expanded. Dairy output has been limited by stable fluid consumption and restricted industrial milk quotas.

The blueberry industry experienced rapid growth in the early 1980s in light of strong export demand and favourable prices. Recently, competition has increased as new production from elsewhere in Canada, Europe and Scandinavia has entered the market. Further growth of the industry will require market diversification, increased productivity and the development of frozen and processed products.

The provincial livestock industry is dependent for 70 percent of its feed-grain requirement on grains transported from the West at rates subsidized under the Feed Freight Assistance Act. While the existence of subsidized feed has been beneficial to the development of the provincial livestock industry, it has led to a dependence on external sources of feed and discouraged the production of local feeds and forage. In the meantime, the subsidy provided under the Feed Freight Assistance Act has declined from 90 percent coverage of transportation costs to only 25 percent coverage.

There is currently an important opportunity to expand the production of provincially-grown feed grains to supply the needs of the livestock industry, which currently consumes over 130 000 tonnes annually at a cost of over \$20 million. It is generally believed that self-sufficiency in feed is possible over time through improving grain yields and increasing plantings, largely in rotation with potato production.

Production growth in primary agriculture has been retarded in recent years as a result of falling commodity prices, particularly for red meats and potatoes. In addition, the adverse financial conditions that existed during the early 1980s have had a detrimental impact on the profitability of individual farm units.

Farm credit in the 1960s and 1970s was available on the basis of inflated asset values, without sufficient regard to long-term repayment capacity. Falling commodity prices have led to declining asset values and farms no longer

have easy access to credit on the basis of balance sheet criteria. The future expansion of the industry will be subject to a more cautious approach whereby new investments will be undertaken only if there is judged to be a sufficient safety margin in the projected return. In addition, there will be continuing stress on existing farm units to cope with low commodity prices and increased input costs. These two factors will decrease net cash inflows and will exert downward pressure on asset values.

Despite current financial constraints, the New Brunswick agri-food sector is relatively mature and stable and should continue to display modest growth in output over the medium term. The adoption of new technology and efforts to increase productivity are likely to limit employment growth.

Movement toward a free trade agreement with the United States would potentially have a number of significant impacts on the New Brunswick agri-food sector. Some commodities, particularly dairy, egg and poultry products with higher cost structures and subject to supply management, would be faced with substantial adjustments if free trade were to proceed. However, the important potato sector would benefit if the threat of countervail were removed.

iii) Forestry

Forestry and forest products are the most important goods-producing sectors in the provincial economy, accounting for 23 percent of the total value of commodity production and two-thirds of the province's exports.

Eighty-six percent of New Brunswick is forested, of which 97 percent is productive. Forty-five percent of the province's forest land is owned by the Crown, 32 percent by some 28 000 individuals and 23 percent by companies.

The forest products sector is composed of 10 pulp and paper mills and 13 major sawmills employing approximately 8700, compared with 4051 in the harvesting sector.

On a per-acre-of-forested-land basis, New Brunswick's annual harvest is the highest in Canada, with a harvesting rate of about two cubic feet per forested acre per year. Supported by the Canada/New Brunswick Forestry Development Subsidiary Agreement, New Brunswick has initiated a program of resource re-allocation and intensive forest management in an attempt to reduce or eliminate a projected shortfall in wood supply to the forest products sector and to maintain and enhance forest productivity, thereby minimizing the impact on dependent firms and communities.

Significant reform in the land-tenure system over the past decade has been instrumental in securing a better commitment to reforestation and silviculture from the private sector. J.D. Irving Ltd., the largest freeholder of forest land in the province, has been a leader in the field of forest management and undertakes a substantial reforestation program on its own lands. In addition, through the activities of the provincial forest extension service and financial assistance provided under the Forestry Sub-agreement, small woodlot owners are encouraged to develop management plans, undertake silviculture and better utilize the wood-producing potential of their lands.

Spruce budworms continue to be a significant problem for the New Brunswick forestry industry. Some research progress has been made in the use of non-chemical control techniques. However, chemicals remain the chief control agent. In addition, the prescribed use of herbicides to destroy competing vegetation in softwood plantations or in the restoration of softwood plantations or degraded and abandoned farmlands is essential in many cases to the success of forest plantations.

Despite traditional problems with respect to market cycles, New Brunswick's forest products sector is currently in a relatively strong competitive position, particularly vis-à-vis the United States, given the prevailing value of the Canadian dollar. A major modernization effort over the past five years has greatly improved both the efficiency and environmental emissions of the province's pulp mills. There also has been considerable rationalization within the sawmill industry, leading to a better integration of harvesting with the pulp and paper industry. A number of the largest sawmills are operated by the pulp and paper companies and most supply residual wood chips to the pulp mills.

Recently, there have been new developments in the forest products sector which demonstrate the potential for further diversification in the industry. Construction is progressing on a major new coated-paper mill at Chatham, based on the combined output of the former Boise Cascade and Acadia Pulp and Paper mills. In addition, the Atlantic Waferboard Inc. plant at Chatham has re-opened using under-utilized poplar and a new technology that will make the product stronger and directly competitive with plywood.

The pulp and paper industry is, and will remain, heavily dependent upon the U.S. market. The newsprint market has been particularly strong in recent months, reflecting the strength of the U.S. economy. However, a decision by the European Economic Community (EEC) to limit duty-free entry of newsprint from non-EEC countries has dampened prospects for future growth in that market.

Through innovation, technology and market development, greater use could be made of the under-utilized hardwood species and in upgrading the manufacture of softwoods to produce higher-value-added products. The maintenance or improvement of forest sector productivity and competitiveness in terms of the labour and capital mix and other costs of production will help ensure New Brunswick's competitiveness in the all-important U.S. market.

The production of high-quality lumber and other wood products at reasonable cost may permit New Brunswick to be competitive in the EEC market where kiln-dried, high-quality lumber is a major product. As it is, New Brunswick competes in rough, green-lumber trade in this market. There is also the potential to develop new markets or expand existing markets in other countries, thereby moving away from New Brunswick's traditional dependence on the U.S. market.

The threat of countervailing duties on lumber exported to the United States has existed for a number of years and there is strong interest in the negotiation of trade arrangements that would eliminate these threats. However, those forest products making up the largest portion of the total value of forest-product trade already enter the United States duty-free.

iv) Minerals

New Brunswick is the most important producer in Canada of bismuth and antimony, ranks second in zinc, potash and peat moss, third in silver and lead and fifth in copper, salt and coal.

Currently, the provincial mineral sector is dominated by Brunswick Mining and Smelting Corporation Ltd. which operates a base-metal mine south of Bathurst and a lead smelter at Belledune. The company is the largest single producer of zinc in the world and in 1985 accounted for 80 percent of the total value of mineral production in New Brunswick.

The discovery of potash near Sussex during the early 1970s has led to the development of two mines and the potential exists for a third. Potash production is expected to reach a total of over two million tonnes annually when the two existing mines reach full production.

Coal is mined for the purpose of electrical generation at Minto. Antimony is produced in small quantities at Lake George near Fredericton. A tungsten mine at Mount Pleasant, near St. George, recently closed because of depressed tungsten prices and a poor long-term outlook.

There are extensive deposits of oil shale in Albert County which have drawn attention over the years, but commercialization is unlikely in the near future. The New Brunswick Electric Power Commission, in a joint venture with the federal Department of Energy, Mines and Resources (EM&R), is currently utilizing oil shale on an experimental basis in combination with high-sulphur Minto coal, using circulating fluidized bed combustion technology.

Horticultural peat from the northeast region of the province is recognized as being a high-quality product based on its pH value and nutritive content. The industry has expanded rapidly in recent years with the development of new bogs and the expansion of others. The industry

employs a maximum of 700 on a seasonal basis and exports 90 percent of its output to the United States. In addition to horticultural peat, the region also produces a number of secondary peat products such as peat pots and pellets.

The depressed state of world mineral prices has encouraged the development of a number of innovative mineral-extraction processes in an attempt to reduce production costs. New Brunswick's base-metal ores are fine-grained and mineralogically complex, resulting in low metal-recovery rates using established technologies. This, combined with depressed metal prices, has placed existing base-metal mines in a position of marginal profitability.

In an attempt to address this problem, a promising new sulphation roast leach (SRL) technology, developed on a laboratory scale by the New Brunswick Research and Productivity Council, is currently being tested on a pilot-plant scale in a \$19 million federal-provincial facility located in Chatham. In addition, a ferric chloride leach (FCL) technology being examined by Canmet (a branch of EM&R) may advance to the pilot-plant stage in 1986 with assistance from the Canada/New Brunswick Mineral Development Sub-agreement. If successful, these new technologies could lead to an increase in the profitability of existing base-metal mines and facilitate the development of additional known deposits, now uneconomic given current extraction technologies and prices.

Expectations are for the mining sector to remain relatively unchanged over the medium term. Currently, the best prospect for increased output is in potash production with the possibility of the development of a third mine in the early 1990s.

Employment levels in the mineral sector are not expected to change dramatically, although there will be some rationalization as is evidenced by Brunswick Mining and Smelting's recent announcement of a reduction of 300 jobs over the next three years.

A significant breakthrough with respect to either or both of the SRL and FCL processes could have a major impact on the economics of the base-metal mining sector and the overall growth of the provincial mining industry.

The immediate prospect is for a continuation of recent experience, i.e. depressed prices caused by both over-supply and soft demand. On a more positive note, there will be increased activity in exploration for gold and silver, especially in light of two recent gold discoveries in northern New Brunswick.

v) Fishery

New Brunswick's fishing industry is smaller than that of Nova Scotia or Newfoundland, but generally more diversified. Total output in the sector represents only six percent of total goods production as compared with an average of 17 percent in the other Atlantic provinces.

Because the processing sector is made up of a large number of independent producers and the most important species include higher-valued shellfish (lobster, crab and shrimp), the provincial fishing industry has not experienced the dramatic reversals which have plagued the large groundfish-processing companies that dominate the fisheries in Nova Scotia and Newfoundland.

Groundfish is caught, but it is not as important a catch as in Nova Scotia or Newfoundland, representing only 6.8 percent of the total value of fish landings in New Brunswick in 1984. Herring, which used to be a more important species, has declined dramatically over the last six years, although a profitable sardine-canning industry continues to be operated by Connors Bros. Ltd. in Blacks Harbour. Major fishing areas are in the northeast, along the Northumberland Strait and in the Bay of Fundy, particularly off the Fundy Isles.

Current fishery problems relate to the availability of new or additional resources to enable continued diversification within the New Brunswick fishing industry. The traditional mid-shore groundfish fleet has been replaced by fleets largely dependent on crab, while the once-lucrative shrimp supplement to the groundfish fishery has given way to inefficient operations of an aging but highly capitalized fleet. Processing plants, once highly diversified, have been forced into more specialized production with the attendant problems associated with volatile supplies and markets. Traditional processing dependencies on supplies landed in other provinces are threatened by initiatives to place production facilities at ports of landing. This may severely impact processing plant viability and employment in the lobster and crab sectors. Salmon stocks also are threatened by over-exploitation, resulting in restrictions on the recreational and commercial fisheries.

Significant interest has been generated in the development of an aquaculture industry within the province (salmonoids and shellfish). While still relatively modest in economic terms, the industry continues to grow rapidly and recently significant foreign investment has been attracted. Salmonoid culture (salmon, trout, char, "charmon") has been centered principally in the St. Andrews/Fundy Isles area, while shellfish culture (oysters, mussels) is centered in the northeast and Northumberland Strait.

Salmon producers have now overcome most of the initial difficulties experienced in developing the skills and techniques necessary to adapt to provincial growing conditions and have joined together in a co-operative

marketing venture known as "Atlantic Silver". A total of approximately 300 tonnes of salmon were marketed in 1985. Sea Farm New Brunswick Ltd. has completed a \$2.5-million salmon hatchery and is now marketing smolts. Spin-off sectors such as feed production have also begun to evolve.

There are some opportunities for expansion of output in the New Brunswick fishery through increased catches of under-utilized stocks (e.g. mackerel, Gulf shrimp), but most other traditional species are presently fully utilized with current yields now at their anticipated long-term levels. The processing sector in the southeast of the province already relies heavily on raw material from waters off other provinces.

Some employment adjustment with respect to the processing and harvesting sectors will be required to improve efficiency, adjust to changing market demands and reduce the degree of seasonal fluctuation in output and employment. In general, however, the New Brunswick fishery should be able to hold its own in terms of output and has the potential to increase value-added through the production of a wider variety of processed products.

The New Brunswick fishery does not depend heavily on species or products which are now being affected by U.S. countervail measures (saltfish, fresh groundfish). However, such measures will become a competitive threat if success with respect to current countervail initiatives encourages American fishermen to initiate action on all species and fish products exported from Atlantic Canada.

The major opportunity for long-term growth of the New Brunswick fishery lies in aquaculture development and will require the attraction of both technology and capital.

vi) Non-Resource-Based Manufacturing

By far the largest proportion of employment and output in the manufacturing sector is in industries based on the processing of natural resources. Nevertheless, an estimated 40 percent of total manufacturing output is non-resource dependent and consists of a surprisingly diverse range of products.

There are, as outlined in the following table, a number of large New Brunswick firms which form the backbone of the non-resource-based manufacturing sector in the province.

Table 15 - Leading Non-Resource Producers

<u>Firm</u>	<u>Product</u>	<u>Average Employment</u>	<u>Location</u>
Moosehead Breweries Ltd.	Beer	300	Saint John
Labatt-Oland's Brewery	Beer	175	Saint John
G.E. Barbour Ltd.	Tea, spices, misc. foods	250	Sussex
Brooke Bonde Inc.	Tea	105	Saint John
Atlantic Sugar Ltd.	Sugar	425	Saint John
Eastern Bakeries Ltd.	Bakery products	158	Moncton
Lanes Bakery Division	Bakery products	210	Moncton
Karnes Kitchens	Bakery products	103	Woodstock
Ganong Bros. Ltd.	Candy	240	St. Stephen
T.S. Simms & Co. Ltd.	Brooms, brushes, rollers	200	Saint John
Enterprise Fawcett Inc. and Enheat Inc., Fawcett Division	Furnaces and stoves	200	Sackville
Hartt Shoes	Shoes	155	Fredericton
Saint John Shipbuilding Ltd.	Ships	800	Saint John
Irving Oil Refinery	Petroleum products	425	Saint John
Domglass Inc.	Glass containers	225	Moncton
Atlantic Sleep Products	Mattresses	105	Moncton
Thomas Equipment Ltd.	Potato harvesters and industrial loaders	175	Centreville
Square D. Canada Electrical Equipment	Electrical circuit- breakers	115	Edmundston
Process Technology Ltd.	Semi-conductor processing equipment	126	Oromocto

As the table shows, the majority of these firms are in the food and beverage sector and, with the exception of one located in Edmundston, all are located in the southern part of the province, particularly Saint John. These firms represent nearly 13 percent of total employment in the entire manufacturing sector and generally are mature businesses operating in well-established market niches.

Moosehead Breweries Ltd., long established in the Maritimes market, has expanded rapidly in recent years as the result of an aggressive marketing campaign in the American market. A \$20-million expansion was undertaken in 1982 and the company now ranks as the second-largest seller of imported beer in the United States.

Saint John Shipbuilding Ltd., the province's largest single manufacturing employer, has undergone a major transformation within recent years with respect to all aspects of the company's operations. Major expansion and modernization projects undertaken during the 1970s and early 1980s established the company as Canada's most efficient shipbuilder and were instrumental in the company's successful bid to become the prime contractor for the Canadian Patrol Frigate Program.

Since that contract was signed in July 1983, the company has brought together a team of over 700 professionals to undertake the detailed design, engineering and project-management functions required to carry out the program and the yard has been further modernized with the introduction of plasma steel cutting machines, the latest CAD/CAM technology in the engineering division and up-to-date management information systems.

New Brunswick has a significant foothold in the microelectronics industry with the establishment of Process Technology Ltd. in Oromocto. Originally opened in March 1982 with four employees, the company has quickly grown to employ a total of 126 at present. However, a \$6.5-million expansion which is currently under way is projected to raise employment to more than 200. The company has pioneered the development and manufacture of equipment for depositing thin films on silicon and gallium-arsenide wafers and currently markets the equipment to major semi-conductor manufacturers world-wide. The company has established a research arm consisting of 15 employees and has developed a unique method for reducing the amount of hazardous exhaust gases in micro-chip chemical production units.

Beyond these relatively large firms, other non-resource-based manufacturing in the province tends to be carried out by a large number of small and medium-sized firms producing a wide variety of products on a small scale or custom basis for the provincial or Atlantic provinces markets. Several areas of potential growth are worthy of mention.

The province possesses a significant number of small but dynamic metal fabricating and machinery manufacturing firms. Many of these firms initially grew serving provincial markets but have branched out to supply export markets as well. Products range from smaller items such as industrial conveyors, gears, winches and drive chains, to potato harvesting equipment, log-skidders and municipal and airport snowblowers. After growing steadily since the mid-1970s, this sector went through a major adjustment in 1983 with the value of shipments falling by 4.2 percent due to recessionary pressures. After a period of cost-cutting and with improved economic conditions, growth of 17 percent was recorded in 1984.

The provincial government's Manufacturing Technology Centre (MTC) has been a key influence in assisting these and other manufacturers to adopt the latest in CAD/CAM technology, thereby improving productivity and competitiveness. Since 1983, provincial industries have experienced a 50 percent annual growth rate in the adoption of CAD/CAM technology.

An interesting development over the past few years has been the rapid growth of clothing manufacturing in northwestern New Brunswick. A total of ten new firms have been established in the area to undertake contract work for Quebec-based clothing manufacturers. These firms now employ an average of over 400 individuals each.

While McCain Foods Ltd. was established as a major processor in the agriculture sector, it has based its recent growth largely on the development of new products which are not dependent upon local agriculture output. These include such product lines as frozen cakes, pizza, lasagna and juices.

While some opportunities exist for further value-added in the processing of natural resources (e.g., fine-paper production, metal refining), output and employment related to natural-resource-based manufacturing and processing activity is unlikely to expand significantly. Future growth of the manufacturing sector will have to come primarily from non-resource-dependent firms.

Apart from a few notable exceptions, large-scale, non-resource-based manufacturing firms in the province are mature, stable and show limited potential for growth. The future of non-resource-based food processors could be negatively impacted in a free-trade arrangement by competition from American producers who would have significant cost advantages stemming from large-scale production. While the potential for expansion in small-scale, non-resource-based manufacturing firms is difficult to predict, a number of promising areas can be identified.

The ability of the province to achieve higher output and employment growth rates in the non-resource-based manufacturing sector will be a function of the health, competitiveness and innovativeness of larger established companies which already have good products, distribution channels, facilities and well-trained labour; the success of smaller and newer businesses in their efforts to take advantage of new product or technological opportunities; and the province's capacity to attract companies and to generate and support new ventures. In this regard, it will be important to foster an environment that encourages small business development, entrepreneurship and innovation.

vii) Energy

In the absence of access to supplies of natural gas, New Brunswick relies on electrical power and oil as its principal sources of energy in commercial, residential, transportation and industrial uses. Wood has become an increasingly important fuel for residential and some commercial heating applications.

Currently, the major sources of electrical power generated in the province are nuclear (46 percent), thermal (coal- and oil-firing, 32 percent)

and hydro (22 percent). Oil consumed within the province is imported and much of it is refined at the 27 000 cubic-metres-per-day Irving Oil Co. Ltd. refinery at Saint John. The energy sector has become an increasingly important contributor to goods production (13 percent versus 9.7 percent for Canada in 1984) and provincial export earnings. The value of provincial electrical power exports more than doubled between 1982 (\$152.9 million) and 1984 (\$333.6 million).

The New Brunswick Electric Power Commission (N.B. Power) has a history of innovation in the field of electric power generation and distribution. The commission has managed to moderate increases in provincial power rates through an aggressive program of pre-building capacity for export as a way to gain economies of scale that the small domestic market would not otherwise allow. Through two major interconnections with Hydro-Québec, power is purchased from that source and distributed for sale to Prince Edward Island, Nova Scotia or New England. Revenues from energy transactions with adjacent utilities have increased substantially in the past few years and now represent over 40 percent of utility revenue.

N.B. Power has a strong, efficient generating base, with 80 percent of its system's thermal and nuclear generating capacity commissioned within the past decade. Nevertheless, the company is actively pursuing a number of initiatives designed to evaluate the potential of alternative fuels for thermal generation, to reduce environmental emissions and to develop new capacity for export.

In co-operation with the federal Department of Energy, Mines and Resources, N.B. Power is currently undertaking major renovations to its Chatham generating station in order to undertake the first Canadian demonstration of circulating fluidized bed combustion (CFB) technology, using New Brunswick coal and oil-shale for fuel. It is hoped that the project will demonstrate that by using CFB technology, high-sulphur coal can be used to generate electricity in an economical and environmentally acceptable manner. If successful, the project could lead to a commercial-scale unit in the province by the early 1990s.

N.B. Power continues to examine the possibility of constructing a second nuclear unit at Point Lepreau. Market opportunities for such a facility are present in New England where utilities have indicated that purchase of power from a second reactor at Lepreau would be a preferred option for them. However, New England utility regulators are insisting that all risk in the construction of new capacity be assumed by utility shareholders instead of the rate-payers. Under such circumstances, New England utilities are unable to commit themselves to a long-term contract under conditions that would make it possible for N.B. Power to obtain financing for the project.

In terms of refinery capacity, the Irving Oil refinery at Saint John is by far the largest in Atlantic Canada, with a capacity that remains 30 percent greater than the combined output of the only two other refineries

in the region, both located at Halifax. The effects of energy conservation and a dramatic shift from oil to electricity in the home-heating market has severely cut into the market for the company's products in recent years. It is estimated that the refinery is currently operating at only 50 percent of capacity. Irving Oil has recently purchased one of the largest gasoline and oil distributors in Maine and this acquisition could expand the refinery's markets.

Energy costs in New Brunswick, while being low in comparison to other provinces in the Atlantic region, are nevertheless high by standards in other parts of Canada, particularly Ontario and Quebec. Power rate differentials, therefore, have a significant influence on the relative competitiveness of provincial industries, particularly such energy intensive industries as pulp and paper, mining and smelting. In addition, New Brunswick industry does not have access to relatively lower-cost supplies of natural gas available to Canadian producers located outside Atlantic Canada.

Investment planning in the energy sector is currently complicated by the reduction in the international price of oil relative to alternative fuels, particularly coal. Beyond this, the major influences on energy costs in New Brunswick are likely to be a continued access to Quebec power, the level and return on exports to the U.S. and the costs of compliance with measures to control acid rain.

viii) Services

The New Brunswick service sector has grown rapidly over the past decade and now accounts for over 68 percent of total output and approximately 64 percent of total employment in the economy. As has been the case elsewhere in Canada, growth of the service sector has been largely a function of such factors as increasing disposable incomes, increased female participation rates and changing life styles which have resulted in more services, traditionally provided within the home, being purchased in the marketplace. There also has been a growing trend in industry to purchase certain professional services that in the past had been performed in-house. Finally, innovation in the services industry has led to a rapid increase in the variety of services available in the marketplace, ranging from fast foods to aerobic dance classes.

While growth in the service sector, based on the above trends, has been important from employment-creation and income-redistribution viewpoints, it is nevertheless dependent on the growth of output and income in the province's basic sectors. By far the majority of service-sector activity in New Brunswick falls into this category.

More interesting from an economic development point of view has been the growth in output and employment in "traded" services which can, in their own right, act as primary generators of employment and income. For example, the tourist industry has grown considerably over the past decade and is an

important source of export-oriented earnings in the service sector. In addition to tourism, the province possesses significant strengths in areas such as resource management and research, computer-aided design and manufacturing (CAD/CAM), mineral-extraction technology and electronic data processing, upon which new traded-services industries are being built.

The University of New Brunswick offers one of the only CAD/CAM PhD programs in North America, while a Fredericton consulting firm has become a leader in the application of computerized process control technology to the manufacturing and processing sector and is active internationally.

A new joint initiative by Blue Cross of Atlantic Canada and the New Brunswick Telephone Company Ltd. (NBTel) will establish a major data-processing company in Moncton. Initially, the company will focus on provision of electronic data-processing (EDP) services to its two parent companies, but its longer-term strategy is to establish itself as a leader in the provision of EDP services for users throughout Atlantic Canada.

The new Maritime Forest Research Centre, presently under construction in Fredericton, will provide an important focal point for the province's substantial pool of knowledge and expertise in the field of forestry education, engineering, management and research. The new \$79.1-million facility will house the Maritime Forest Ranger School, new laboratories, greenhouses and offices for the Canadian Forestry Service, new research and teaching facilities for UNB's faculty of forestry and a saw-mill training facility, plus workshops and labs for the New Brunswick Forestry Department. Beyond the considerable employment generated by activity within the centre, it should also be a catalyst for the establishment and growth of commercial services in forestry management and research which can be marketed internationally.

As outlined previously, New Brunswick is establishing itself as a leader in research related to both enhanced mineral-recovery technology and circulating fluidized bed combustion technology. The successful conclusion of current pilot projects could lead to important opportunities for marketing the associated expertise and technology, both nationally and internationally.

It is unlikely that the New Brunswick service sector will continue to expand at the dramatic rate which has been recorded over the past decade. However, it will undoubtedly continue to expand faster than the economy as a whole. The tourism sector, which has displayed disappointing growth in recent years, could experience a surge of American visitors as a result of lower energy prices, the cheaper Canadian dollar and a growing perception of dangers associated with overseas travel.

Important opportunities exist for the expansion of output in the traded-services sector, particularly related to the development of new technologies and management expertise in the province's major resource sectors.

ix) Transportation

As is the situation throughout the Atlantic region, New Brunswick's location on the periphery of the major markets in Ontario, Quebec and New England heightens the importance of reliable, reasonably priced transportation to and from these markets in the economic development equation.

The highly dispersed nature of the provincial settlement pattern, resource endowments and processing industries places additional importance on the development and maintenance of good internal transportation links. Finally, the fact that New Brunswick acts as a conduit for the over-land flow of goods and passengers to and from the three other Atlantic provinces increases the overall pressure on the provincial transportation network.

This latter point has been particularly evident over the past decade with the rapid growth in tourism in Prince Edward Island and Nova Scotia, as well as New Brunswick, resulting in a summer traffic peak which is at or beyond the design capacity of some portions of the provincial highway system.

New Brunswick is the only Atlantic province which is served by both the Canadian Pacific and Canadian National railroads, with the west side of the port of Saint John being the eastern terminus of the CP line. Provincial rail traffic has undergone a long-term decline as more and more shippers have opted for the door-to-door express services offered by the trucking industry. Freight offerings to the railroads from points within the province declined from 4 404 000 metric tonnes in 1971 to 3 259 000 metric tonnes in 1983, while railroad freight shipments to the province declined from 5 224 000 metric tonnes in 1971 to only 3 999 000 metric tonnes in 1983. Rail passenger traffic has also experienced a steady decline over the past 10 to 15 years. However, the province once again has access to two Via Rail services with the restoration of the VIA Atlantic service in 1985.

The decline of both freight and passenger rail traffic in New Brunswick and elsewhere in the Atlantic, combined with technological changes in the rail industry, has resulted in a similar decline in the volume of repair and maintenance activity required on locomotives and rail cars. This has raised concerns with respect to the future of Canadian National's extensive repair facilities in Moncton. The Moncton "shops" currently employ over 1100 persons and generate expenditures of nearly \$31.5 million in the provincial economy. Recently, General Electric has shown interest in acquiring the CN facilities for manufacturing locomotives.

The level of air-passenger service within the province has been a matter of considerable public controversy recently. A major source of concern is associated with Eastern Provincial Airways's (now Canadian Pacific Air Lines Ltd.) introduction in the early 1980s of turbo-prop Hawker-Siddeley 748 service under its subsidiary, Air Maritime, for most connections from points within the province to Halifax. The Air Maritime service was plagued from the beginning with frequent delays and flight cancellations due to equipment failure.

Changes already apparent as the result of proposed deregulation of the airline industry promise some improvement with respect to the current level of intra-Atlantic service. Two new regional airlines, Air Atlantic and Air Nova, have been formed to provide commuter services using DASH 7 and 8 aircraft to and from points within the Atlantic and to feed into the long-haul routes of the major airlines at Halifax. Improved connections are also proposed for points in New England, including Portland, Bangor and Boston, and to smaller provincial airports at Charlo, Chatham and St. Leonard.

Despite the benefits these changes will bring to air travel within the region, the costs and benefits for New Brunswick of a "hub system" based on Halifax for air travel connections outside the region remain to be seen and there is concern that direct jet service from the principal New Brunswick centres to Montreal and Toronto could deteriorate further.

Since 1970, the federal and provincial governments have co-operated to undertake significant improvements to the New Brunswick highway system. The major focus of the improvements were Highway 1 from St. Stephen to Sussex, Highways 11 and 8 from Moncton to Campbellton and the completion of urban arterial highways in Saint John and Moncton. Overall, the number of kilometres of highway built to all-weather standards and capable of carrying the most efficient classes of trucks has more than doubled.

Improvement in the highway system has been accompanied by a significant growth in both heavy truck and vehicle traffic. The total number of registered trucks operating in the province has grown by nearly 200 percent in the period and average annual daily traffic (AADT) on the Trans-Canada Highway at the Quebec border has nearly doubled.

The Port of Saint John plays an important role in the provincial economy as the major port of entry and exit for water-borne cargoes and as a major eastern transportation terminus for the nation. The port is critical to the ability of many of the province's industries, particularly those in the resource sectors, to compete effectively in export markets and is, in its own right, a significant generator of jobs and income in the Saint John region.

In 1984, the composition of traffic through the Port of Saint John was as follows:

	<u>Tonnes ('000)</u>	<u>Percent of Total</u>
Forest Products	909	10.5
Containers	946	10.9
Dry Bulk	936	10.8
Liquid Bulk (primarily oil)	5 675	65.6
General Cargo	192	2.2

Traffic growth at the Port of Saint John was significant during the 1970s as major new container and forest product terminals were established. The 1980s, however, have brought a number of important technological changes to the shipping industry which will require aggressive new marketing efforts and the resolution of a number of outstanding problems if the port is to remain competitive.

Despite the fact that the port, on an operational basis, is one of the strongest in the Ports Canada system, the burden of past debt has prevented the port from meeting the self-sufficiency requirements for obtaining Local Port Corporation status. The port has asked the federal government to convert \$22.5 million of its present debt to equity, thereby giving the port the financial leeway to pursue new business opportunities aggressively.

Saint John has been handicapped in its competition with Halifax to capture important container business by the existence of rail parity, a CN/CP accord which establishes identical container rates from Montréal to Saint John and Halifax despite the fact that the distance from Montréal to Halifax is almost double the distance to Saint John. Recently, three container lines have announced their decision to relocate to Halifax. It is hoped that the introduction of the new National Transportation Act will lead to a realignment of these rates.

The passage of the Staggers Act in the United States, which paved the way for deregulation of the U.S. transportation sector, has led to a growing competitive threat from routings to and from central Canada through U.S. ports. American carriers have a significant advantage over Canadian carriers as a result of their ability to offer confidential rates. Again, it is hoped that the passage of the new National Transportation Act will provide a similar advantage to Canadian carriers.

x) Labour Market

As the last of the baby-boom generation passes into the 25-years-and-over category, labour-force growth from new entries to the working-age population has begun to decline. Therefore, labour-force growth is expected to be increasingly influenced by changes in participation rates of the existing working-age population. The participation rate for males has remained relatively constant at the 70 percent level and is not expected to change significantly during the remainder of the decade. However, female participation rates have shown a dramatic increase. Since 1970, this group's rate has risen 14.5 percent with much of the increase resulting from strong employment growth in services, a sector where women continue to occupy the majority of jobs. Strong growth forecast for the services sector, combined with improved access to employment opportunities for women through the removal of systemic barriers, training in non-traditional occupations and improved child care facilities should raise female participation rates even further.

Employment growth is expected to occur primarily in the trades, non-resource-based manufacturing, and community, business and personal services sectors. Part-time employment will continue to play an increasingly important role in the province's labour market as the services sector, where most part-time work is confined, is expected to continue to show the greatest increase in employment. Technological change is expected to have a limiting effect on employment growth, particularly in mining, logging, wood-processing, metal-working and financial services.

The productivity and competitiveness of the New Brunswick labour force will increasingly be a function of its ability to master and adapt to new technologies. In this regard, a high-quality labour force, in terms of education, training and work experience, can provide substantial economic comparative advantage. This advantage manifests itself through the generation of local entrepreneurial talent as well as the ability to attract investment from outside the province.

While New Brunswick can be characterized as having a "stable" and "productive" work force with respect to such variables as turn-over, flexibility and approach to labour/management relations, the fact remains that on average, the working-age population has less education, less training, and less experience than national averages. Only 6.8 percent of New Brunswickers have a university degree, compared to 9.7 percent for Canada as a whole, and 28.5 percent of the provincial working population has only a grade-eight education or less, compared to 20.2 percent nationally. The same situation applies to vocational training with proportionately fewer in New Brunswick having a post-secondary diploma. This situation reflects both lower levels of educational attainment and the fact that higher-educated and higher-trained New Brunswickers, particularly those aspiring to careers in management, have historically migrated elsewhere in search of employment.

Lower levels of education and training, combined with work histories that are characterized by less labour-force attachment, high incidences of seasonal and part-time employment as well as unemployment, result in a situation where many people in the labour force do not have the skills sought by employers. It can also contribute to lower levels of labour productivity and less flexibility in the face of the impacts of technological change. Consequently, upgrading the quality of the provincial labour force through increased emphasis on training and education will be an important element in addressing the high level of provincial unemployment.

In its response to unemployment, the federal government over the past decade has played an increasing role with respect to the labour market in the areas of training, job creation and unemployment insurance. The level of this involvement, particularly with respect to job creation and unemployment insurance, has brought with it growing concern about the creation of dependency on the public sector.

The Canadian Jobs Strategy is designed in part to address those concerns and to ensure that federal resources support the local initiatives of business, labour, communities and individuals. The new programs focus on training as a means to increase employment rather than short-term job creation by government. Accordingly, they rely more heavily on the private sector, generally combining formalized instruction with on-the-job experience. Programs are targeted toward youth, women re-entering the labour force, the long-term unemployed, unemployed workers affected by technological change and communities facing economic adjustment.

5. KEY ISSUES

Clearly, the future growth and development of the New Brunswick economy will be influenced by a variety of factors, including changes in the international environment. In this section, four areas have been identified as particularly important in strengthening the longer-run performance of the provincial economy.

1) Improving the Productivity and Competitiveness of the Resource Sectors

Despite rapid growth of the provincial service sector over the past decade and promising new opportunities in a number of non-resource-based manufacturing industries, the New Brunswick economy remains highly dependent upon natural resources and their primary processing. In recent years, significant rationalization and modernization have taken place within the province's resource sectors. Despite the current cyclical weaknesses with respect to such commodities as potatoes and base metals, the short- to medium-term outlook for the resource sectors appears relatively favourable at present. However, over the long term, and given the rapid pace of technological and market change, substantial new investment and innovation will be required to improve the productivity, competitiveness and contribution of these sectors to the provincial economy. This is particularly important to the maintenance of income and employment outside the main urban centres.

In the forestry sector, continuing effort will be required with respect to intensive forest management and forest protection in order to reduce or eliminate the impact of projected wood supply shortages, including research into new or improved methods and technology. In the processing sector, innovation with respect to products and processes will be important to maintain competitiveness, increase value-added and broaden the range of secondary wood and paper products currently being manufactured.

The further development and application of new mineral extraction technologies such as sulphation roast leach (SRL) and ferric chloride leach (FCL) hold the potential to improve the cost-competitiveness of the province's base-metal sector, while current experiments with respect to circulating fluidized bed combustion technology offer potential new opportunities for the exploitation of provincial coal and oil shale deposits.

In the agri-food sector, there will be continuing stress and adjustment as the sector responds to the financial situation. Over the medium- to long-term, efforts will be required to reduce soil degradation particularly in the potato-intensive growing areas and to move towards more optimal use of fertilizers and other inorganic inputs for increased competitiveness. The

move toward livestock feed sufficiency will demand efforts in new varietal development, new crop-management techniques and infrastructure development both on- and off-farm. The potential of enhanced free trade with the Americans could have significant impacts on both the primary and processing components of the agri-food sector.

Further rationalization of both harvesting and processing capacity can be expected in the fishery in order to maintain competitiveness and reduce seasonality. Pressure to introduce new technology in the processing sector will undoubtedly result in further erosion of current levels of employment, but duty-free access to the U.S. market would create significant opportunities for the production of higher-valued, secondary fish products. Successful exploitation of the province's significant aquaculture potential will require the attraction of new entrepreneurs, investment and technology.

Access to reliable, reasonably priced transportation will continue to be an important element in maintaining resource sector competitiveness.

ii) Ensuring a Positive Climate for Entrepreneurship and Investment

While the province's resource industries will undoubtedly continue to be the major contributors to goods production in the New Brunswick economy, capacity constraints and the introduction of new technology will limit their potential to create new employment opportunities. Increasingly, growth in the province's non-resource-based sectors will have to be relied upon to generate new jobs.

Despite a number of encouraging recent developments, important constraints to the rapid expansion of the non-resource-based sector remain. Factors such as a small internal market, remoteness from important external markets and relatively high energy costs must largely be accepted as part of the economic landscape. However, other factors such as limited business and management expertise, limited entrepreneurship and innovation, a generally risk-adverse climate, limited integration of economic activity and lower levels of training and education represent key elements in strengthening the role of the private sector.

In addition, better advantage can be taken of significant assets the province has with respect to its Maritimes location and ports, large established companies with leadership and expertise, bilingual capabilities and an attractive cost and quality of living.

The creation of an improved climate for entrepreneurship and investment is a long-term process and warrants re-examination of the wide range of economic and social factors which currently influence the decisions of residents and non-residents alike to establish, maintain or expand business enterprises within the province. Some important progress has already been made with respect to changing attitudes toward entrepreneurship in general.

As is the case elsewhere in Canada, there is evidence of a growing interest among the general public in the possibility of establishing businesses and in the successes of entrepreneurs. The challenge for public policy is to aid and abet such trends, thereby maximizing the potential for generating positive changes in provincial economic performance.

Among the factors warranting attention are the general level and incidence of taxation, the effectiveness of federal and provincial business assistance programs, access to venture capital, support for industrial innovation and technology development, the quality of management training, the relationship of unemployment insurance to work attachment and the extent of regulatory overburden.

iii) Achieving the Economic Benefits of Urban Growth

New Brunswick is somewhat unique among Canadian provinces (with the possible exception of Saskatchewan) in that it has neither a single dominant urban centre or an urban centre which would be ranked among those in the first tier of the Canadian urban hierarchy (Vancouver, Calgary, Winnipeg, Toronto, Montreal, Halifax and St. John's).

Increasingly, the growth of Canadian jobs and output is being concentrated in the larger urban centres where new industries have access to a wide range of goods and services. Technological change and the drive to reduce production costs have led to increasing specialization in manufacturing processes and increased economic integration. Today, businesses are, more than ever before, dependent upon one another for the supply of parts and services to the production process.

Over the years, three principal urban centres have evolved within New Brunswick -- Saint John, Moncton and Fredericton. While the three urban areas are located relatively close together and have a combined population of nearly 280 000, only Saint John's population exceeds 100 000. The division of the major elements of provincial, urban-oriented economic activity among the three centres limits the potential economic benefits of urban agglomeration and scale and the capacity of the province to compete for investment with other major Canadian or American centres. The lack of a principal urban centre within the first tier of the Canadian urban hierarchy may well have important implications for New Brunswick's profile as a place to invest or to do business.

Accordingly, New Brunswick's ability to improve the growth of its non-resource-based manufacturing and services sectors will depend upon the establishment of a "critical mass" of related economic activity in a number of priority areas in each of its three principal urban centres. Some progress toward this end has been made already as the three cities have gradually evolved to perform different but complementary roles in the provincial economy. Fredericton has traditionally been the seat of government and English-language higher education, and has developed a

significant concentration of expertise in the fields of research and development, forestry, engineering and, more recently, micro-electronics. Moncton has developed as an important centre for transportation, distribution, wholesale trade and, recently, electronic data processing, communications, and French-language higher education and services. Saint John has become the province's most important centre for heavy industry and manufacturing and is its major port. Further progress can be made by building on these comparative strengths and by improving the level of co-operation and interaction between the three cities, supported by improved communication and transportation.

iv) Securing Employment Through Investment in People

One of the most pervasive features of New Brunswick's recent economic performance has been the persistence of high rates of unemployment, particularly in areas of the province where seasonal employment predominates.

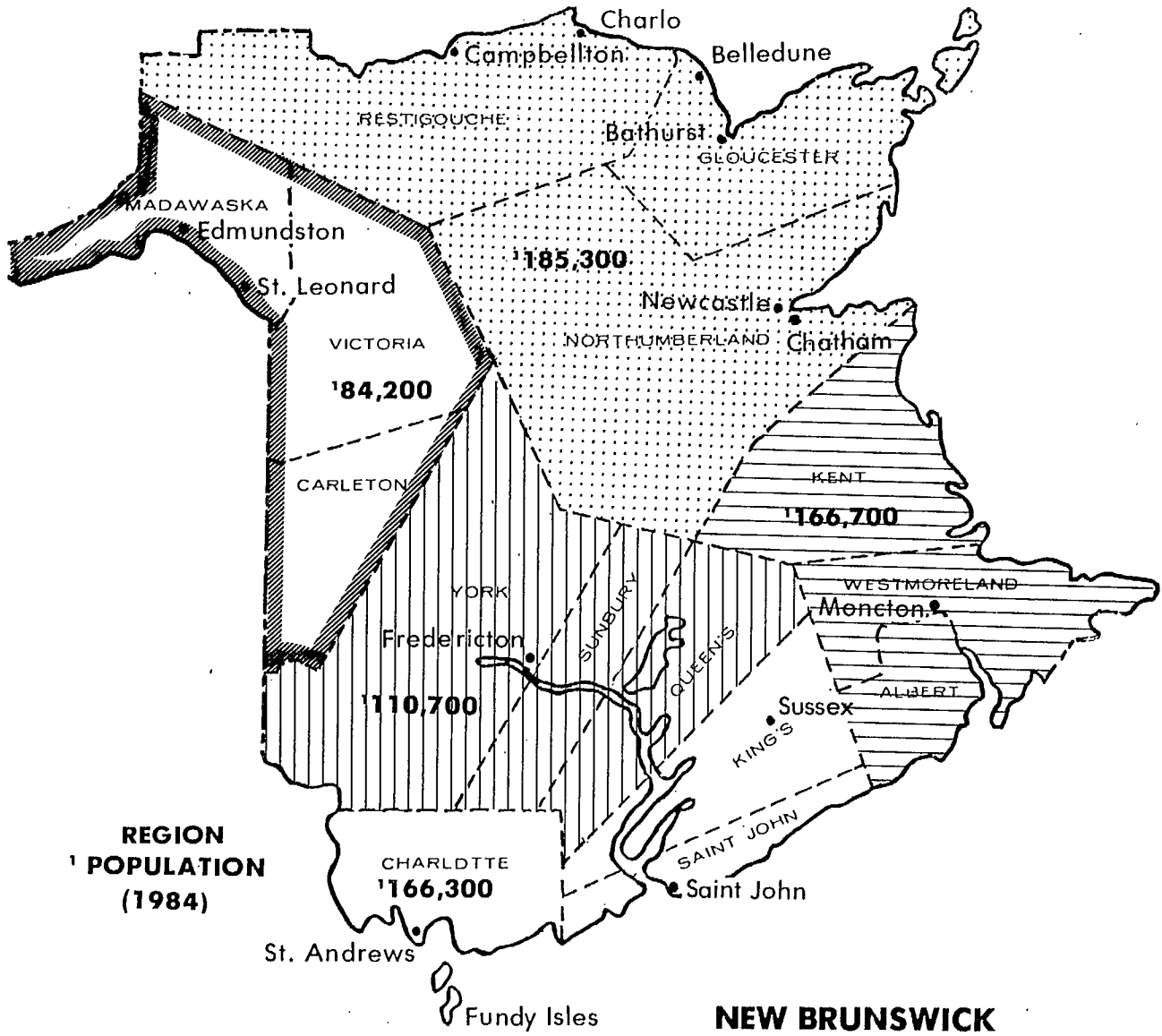
Part of the explanation for this trend is cyclical, relating to the period of recession in the 1980s. Part of the explanation is structural, associated with technological change and productivity improvement, particularly in the resource sectors. There also may be other factors at work having to do with the relationship between the design of social "safety nets" and work incentives.

Whatever the cause, it is clear that investment in people and efforts to improve the operation of the labour market are likely to be of increasing importance in enhancing employment opportunity and facilitating adjustment in the face of fast-paced technological change and continuing efforts to strengthen the competitiveness of the private sector.

Investment in people, whether by government, the private sector or individuals themselves, is an integral component of economic development. Investment in skills and training is a pre-requisite for productivity improvements and technological innovation. Adequacy of financial and managerial skills is often an influential factor in successful entrepreneurship and small business growth. Targeted training programs can provide a critical bridge from unemployment to re-employment.

New Brunswick has a well-developed educational system, and post-secondary institutions have geared their programming increasingly to the needs of the work force. Close co-operation between the public sector, business, labour and learning institutions, each with a stake in effective investments in people, is vital to achieve the flexibility, diversity and adaptability that is required to respond to the need of individuals and the workplace.

MAP: New Brunswick County and Region Boundaries



- NORTHWEST REGION** [diagonal lines]
- CENTRAL REGION** [vertical lines]
- SOUTHEAST REGION** [horizontal lines]
- NORTHEAST REGION** [dotted pattern]
- SOUTHWEST REGION** [white]

NEW BRUNSWICK
COUNTY AND REGION BOUNDARIES
PROVINCIAL POPULATION (1984)
713,000

