

# Appendix 2

## Economic and Demographic Projections Methodology and Assumptions

### Detailed Notes

An Appendix to  
LONG TERM POPULATION PROJECTIONS FOR  
NEWFOUNDLAND AND LABRADOR:  
A Consultative Approach  
DRAFT #2 — Final Report

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A Joint Project Between  
Economics and Statistics Branch, Department of Finance  
and  
Planning and Coordination Division, Atlantic Canada Opportunities Agency  
(November 2001)

## Long Term Economic Scenarios

The proposal governing this joint work recognized that economic and demographic scenarios are closely interrelated, and called for an integrated framework to ensure consistency between economic projections and corresponding population projections. Economic activity influences demographic developments mainly (and directly) through the migration component of population change, but could also influence natural population change. Therefore the economic projections were necessary to take into account future labour supply and demand issues and how this could reasonably be expected to translate into future migration trends.

The proposal called for a set of three economic scenarios (Low, Medium and High) providing an acceptable range of possible/potential future economic outcomes, and a set of three demographic scenarios linked to and consistent with the economic scenarios. This integrated approach was adopted to ensure that demographic projections took into account future labour market supply and demand requirements, as reflected in future employment levels. It also ensure that the demographic projections varied along the same lines as the economic scenarios, and were built up around the inputs agreed upon between ACOA and provincial Finance.

The economic and demographic projections are not, nor were they intended to be, a *view of the world* forecast (i.e., here's how we think the future will unfold) but rather are *what would happen if* projections (i.e., here is how the future would unfold given the underlying set of assumptions).

The three economic/demographic scenarios were built up around a set of assumptions that were generally agreed upon between ACOA and provincial Finance. The economic scenarios, which included projections for total population, were developed using the Newfoundland and Labrador Econometric Model (NALEM) described elsewhere in this report. The demographic scenarios were developed using the Population Projection System model (POPSS), also described elsewhere in this report. An iterative process between NALEM and POPSS ensured consistency between the two results. The work was coordinated by Dr. May, the project coordinator, and the results were presented at all consultations that took place as part of this project.

The key issues for Newfoundland and Labrador's long-term economic outlook revolve around assumptions for mega projects such as future oil developments, Voisey's Bay and Labrador Power and assumptions for future labour productivity (output per worker) growth. Other important factors included the outlook for current resource industries, assumptions for real wage growth, population levels and issues surrounding future labour supply including age and gender specific labour participation rates and the unemployment rate. All of these factors were varied across all three economic scenarios.

The mega projects included in each scenario are shown in the table below. For example, the Voisey's Bay project is included in all three scenarios, but in the low scenario only mining of the ovoid portion of the discovery is included. No processing of the ore in Newfoundland and Labrador is assumed to occur for this scenario. In the medium and high scenarios, full mining and processing are assumed to occur in this province. In the case of offshore gas development, it is excluded from the low scenario, starts in 2015 in the medium scenario and starts in 2011 in the high scenario.

## Potential Mega Projects

Projects	LOW	MEDIUM	HIGH
Voisey's Bay	L <sup>1</sup>	M	H
Labrador Power		M	H
Terra Nova	L	M	H
Whiterose	L	M	H
Hebron/Ben Nevis		M	H
Undis. Oil 1		M	H
Undis. Oil 2			H
Gas Project		M <sup>2</sup>	H <sup>3</sup>

1. Surface ovoid portion only.
2. Starts in 2015.
3. Starts in 2011.

### Major Industry Assumptions

Next a set of assumptions regarding current industries operating in the Province were developed. For example, it was assumed in all three scenarios that real GDP in the retail trade industry would grow in line with real consumer spending and real GDP in the newsprint industry would remain stable at current levels. Assumptions for the remaining industries are outline in the following table.

## Major Industry Assumptions

Agriculture	Grows with local demand for products
Primary Forestry	Stable
Fish Harvesting	Slight increase: groundfish increases marginally, shellfish stable
Mining (excluding Voisey's Bay)	Stable
Fish Products	Slight increase with small increase in groundfish landings
Newsprint	Stable
Other Manufacturing	Grows in line with demand for products
Construction	Mega projects and core capital spending
Utilities	Stable
Trade	Grows in line with real consumer spending
Transportation Storage & Comm.	Grows in line with overall economic activity
FIRE	Grows in line with overall economic activity
Other Commercial Services	Grows in line with overall economic activity
Education	Declines, but at a slower rate than enrollment
Health & Social Services	Increases with real health care spending
Public Administration	Stable real spending

### Output Per Worker Growth

Outside of the outlook for individual industries, another important determinant of future labour demand is labour productivity or output per worker trends in the future. The table below outlines historical growth rates for Canada, the United States and Newfoundland and Labrador.

### Output Per Worker All Industries Average Annual Compound Growth

	1947 - 99	1976 - 99	last 10 Yrs	last 5 Yrs
United States	1.81%	1.37%	1.70%	2.18%
Canada	n.a.	1.01%	1.12%	1.20%
Newfoundland	n.a.	1.07%	1.50%	0.85%

As the table shows, historical growth rates have varied and the assumptions made in this area have significant implications for labour requirements projections.

Taking into account past trends and the recent advancements in computer technology, the Department of Finance in consultation with Dr. May developed the following assumptions for growth in real output per worker by industry for the province over the next 16 years. The high (meaning high labour demand and thus high population level) scenario basically has output per

<b>Average Annual Growth Rates</b>				
<b>Real Output Per Worker</b>				
<b>Newfoundland &amp; Labrador</b>				
<b>2000 to 2016</b>				
	<u>1984 - 99</u>	<u>High</u>	<u>Medium</u>	<u>Low</u>
<b>Agriculture</b>	0.5	1.0	1.0-1.5	1.0-2.0
<b>Primary Forestry</b>	-1.7	1.0	1.0-2.0	1.0-2.0
<b>Fish Harvesting</b>	-4.8	1.0	1.0-2.0	1.0-2.0
<b>Mining</b>	2.9	1.0-1.5	1.0-2.0	1.0-2.5
<b>Fish Products</b>	-0.7	1.0	1.0-2.0	1.0-2.0
<b>Newsprint</b>	0	1.0-1.5	1.0-2.0	1.0-2.5
<b>Other Manufacturing</b>	-0.1	1.0	1.0-1.5	1.0-2.0
<b>Construction</b>	-1.9	0.5-1	1-1.5	1.0-2.0
<b>Utilities</b>	-1.5	1.0	1-1.5	1.0-2.0
<b>Trans Storage &amp; Comm</b>	2.2	1.0	1.5	1.0-2.0
<b>Fire</b>	2.2	1.0	1.5	1.0-2.0
<b>Trade</b>	1.7	1.0	1.3-1.8	1.0-2.0
<b>Other Commercial Services</b>	-1.1	0.5	1.0	1.0-1.5
<b>Education</b>	-0.8	0.0	0.0	0.0
<b>Health &amp; Social Services</b>	-2.9	0.0	0.5	1.0
<b>Public Admin.</b>	1.6	0.5	0.5	1.0

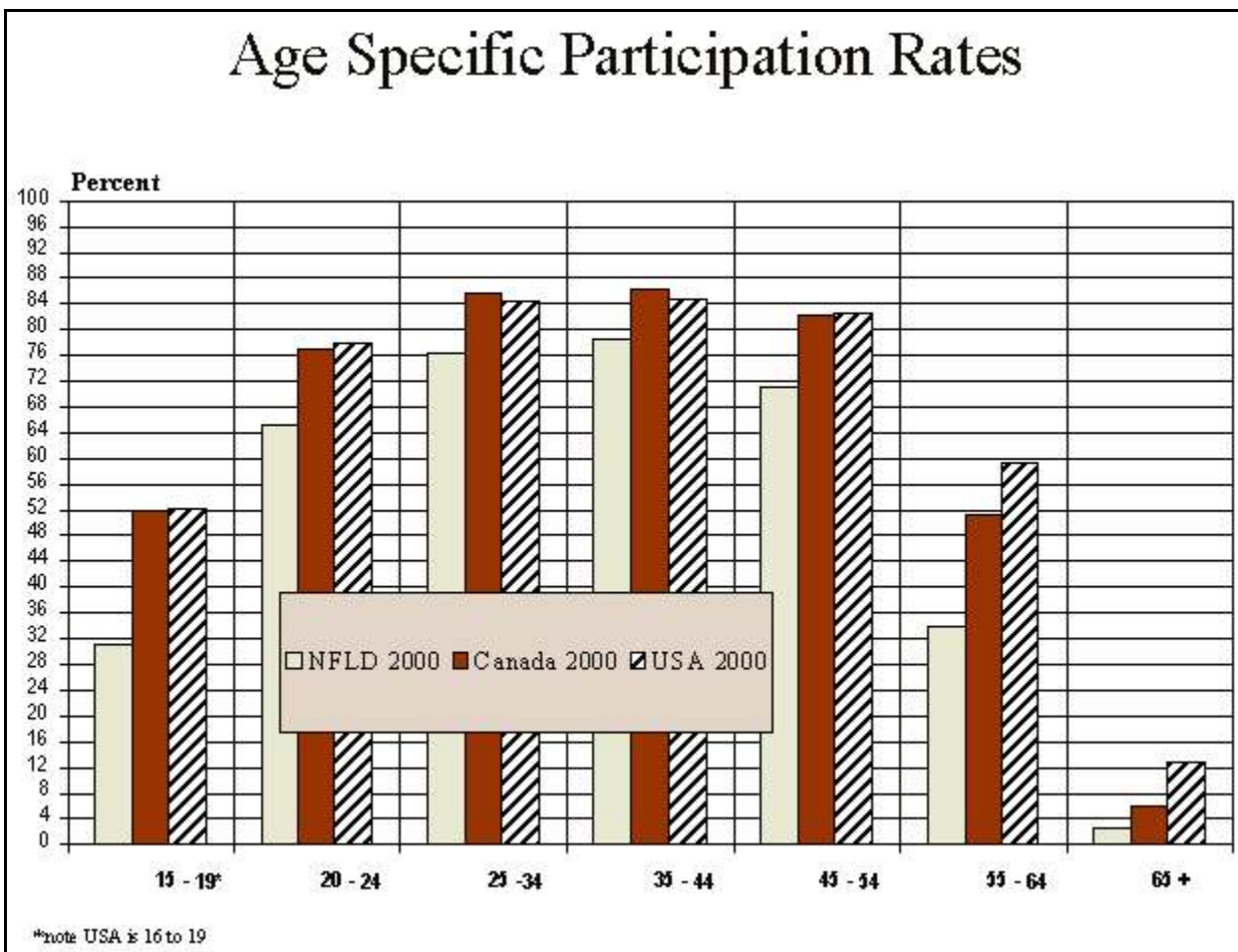
worker growing, on average, in line with the historical average for Newfoundland and Canada. The low (meaning low demand for labour and thus low population level) scenario assumes output per worker growth closer to the US long-term average. The medium scenario is basically in the middle of these two. For industries that show a range, growth in output per worker starts at the lower point of the range in 2001 and gradually trends to upper point of the range by 2010. The details for each industry are outlined in the table.

### **Real Wages**

Real wage rates for each industry are assumed to grow by a minimum of one percent per year. For industries where growth in output per worker is stronger than one percent per year, real wages grow in line with real output per worker.

## Labour Force

Once real output, employment, and wage rate growth have been determined the economic forecast is nearly complete. The final pieces to complete the process are assumptions regarding participation rates (age specific participation rates) and the unemployment rate. Once these two factors are determined, then labour force and the population levels required to supply the labour force can be estimated. The following chart shows age specific participation rates for Newfoundland, Canada, and the United States for the year 2000. It shows that Newfoundland and Labrador's participation rates are well below that of Canada and the US across all age groups. Most of Canada's participation rates are very close to that of the US except for age groups 55 and over. Given that the US labour market was close to full employment in 2000, it was assumed that age specific rates will not get much higher than those of the US. In addition, the seasonal nature of many industries, and thus the over dependence on seasonal employment in Newfoundland and Labrador is a major reason why participation rates are lower. This is not expected to change dramatically over the forecast period.



The next table shows the assumptions made regarding the change in age specific participation rates in Newfoundland and Labrador over the forecast period. For example, in the medium case current participation rates are assumed to increase gradually such that by 2020 the

gain, relative to current rates, would equal one half of the current Newfoundland - Canada gap. For the 55 to 64 age group, the Newfoundland - US gap was used.

<b>Age &amp; Gender</b>	
<b><u>Participation Rates in 2020</u></b>	
Low	Increase by 25% of 2000 Can-NF Gap*
Medium	Increase by 50% of 2000 Can-NF Gap*
High	Increase by 75% of 2000 Can-NF Gap*
* NFLD - US gap for 55 to 64 age groups.	

**Summary**

The economic projections were developed with the assumptions outlined above utilizing the Newfoundland and Labrador Econometric Model (NALEM). The model is essentially a neo-classical Keynesian synthesis where real GDP is modelled on an expenditure basis, but limited by capital stock constraints and, to some degree, by labour supply constraints. Most of the export components of final demand are determined by local resource constraints and are essentially exogenous. The service sector final demands are determined by income and/or population levels.

The various combinations of assumptions produced three economic scenarios with differing labour force and population requirements in 2016. The demographic scenarios were developed by choosing three alternative fertility rate assumptions, and three alternative life expectancy assumptions and combining them with the economic scenarios. Through an iterative process between the Department of Finance’s population projection model, POPPS, and NALEM the population projections and the economic projections were adjusted back and forth, via net-migration in POPPS and via total population in NALEM, until the two were consistent with each other.

**Results**

The results of the projections show that labour requirements are very sensitive to assumptions regarding output per worker and participation rates. All three scenarios show a continued shifting of employment towards the service sector. Annual real GDP growth ranges from 1.9% in the high scenario to 0.9% in the low scenario. Employment growth ranges from 0.7% per year in the high case to -0.5% in the low case and the resulting population levels range from 532,000 in the high case to 496,000 in the low case. A summary of the changes in main indicators are shown in the table below.

# Economic Scenarios

## Main Indicators 2016

	<u>2000*</u>	<u>High</u>	<u>Medium</u>	<u>Low</u>
Real GDP (\$M92)	11,852	15,952	15,230	13,618
Compound Growth	2.3%	1.87%	1.58%	0.87%
Employment (000's)	204.6	229	208	189
Compound Growth	1.0%	0.70%	0.11%	-0.48%
Unemployment Rate %	16.7	11.3	12.2	15.1
Labour Force (000's)	245.6	258	237	223
Compound Growth	1.2%	0.3%	-0.2%	-0.6%
Population (000's)	538.8	532.2	514.2	496.4
Compound Growth	-0.2%	-0.1%	-0.3%	-0.5%
Average Output/PY (\$92's)	57,928	69,751	73,186	71,939
Compound Growth	1.2%	1.17%	1.47%	1.36%
TFR	1.27	Trend to 1.4	Constant (1.27)	Trend to 1.0
* Percent Change is average compound growth rate from 1976 to 2000.				

# Key Economic Indicators Newfoundland and Labrador

Long -Term Forecast: High Scenario

	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
GDP at Market Prices (\$ Millions)	14,074	14,113	15,101	15,302	16,094	17,248	18,159	18,914	19,153
% Change	16.2	0.3	7.0	1.3	5.2	7.2	5.3	4.2	1.3
Real GDP at Market Prices (\$1992 Millions)	11,852	12,094	12,774	13,018	13,519	14,155	14,422	14,710	14,751
% Change	5.3	2.0	5.6	1.9	3.9	4.7	1.9	2.0	0.3
Adjusted Real GDP at Market Prices (\$1992 Millions)	10,964	11,179	11,155	11,393	11,646	11,816	12,143	12,487	12,694
% Change	3.5	2.0	-0.2	2.1	2.2	1.5	2.8	2.8	1.7
GDP Deflator (1992 = 100)	118.7	116.7	118.2	117.5	119.0	121.8	125.9	128.6	129.8
% Change	10.4	-1.7	1.3	-0.6	1.3	2.4	3.3	2.1	1.0
Consumer Price Index (1992=100)	113.3	115.0	117.0	119.1	121.2	123.4	125.7	128.1	130.5
% Change	3.0	1.5	1.7	1.8	1.8	1.8	1.8	1.9	1.9
Personal Income (\$ Millions)	11,087	11,517	11,747	12,206	12,653	13,077	13,613	14,200	14,725
% Change	4.4	3.9	2.0	3.9	3.7	3.4	4.1	4.3	3.7
% Change, real	1.4	2.3	0.3	2.1	1.8	1.5	2.2	2.4	1.8
Disposable Income (\$ Millions)	8,823	9,098	9,204	9,548	9,915	10,246	10,670	11,142	11,569
% Change	4.4	3.1	1.2	3.7	3.8	3.3	4.1	4.4	3.8
% Change, real	1.4	1.6	-0.5	1.9	2.0	1.5	2.3	2.5	2.0
Retail Sales (\$ Millions)	4,496	4,621	4,587	4,743	4,909	5,047	5,240	5,417	5,572
% Change	6.5	2.8	-0.7	3.4	3.5	2.8	3.8	3.4	2.9
% Change, real	2.7	1.1	-2.4	1.4	1.6	1.2	2.1	1.6	1.1
Housing Starts	1,459	1,607	1,478	1,574	1,653	1,711	1,869	1,983	2,083
% Change	6.4	10.2	-8.1	6.5	5.0	3.5	9.3	6.0	5.1
Employment ('000s)	204.6	207.1	204.1	205.9	207.9	209.1	213.1	216.0	217.2
% Change	-0.1	1.2	-1.4	0.9	1.0	0.5	1.9	1.4	0.6
Labour Force ('000s)	245.6	248.3	248.2	248.0	248.5	248.9	250.7	251.9	252.4
% Change	-0.4	1.1	0.0	-0.1	0.2	0.2	0.7	0.5	0.2
Unemployment Rate (%)	16.7	16.6	17.8	17.0	16.3	16.0	15.0	14.3	14.0
Population ('000s)	538.8	538.9	537.4	535.5	534.3	532.8	532.6	532.9	533.4
% Change	-0.4	0.0	-0.3	-0.4	-0.2	-0.3	0.0	0.1	0.1
Capital Investment	3,218	3,218	3,410	3,702	4,738	4,501	3,812	4,020	5,682
% Change	-8.1	0.0	6.0	8.5	28.0	-5.0	-15.3	5.4	41.3
% Change Real	-5.3	1.4	3.6	6.7	22.6	-4.3	-12.3	4.3	30.1
Labour Income (\$ Millions)	6,462	6,723	6,800	7,083	7,388	7,660	8,009	8,393	8,707
% Change	6.5	4.0	1.2	4.2	4.3	3.7	4.6	4.8	3.8

Note: Adjusted GDP excludes income that will be earned by the non-resident owners of Newfoundland mega-projects to better reflect growth in economic activity that generates income for residents. It differs from actual GDP only from 1997 forward.

Source: Economic & Statistics Branch (Economic Research and Analysis), Department of Finance  
Last updated: April 9, 2001

# Key Economic Indicators Newfoundland and Labrador

Long -Term Forecast: High Scenario

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
GDP at Market Prices (\$ Millions)	19,089	20,534	21,203	22,150	22,799	23,522	23,867	24,716
% Change	-0.3	7.6	3.3	4.5	2.9	3.2	1.5	3.6
Real GDP at Market Prices (\$1992 Millions)	14,466	14,893	14,941	15,455	15,556	15,728	15,714	15,952
% Change	-1.9	2.9	0.3	3.4	0.7	1.1	-0.1	1.5
Adjusted Real GDP at Market Prices (\$1992 Millions)	12,708	12,810	13,046	13,653	13,741	13,921	14,011	14,311
% Change	0.1	0.8	1.8	4.7	0.6	1.3	0.6	2.1
GDP Deflator (1992 = 100)	132.0	137.9	141.9	143.3	146.6	149.6	151.9	154.9
% Change	1.6	4.5	2.9	1.0	2.3	2.0	1.6	2.0
Consumer Price Index (1992=100)	132.8	135.2	137.8	140.5	143.5	146.7	149.9	153.2
% Change	1.8	1.8	1.9	2.0	2.1	2.2	2.2	2.2
Personal Income (\$ Millions)	15,095	15,532	16,011	16,966	17,573	18,297	18,933	19,843
% Change	2.5	2.9	3.1	6.0	3.6	4.1	3.5	4.8
% Change, real	0.7	1.1	1.2	3.9	1.4	1.9	1.3	2.6
Disposable Income (\$ Millions)	11,871	12,226	12,615	13,383	13,879	14,467	14,991	15,727
% Change	2.6	3.0	3.2	6.1	3.7	4.2	3.6	4.9
% Change, real	0.8	1.1	1.3	4.0	1.6	2.0	1.4	2.7
Retail Sales (\$ Millions)	5,651	5,778	5,928	6,290	6,458	6,684	6,860	7,160
% Change	1.4	2.2	2.6	6.1	2.7	3.5	2.6	4.4
% Change, real	-0.2	0.5	0.8	4.1	0.5	1.3	0.4	2.1
Housing Starts	2,030	2,015	2,009	2,085	2,074	2,107	2,092	2,171
% Change	-2.5	-0.7	-0.3	3.8	-0.6	1.6	-0.7	3.7
Employment ('000s)	216.6	217.3	217.9	223.5	223.9	225.5	225.6	228.7
% Change	-0.3	0.3	0.3	2.6	0.2	0.7	0.1	1.4
Labour Force ('000s)	253.1	254.0	254.5	256.8	257.2	257.4	256.9	257.7
% Change	0.3	0.3	0.2	0.9	0.2	0.1	-0.2	0.3
Unemployment Rate (%)	14.4	14.4	14.4	12.9	13.0	12.4	12.2	11.3
Population ('000s)	533.5	533.1	532.6	531.6	531.5	531.6	531.7	532.2
% Change	0.0	-0.1	-0.1	-0.2	0.0	0.0	0.0	0.1
Capital Investment	5,509	5,090	3,864	6,076	5,621	5,846	5,970	6,273
% Change	-3.0	-7.6	-24.1	57.3	-7.5	4.0	2.1	5.1
% Change Real	-3.4	-7.2	-18.4	39.6	-6.2	2.5	0.8	3.2
Labour Income (\$ Millions)	8,876	9,095	9,308	9,953	10,265	10,664	10,985	11,527
% Change	1.9	2.5	2.3	6.9	3.1	3.9	3.0	4.9

Note: Adjusted GDP excludes income that will be earned by the non-resident owners of Newfoundland mega-projects to better reflect growth in economic activity that generates income for residents. It differs from actual GDP only from 1997 forward.

Source: Economic & Statistics Branch (Economic Research and Analysis), Department of Finance  
Last updated: April 9, 2001

# Key Economic Indicators

## Newfoundland and Labrador

### Long -Term Forecast: Medium Scenario

	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
GDP at Market Prices (\$ Millions)	14,074	14,085	15,058	15,246	16,011	17,028	17,800	18,474	18,753
% Change	16.2	0.1	6.9	1.3	5.0	6.3	4.5	3.8	1.5
Real GDP at Market Prices (\$1992 Millions)	11,852	12,073	12,745	12,981	13,462	13,953	14,095	14,323	14,433
% Change	5.3	1.9	5.6	1.9	3.7	3.6	1.0	1.6	0.8
Adjusted Real GDP at Market Prices (\$1992 Millions)	10,964	11,159	11,125	11,356	11,589	11,617	11,821	12,107	12,381
% Change	3.5	1.8	-0.3	2.1	2.0	0.2	1.8	2.4	2.3
GDP Deflator (1992 = 100)	118.7	116.7	118.1	117.5	118.9	122.0	126.3	129.0	129.9
% Change	10.4	-1.8	1.3	-0.6	1.3	2.6	3.5	2.1	0.7
Consumer Price Index (1992=100)	113.3	115.0	117.0	119.1	121.2	123.4	125.6	128.0	130.3
% Change	3.0	1.5	1.7	1.8	1.8	1.8	1.8	1.9	1.8
Personal Income (\$ Millions)	11,087	11,476	11,682	12,119	12,530	12,805	13,185	13,665	14,199
% Change	4.4	3.5	1.8	3.7	3.4	2.2	3.0	3.6	3.9
% Change, real	1.4	2.0	0.1	1.9	1.6	0.4	1.1	1.7	2.0
Disposable Income (\$ Millions)	8,823	9,070	9,160	9,490	9,832	10,050	10,358	10,751	11,191
% Change	4.4	2.8	1.0	3.6	3.6	2.2	3.1	3.8	4.1
% Change, real	1.4	1.3	-0.7	1.8	1.8	0.4	1.2	1.9	2.2
Retail Sales (\$ Millions)	4,496	4,609	4,567	4,718	4,875	4,953	5,089	5,239	5,418
% Change	6.5	2.5	-0.9	3.3	3.3	1.6	2.8	2.9	3.4
% Change, real	2.7	0.8	-2.6	1.3	1.4	0.0	1.0	1.1	1.7
Housing Starts	1,459	1,514	1,455	1,551	1,625	1,636	1,748	1,845	1,975
% Change	6.4	3.7	-3.9	6.6	4.7	0.7	6.8	5.5	7.0
Employment ('000s)	204.6	206.0	202.1	203.2	204.2	202.9	204.2	205.2	206.0
% Change	-0.1	0.7	-1.9	0.5	0.5	-0.6	0.7	0.5	0.4
Labour Force ('000s)	245.6	247.1	246.5	245.6	245.5	244.5	244.6	244.3	244.0
% Change	-0.4	0.6	-0.2	-0.3	-0.1	-0.4	0.0	-0.1	-0.1
Unemployment Rate (%)	16.7	16.6	18.0	17.3	16.8	17.0	16.5	16.0	15.6
Population ('000s)	538.8	536.4	534.1	531.4	529.3	526.4	524.1	522.0	520.4
% Change	-0.4	-0.4	-0.4	-0.5	-0.4	-0.6	-0.4	-0.4	-0.3
Capital Investment	3,218	3,206	3,381	3,664	4,652	4,021	3,112	3,197	4,918
% Change	-8.1	-0.4	5.5	8.4	26.9	-13.6	-22.6	2.7	53.8
% Change Real	-5.3	1.0	3.1	6.5	21.7	-12.0	-18.2	2.1	38.3
Labour Income (\$ Millions)	6,462	6,705	6,771	7,045	7,329	7,485	7,722	8,040	8,390
% Change	6.5	3.8	1.0	4.0	4.0	2.1	3.2	4.1	4.4

Note: Adjusted GDP excludes income that will be earned by the non-resident owners of Newfoundland mega-projects to better reflect growth in economic activity that generates income for residents. It differs from actual GDP only from 1997 forward.

Source: Economic & Statistics Branch (Economic Research and Analysis), Department of Finance

Last updated: April 9, 2001

# Key Economic Indicators

## Newfoundland and Labrador

### Long -Term Forecast: Medium Scenario

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
GDP at Market Prices (\$ Millions)	18,723	20,139	20,465	21,009	21,126	21,413	22,075	22,864
% Change	-0.2	7.6	1.6	2.7	0.6	1.4	3.1	3.6
Real GDP at Market Prices (\$1992 Millions)	14,213	14,767	14,735	14,869	14,732	14,703	15,002	15,230
% Change	-1.5	3.9	-0.2	0.9	-0.9	-0.2	2.0	1.5
Adjusted Real GDP at Market Prices (\$1992 Millions)	12,459	12,686	12,843	13,130	13,123	13,221	13,660	14,032
% Change	0.6	1.8	1.2	2.2	0.0	0.7	3.3	2.7
GDP Deflator (1992 = 100)	131.7	136.4	138.9	141.3	143.4	145.6	147.1	150.1
% Change	1.4	3.5	1.8	1.7	1.5	1.6	1.0	2.0
Consumer Price Index (1992=100)	132.7	135.0	137.6	140.3	143.3	146.4	149.6	152.9
% Change	1.8	1.8	1.9	2.0	2.1	2.2	2.2	2.2
Personal Income (\$ Millions)	14,580	15,216	15,756	16,354	16,812	17,372	18,204	18,934
% Change	2.7	4.4	3.5	3.8	2.8	3.3	4.8	4.0
% Change, real	0.9	2.5	1.6	1.8	0.7	1.1	2.6	1.8
Disposable Income (\$ Millions)	11,506	12,023	12,468	12,963	13,349	13,815	14,496	15,097
% Change	2.8	4.5	3.7	4.0	3.0	3.5	4.9	4.1
% Change, real	1.0	2.7	1.8	1.9	0.8	1.3	2.7	1.9
Retail Sales (\$ Millions)	5,532	5,752	5,913	6,100	6,217	6,386	6,686	6,920
% Change	2.1	4.0	2.8	3.2	1.9	2.7	4.7	3.5
% Change, real	0.4	2.3	1.0	1.2	-0.2	0.5	2.4	1.2
Housing Starts	1,961	2,027	2,045	2,064	2,014	2,002	2,073	2,102
% Change	-0.7	3.4	0.9	1.0	-2.5	-0.6	3.5	1.4
Employment ('000s)	205.1	207.1	207.0	207.7	205.8	205.1	207.3	208.1
% Change	-0.4	1.0	0.0	0.3	-0.9	-0.3	1.1	0.4
Labour Force ('000s)	242.8	242.7	241.7	241.1	239.4	238.0	237.7	237.1
% Change	-0.5	-0.1	-0.4	-0.2	-0.7	-0.6	-0.1	-0.3
Unemployment Rate (%)	15.5	14.7	14.4	13.9	14.0	13.8	12.8	12.2
Population ('000s)	518.7	517.6	517.1	516.7	515.9	514.8	514.2	514.2
% Change	-0.3	-0.2	-0.1	-0.1	-0.1	-0.2	-0.1	0.0
Capital Investment	5,013	4,904	3,939	4,205	4,229	4,153	5,971	6,192
% Change	1.9	-2.2	-19.7	6.8	0.6	-1.8	43.8	3.7
% Change Real	1.1	-1.4	-14.5	5.0	-0.3	-2.1	28.8	1.8
Labour Income (\$ Millions)	8,595	9,009	9,294	9,639	9,844	10,130	10,643	11,052
% Change	2.4	4.8	3.2	3.7	2.1	2.9	5.1	3.8

Note: Adjusted GDP excludes income that will be earned by the non-resident owners of Newfoundland mega-projects to better reflect growth in economic activity that generates income for residents. It differs from actual GDP only from 1997 forward.

Source: Economic & Statistics Branch (Economic Research and Analysis), Department of Finance

Last updated: April 9, 2001

# Key Economic Indicators

## Newfoundland and Labrador

### Long -Term Forecast: Low Scenario

	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
GDP at Market Prices (\$ Millions)	14,074	14,079	15,054	15,239	15,749	16,454	17,163	17,784	18,051
% Change	16.2	0.0	6.9	1.2	3.3	4.5	4.3	3.6	1.5
Real GDP at Market Prices (\$1992 Millions)	11,852	12,066	12,742	12,975	13,231	13,524	13,689	13,916	13,938
% Change	5.3	1.8	5.6	1.8	2.0	2.2	1.2	1.7	0.2
Adjusted Real GDP at Market Prices (\$1992 Millions)	10,964	11,151	11,123	11,351	11,521	11,514	11,741	12,026	12,214
% Change	3.5	1.7	-0.3	2.1	1.5	-0.1	2.0	2.4	1.6
GDP Deflator (1992 = 100)	118.7	116.7	118.1	117.4	119.0	121.7	125.4	127.8	129.5
% Change	10.4	-1.7	1.3	-0.6	1.4	2.2	3.0	1.9	1.3
Consumer Price Index (1992=100)	113.3	115.0	117.0	119.1	121.2	123.4	125.6	128.0	130.3
% Change	3.0	1.5	1.7	1.8	1.8	1.8	1.8	1.9	1.8
Personal Income (\$ Millions)	11,087	11,467	11,672	12,100	12,450	12,675	13,047	13,498	13,932
% Change	4.4	3.4	1.8	3.7	2.9	1.8	2.9	3.5	3.2
% Change, real	1.4	1.9	0.1	1.8	1.1	0.0	1.1	1.6	1.4
Disposable Income (\$ Millions)	8,823	9,064	9,155	9,478	9,775	9,958	10,264	10,638	11,004
% Change	4.4	2.7	1.0	3.5	3.1	1.9	3.1	3.7	3.4
% Change, real	1.4	1.2	-0.7	1.7	1.4	0.1	1.2	1.7	1.6
Retail Sales (\$ Millions)	4,496	4,606	4,563	4,710	4,841	4,901	5,043	5,187	5,331
% Change	6.5	2.4	-0.9	3.2	2.8	1.2	2.9	2.9	2.8
% Change, real	2.7	0.8	-2.6	1.2	0.8	-0.4	1.1	1.1	1.0
Housing Starts	1,459	1,510	1,451	1,542	1,592	1,589	1,706	1,799	1,900
% Change	6.4	3.5	-3.9	6.3	3.2	-0.1	7.3	5.5	5.6
Employment ('000s)	204.6	205.9	201.9	202.7	202.6	200.3	201.3	201.7	201.0
% Change	-0.1	0.6	-1.9	0.4	-0.1	-1.1	0.5	0.2	-0.3
Labour Force ('000s)	245.6	247.0	246.3	245.3	244.7	243.1	242.8	242.1	240.9
% Change	-0.4	0.6	-0.3	-0.4	-0.3	-0.6	-0.1	-0.3	-0.5
Unemployment Rate (%)	16.7	16.7	18.0	17.4	17.2	17.6	17.1	16.7	16.6
Population ('000s)	538.8	536.4	534.0	531.2	528.8	525.2	522.3	519.6	517.0
% Change	-0.4	-0.4	-0.4	-0.5	-0.4	-0.7	-0.6	-0.5	-0.5
Capital Investment	3,218	3,189	3,380	3,662	3,707	3,055	2,815	3,148	3,455
% Change	-8.1	-0.9	6.0	8.3	1.2	-17.6	-7.9	11.9	9.7
% Change Real	-5.3	0.5	3.7	6.5	0.6	-14.8	-5.6	8.9	7.3
Labour Income (\$ Millions)	6,462	6,698	6,764	7,030	7,265	7,385	7,622	7,922	8,195
% Change	6.5	3.7	1.0	3.9	3.3	1.7	3.2	3.9	3.4

Note: Adjusted GDP excludes income that will be earned by the non-resident owners of Newfoundland mega-projects to better reflect growth in economic activity that generates income for residents. It differs from actual GDP only from 1997 forward.

Source: Economic & Statistics Branch (Economic Research and Analysis), Department of Finance  
Last updated: April 9, 2001

# Key Economic Indicators

## Newfoundland and Labrador

### Long -Term Forecast: Low Scenario

	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
GDP at Market Prices (\$ Millions)	18,076	18,178	18,288	18,719	18,872	19,146	19,203	19,498
% Change	0.1	0.6	0.6	2.4	0.8	1.5	0.3	1.5
Real GDP at Market Prices (\$1992 Millions)	13,758	13,612	13,539	13,642	13,597	13,632	13,552	13,618
% Change	-1.3	-1.1	-0.5	0.8	-0.3	0.3	-0.6	0.5
Adjusted Real GDP at Market Prices (\$1992 Millions)	12,267	12,294	12,390	12,617	12,678	12,819	12,870	13,047
% Change	0.4	0.2	0.8	1.8	0.5	1.1	0.4	1.4
GDP Deflator (1992 = 100)	131.4	133.5	135.1	137.2	138.8	140.4	141.7	143.2
% Change	1.4	1.6	1.1	1.6	1.1	1.2	0.9	1.0
Consumer Price Index (1992=100)	132.6	135.0	137.5	140.2	143.2	146.3	149.4	152.7
% Change	1.8	1.8	1.9	2.0	2.1	2.2	2.2	2.2
Personal Income (\$ Millions)	14,257	14,632	15,041	15,510	15,983	16,530	16,998	17,613
% Change	2.3	2.6	2.8	3.1	3.0	3.4	2.8	3.6
% Change, real	0.5	0.8	0.9	1.1	0.9	1.2	0.7	1.4
Disposable Income (\$ Millions)	11,281	11,599	11,947	12,346	12,750	13,213	13,617	14,137
% Change	2.5	2.8	3.0	3.3	3.3	3.6	3.1	3.8
% Change, real	0.7	1.0	1.1	1.3	1.1	1.4	0.9	1.6
Retail Sales (\$ Millions)	5,430	5,545	5,673	5,833	5,982	6,163	6,313	6,527
% Change	1.8	2.1	2.3	2.8	2.6	3.0	2.4	3.4
% Change, real	0.2	0.4	0.5	0.8	0.4	0.8	0.2	1.1
Housing Starts	1,879	1,884	1,879	1,881	1,864	1,871	1,857	1,886
% Change	-1.1	0.3	-0.3	0.1	-0.9	0.4	-0.8	1.5
Employment ('000s)	199.1	197.7	196.0	195.1	193.2	192.2	190.0	189.3
% Change	-0.9	-0.7	-0.9	-0.5	-1.0	-0.5	-1.1	-0.4
Labour Force ('000s)	239.0	237.2	235.0	233.1	230.8	228.8	225.5	222.9
% Change	-0.8	-0.8	-0.9	-0.8	-1.0	-0.8	-1.4	-1.2
Unemployment Rate (%)	16.7	16.6	16.6	16.3	16.3	16.0	15.8	15.1
Population ('000s)	514.2	511.8	509.4	506.7	504.1	501.6	499.0	496.4
% Change	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
Capital Investment	3,466	3,181	3,138	3,246	3,324	3,477	3,535	3,741
% Change	0.3	-8.2	-1.3	3.4	2.4	4.6	1.7	5.8
% Change Real	0.1	-6.3	-1.0	2.6	1.4	3.0	0.7	3.0
Labour Income (\$ Millions)	8,363	8,570	8,769	9,031	9,278	9,580	9,815	10,172
% Change	2.1	2.5	2.3	3.0	2.7	3.3	2.5	3.6

Note: Adjusted GDP excludes income that will be earned by the non-resident owners of Newfoundland mega-projects to better reflect growth in economic activity that generates income for residents. It differs from actual GDP only from 1997 forward.

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