Labour Market Economics Made Easy

A Presentation to the Employees of the Department of Advanced Education and Skills

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MEMORIAL UNIVERSITY

Overview

- Part I: Introduction to LM Economics
- Part II: LM Analysis from the Top Down:
  (THE MACRO PERSPECTIVE)
- Part III: LME from Bottom Up
  (The Micro Perspective)
- Part IV: Projections

PART I: INTRODUCTION TO LM ECONOMICS

The Essence of a Market

- A market is a location or situation in which goods or services are **exchanged** (traded) for other goods or services but normally for money.
- In a labour market, the services provided are "labour services" and the payment made to employed workers and the incomes received by them are called "wages" or "salaries".
- Wages/salaries therefore represent the primary <u>price</u> of labour services.

Labour Compensation = Wages +

- In addition to wages, there are non-wage monetary benefits such as health benefits e.g. drug and dental plans, long-term disability, unemployment benefits, unemployment insurance, pensions ("deferred wages")

Labour Services By Skill

- Labour services are classified by skills into occupations. In Canada, these occupations are classified by 40,000 job titles into 500 occupational groups as part of the National Occupation Codes (NOC-2011) by Employment and Skills Development Canada and Statistics Canada. http://www5.hrsdc.gc.ca/NOC/English/NOC/2011/Welcome.aspx
- NOC-2011 replaces NOC-2006 and NOC-S 2006.

An extract from NOC-2011 Manual

10 broad occupational categories
 Each broad occupational category has a unique one digit code number and is composed
of one or more major groups.
40 major groups
 Each major group has a unique two-digit code number and is composed of one or more minor groups. The first digit of this code indicates the broad occupational category to which the major group belongs.
140 minor groups
 Each minor group has a unique three-digit code number and is composed of one or more unit groups. The first two digits of this code indicate the major group to which the minor groups belong.
500 unit groups
 Each unit group has a unique four-digit code. The first three digits of this code indicate
the major and minor groups to which the unit group belongs.

NOC-2011 Manual Example

0	Management occupations
00	Senior management occupations
001	Legislators and senior management
0011	Legislators
0012	Senior government managers and officials
0013	Senior managers - financial, communications and other business services
0014	Senior managers - health, education, social and community services and membership organizations
0015	Senior managers - trade, broadcasting and other services, n.e.c.
0016	Senior managers - construction, transportation, production and utilities

- The first digit refers to the Skill type and the second refers to the skill level.
- NOTE: If your see an occupation with a code with a letter it uses the older NOC-S 2006 classification.

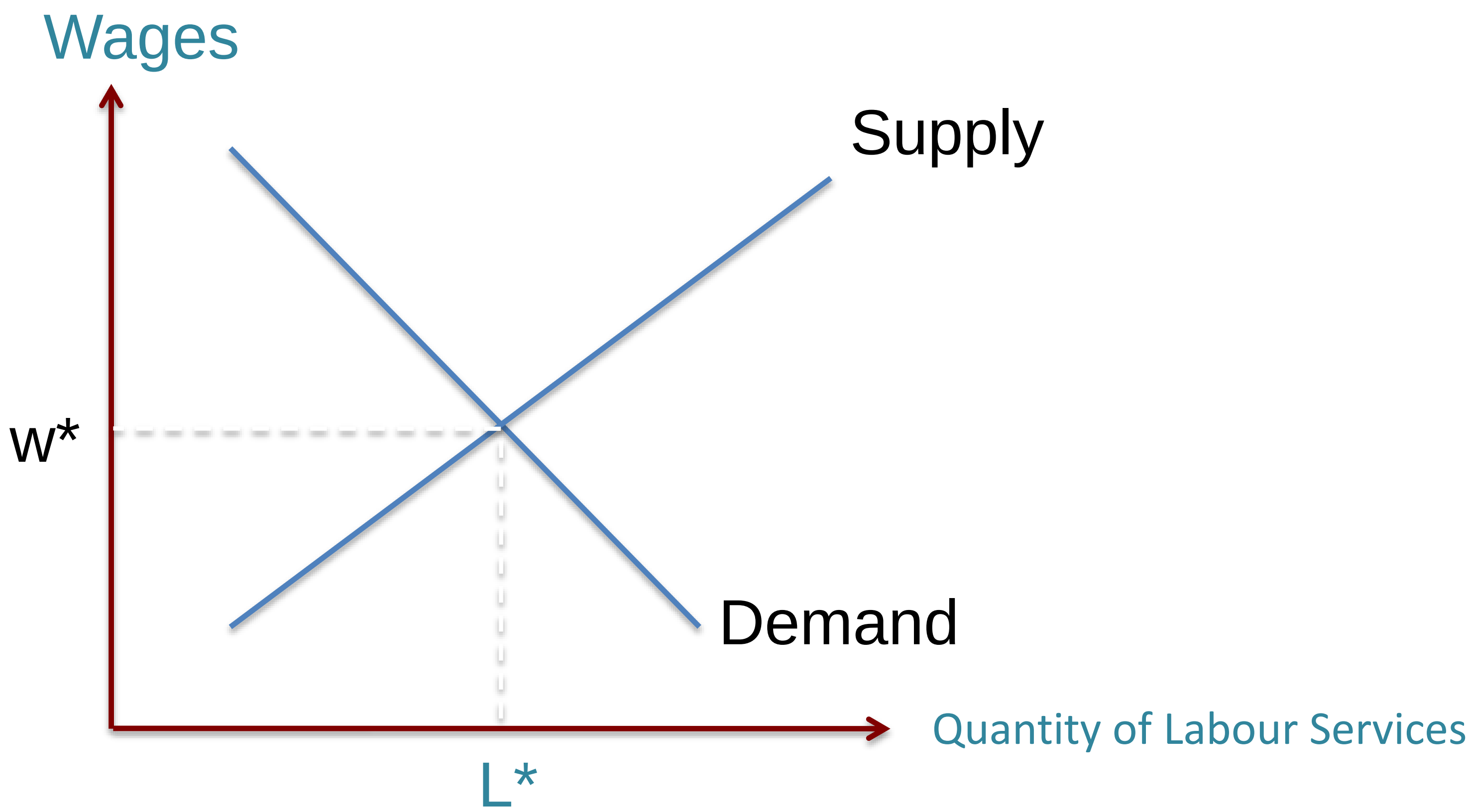
Skills → Tasks

- **Tasks** are part of a production process. Normally, a job description (JD) which would include "duties and responsibilities".
- People possess **skills** needed to perform the tasks. The JD would outline the **qualifications** required to demonstrate the required skills..
- Employers knowing how much **output** will be produce, knowing what **tasks** are needed to produce each unit of output, and having an idea how much effort (**hours, weeks, full time** etc) is needed to complete a task will employ a number of workers/employees.
- Therefore, economists state that the demand for labour services is a "**derived**" demand (from the needs to produce output).

Human Resource Managers

- HRM attempt to hire the best employees, train those employees when necessary, motivate employees, appraise those employees, develop reward systems and perhaps let the employee go.
- Such management **maximizes** employee performance.

An Economic Analytical Framework: The Simple Labour Market Model



Slopes of the curves

- Demand curve slopes down! Why?

- Supply curve slopes up! Why??

Position of the Curves

- Demand: Size of the market and nature of the demand for output.

- Supply: # of workers with skills/qualifications and interest (location, preferences etc)

AN EXAMPLE:
Oil rig workers in Alberta

- Demand

- Supply

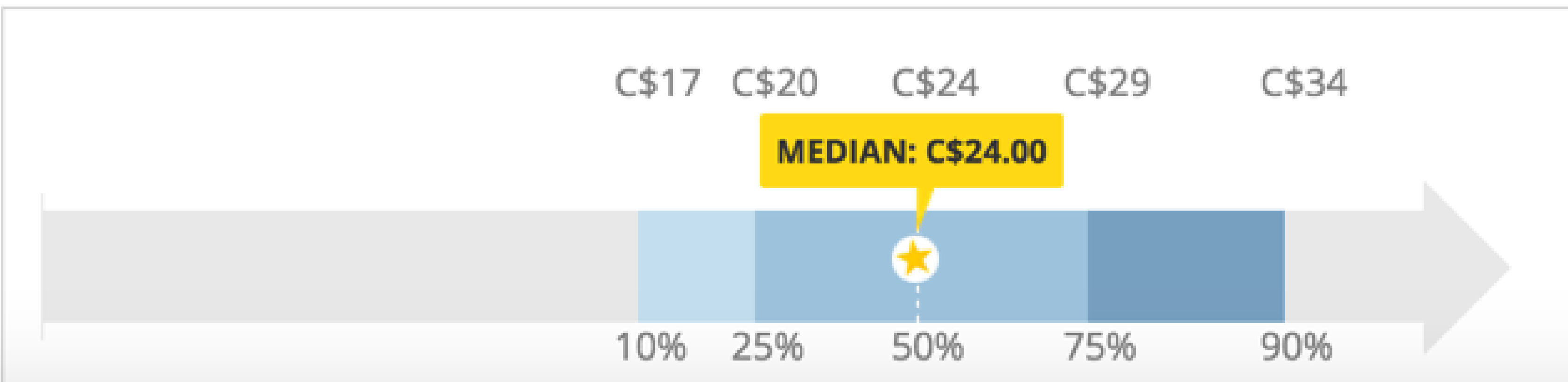
- Falling wages?? Why not?

Some Dynamics: Occupation 7521

- Heavy Equipment Operators:
- NL 2015-2018
- What’s the story?
- What’s the diagram?

Heavy Equipment Operator Salary (Canada)

The average wage for a Heavy Equipment Operator is C$24.24 per hour. For the first five to ten years in this position, pay increases somewhat, but any additional experience does not have a big effect on pay.



Other Players In the LM

- Unions: What do they do?
- Government ? Who in government?

What is the Role of AE&S in this process?

- Seminar discussion amongst employees

The Ideal

- Equilibrium at any point in time with wages in real (inflation adjusted) terms rising over time.
  - No shortages
  - No surpluses (unemployment)
- Rising wages: **Increased productivity** and/or increased value of the goods and services produced.

PART II:
LM ANALYSIS FROM THE TOP DOWN
(MACRO PERSPECTIVE)

Purpose

- Identify potential economy wide cyclical disequilibria:
  - Unemployment (where are we now?)
  - Shortages leading to inflation
- Growth/Decline over the medium and long-run
- More recently: Income distribution/inequalities (gender, race, age, by type of worker)

Management of Economy Through Measurement!

- Source of data:
  - Labour Force Survey (**LFS**) (“1st reasonable Friday” of the month for previous) **Household Survey**
  - Survey of Employment and Payroll Hours (**SEPH**) **Employer Survey**
  - Survey of Labour and Income Dynamics (**SLID**) discontinued 2011 (end of month for 2 months earlier)
  - Census Long-form and National household Survey (**NHS**)
  - Tax-filer data

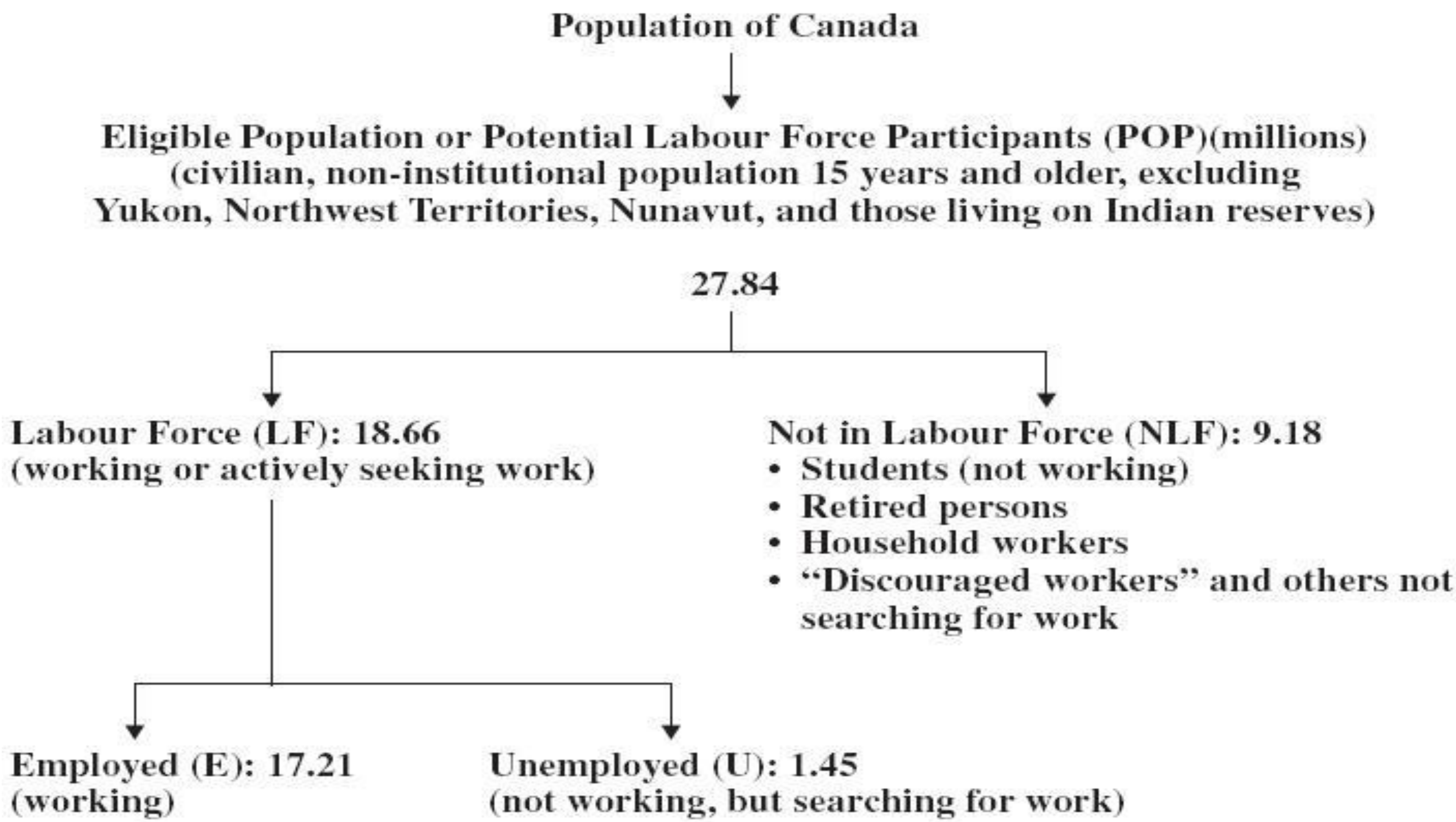
The Monthly LFS

Labour force characteristics by province – Seasonally adjusted

	February 2015	March 2015	Standard error[1]	February to March 2015	March 2014 to March 2015
	thousands (except rates)			change in thousands (except rates)	
Newfoundland and Labrador					
Population	443.2	443.1	...	-0.1	-1.3
Labour force	268.7	271.0	1.9	2.3	-1.6
Employment	234.9	234.9	2.1	0.0	-6.2
Full-time	200.4	202.0	2.5	1.6	-3.7
Part-time	34.5	33.0	2.0	-1.5	-2.3
Unemployment	33.9	36.0	1.9	2.1	4.5
Participation rate	60.6	61.2	0.4	0.6	-0.1
Unemployment rate	12.6	13.3	0.7	0.7	1.7
Employment rate	53.0	53.0	0.5	0.0	-1.3

Labour Force Concepts Fig2.1 Text)

FIGURE 2.1 Labour Force Concepts (numbers refer to January 2011)



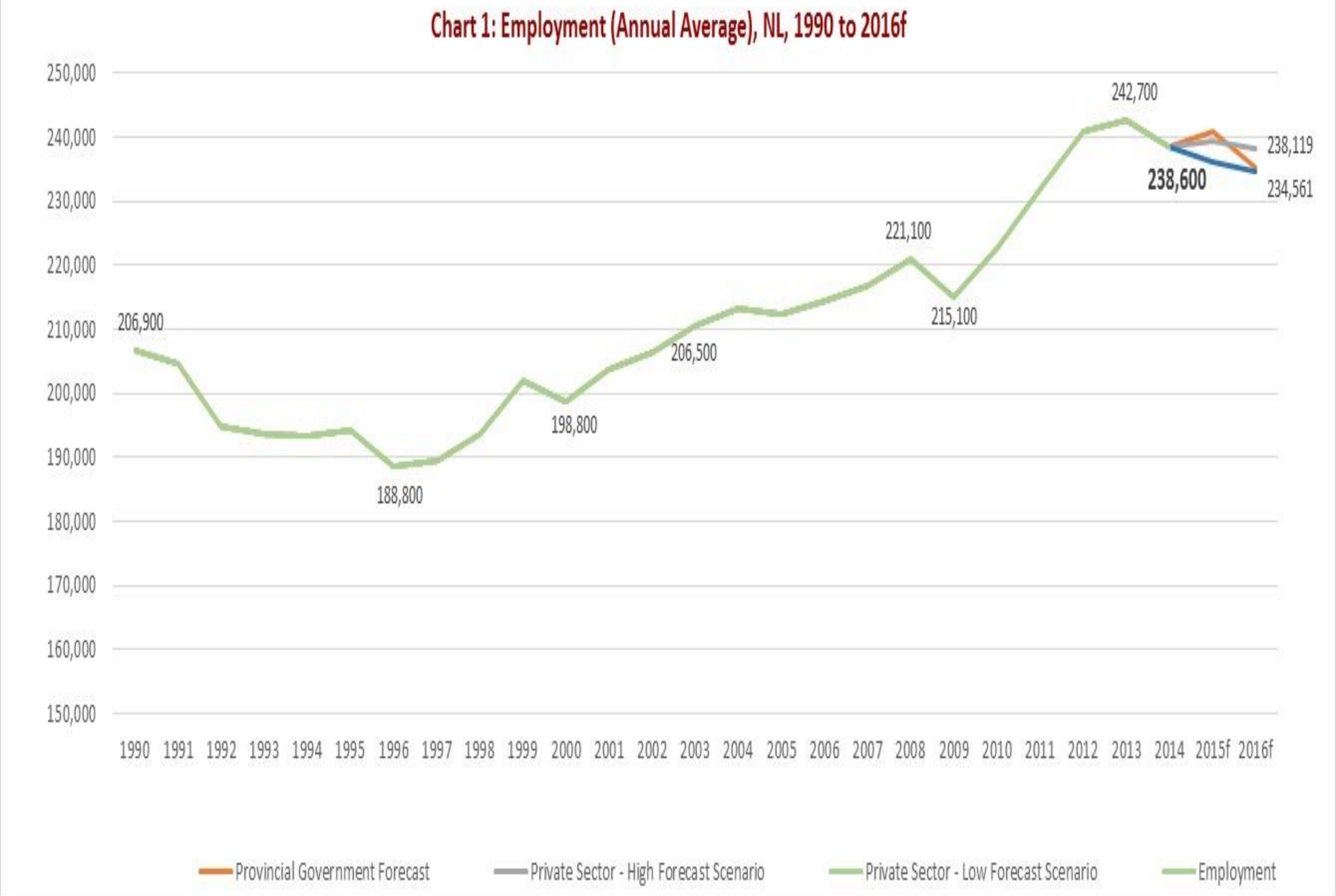
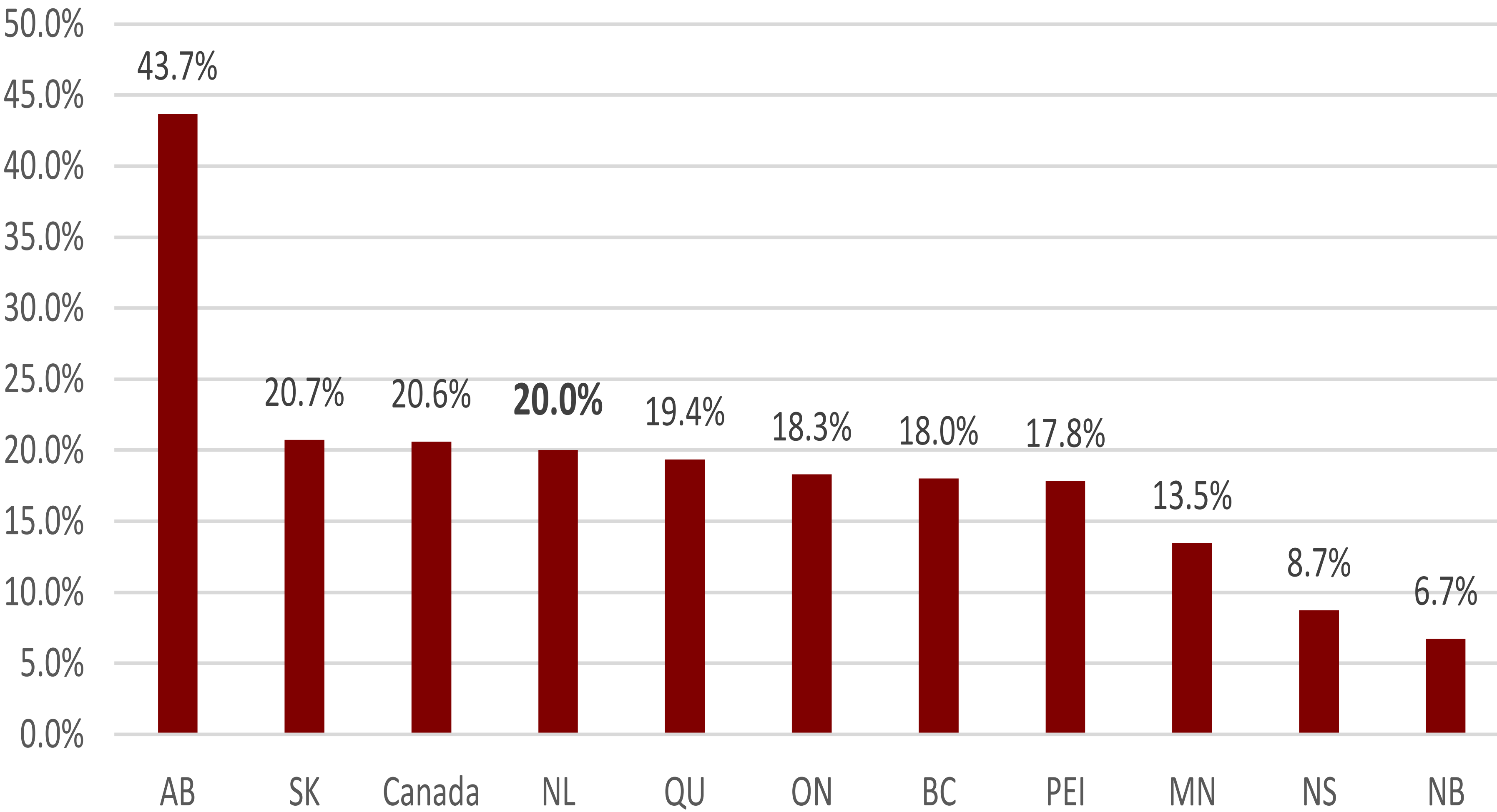


Chart 1: Employment (Annual Average), NL, 1990 to 2016f
250,000
240,000
230,000
220,000
210,000
200,000
190,000
180,000
170,000
160,000
150,000
242,700
238,119
238,600
234,561
221,100
215,100
206,900
206,500
198,800
188,800
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015f 2016f
Provincial Government Forecast
Private Sector - High Forecast Scenario
Private Sector - Low Forecast Scenario
Employment

Chart 2: Change in Employment (Population 15+), 2000 to 2014, Canada and the Provinces



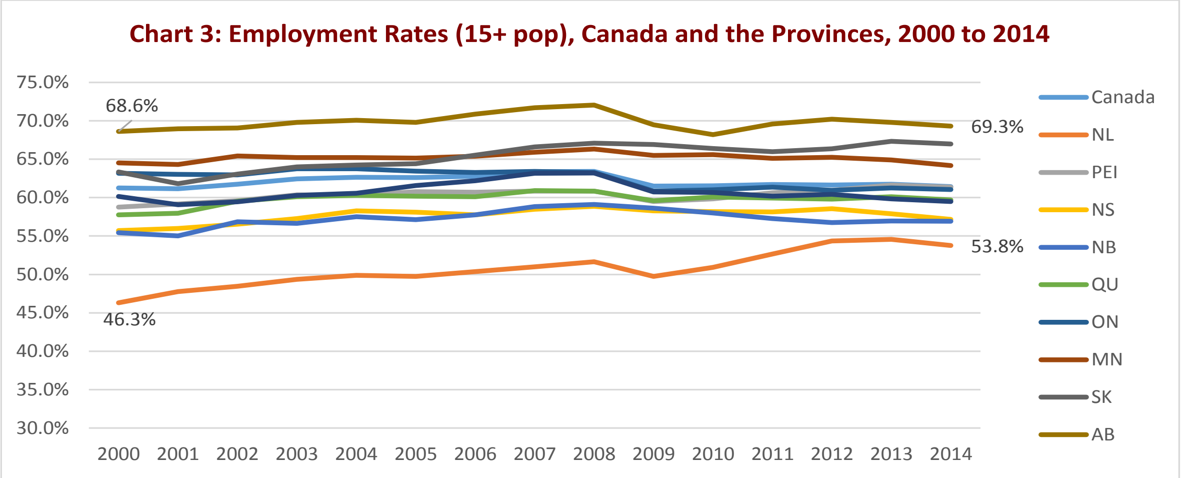


Chart 3: Employment Rates (15+ pop), Canada and the Provinces, 2000 to 2014
75.0%
70.0%
65.0%
60.0%
55.0%
50.0%
45.0%
40.0%
35.0%
30.0%
68.6%
69.3%
53.8%
46.3%
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
Canada
NL
PEI
NS
NB
QU
ON
MN
SK
AB

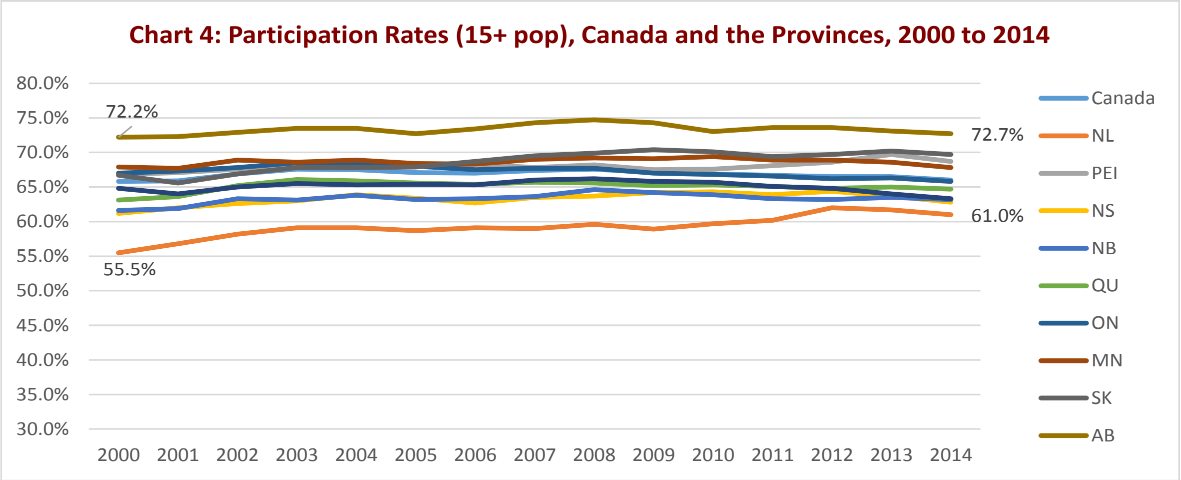


Chart 4: Participation Rates (15+ pop), Canada and the Provinces, 2000 to 2014
80.0%
75.0%
70.0%
65.0%
60.0%
55.0%
50.0%
45.0%
40.0%
35.0%
30.0%
72.2%
72.7%
61.0%
55.5%
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
Canada
NL
PEI
NS
NB
QU
ON
MN
SK
AB

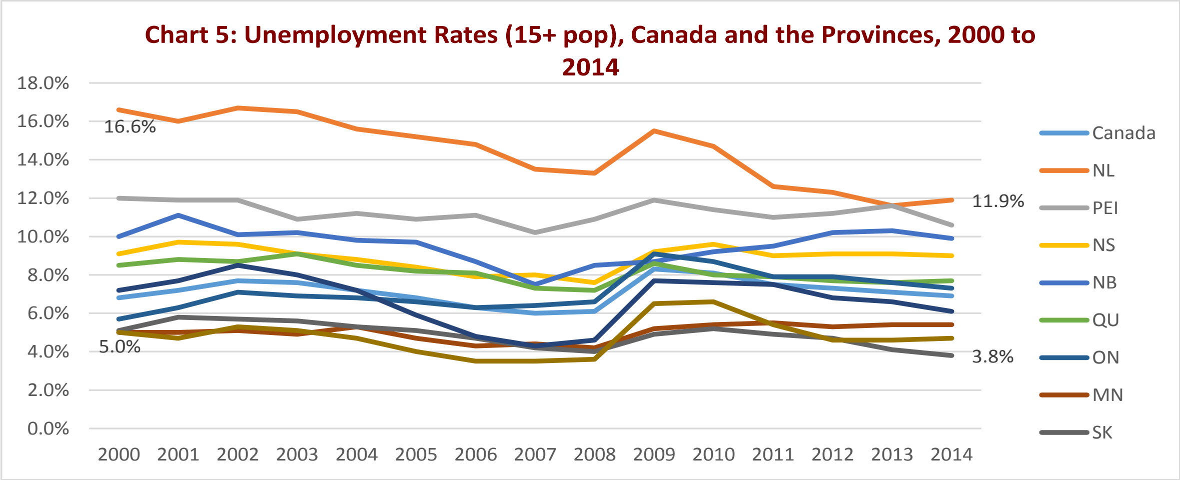


Chart 5: Unemployment Rates (15+ pop), Canada and the Provinces, 2000 to 2014
18.0%
16.0%
14.0%
12.0%
10.0%
8.0%
6.0%
4.0%
2.0%
0.0%
16.6%
11.9%
5.0%
3.8%
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
Canada
NL
PEI
NS
NB
QU
ON
MN
SK

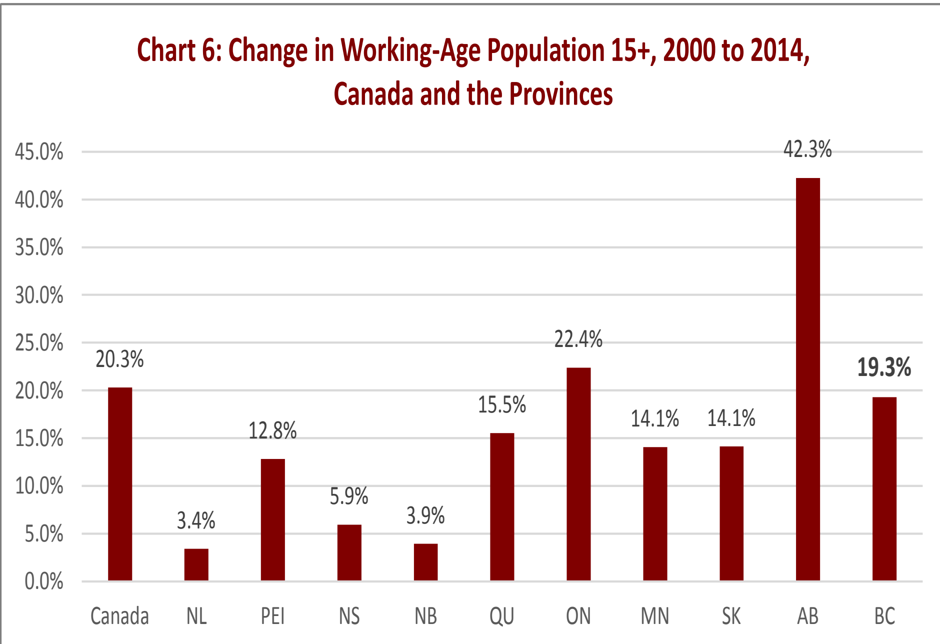


Chart 6: Change in Working-Age Population 15+, 2000 to 2014, Canada and the Provinces
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
20.3%
3.4%
12.8%
5.9%
3.9%
15.5%
22.4%
14.1%
14.1%
42.3%
19.3%
Canada
NL
PEI
NS
NB
QU
ON
MN
SK
AB
BC

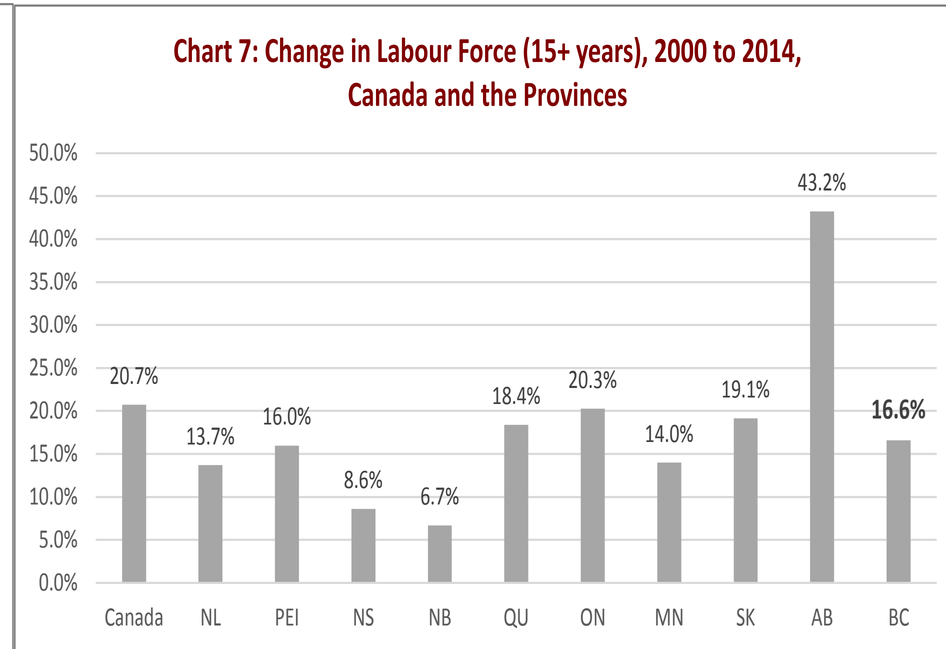


Chart 7: Change in Labour Force (15+ years), 2000 to 2014, Canada and the Provinces
50.0%
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
20.7%
13.7%
16.0%
8.6%
6.7%
18.4%
20.3%
14.0%
19.1%
43.2%
16.6%
Canada
NL
PEI
NS
NB
QU
ON
MN
SK
AB
BC

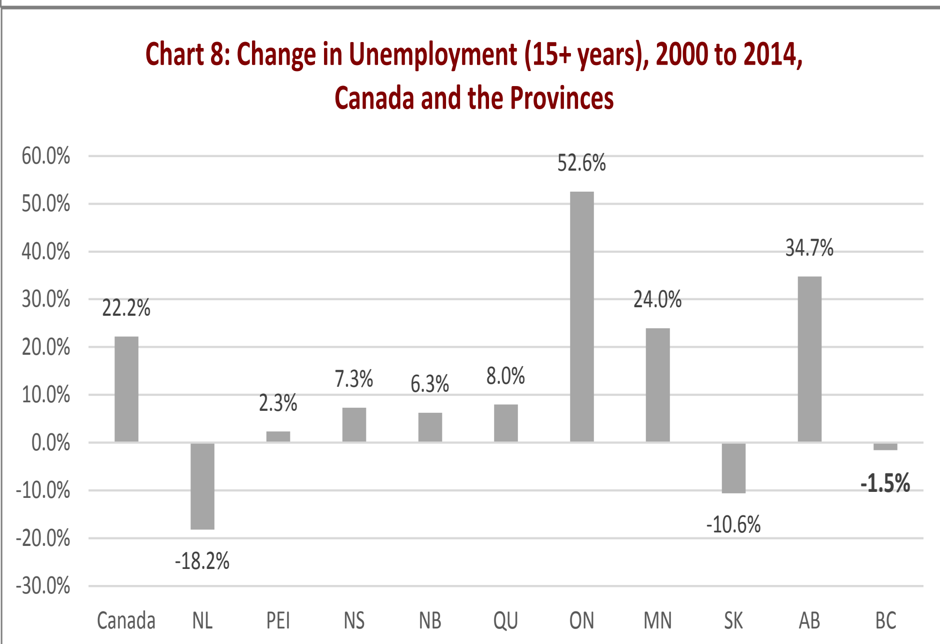


Chart 8: Change in Unemployment (15+ years), 2000 to 2014, Canada and the Provinces
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
-10.0%
-20.0%
-30.0%
22.2%
-18.2%
2.3%
7.3%
6.3%
8.0%
52.6%
24.0%
-10.6%
34.7%
-1.5%
Canada
NL
PEI
NS
NB
QU
ON
MN
SK
AB
BC

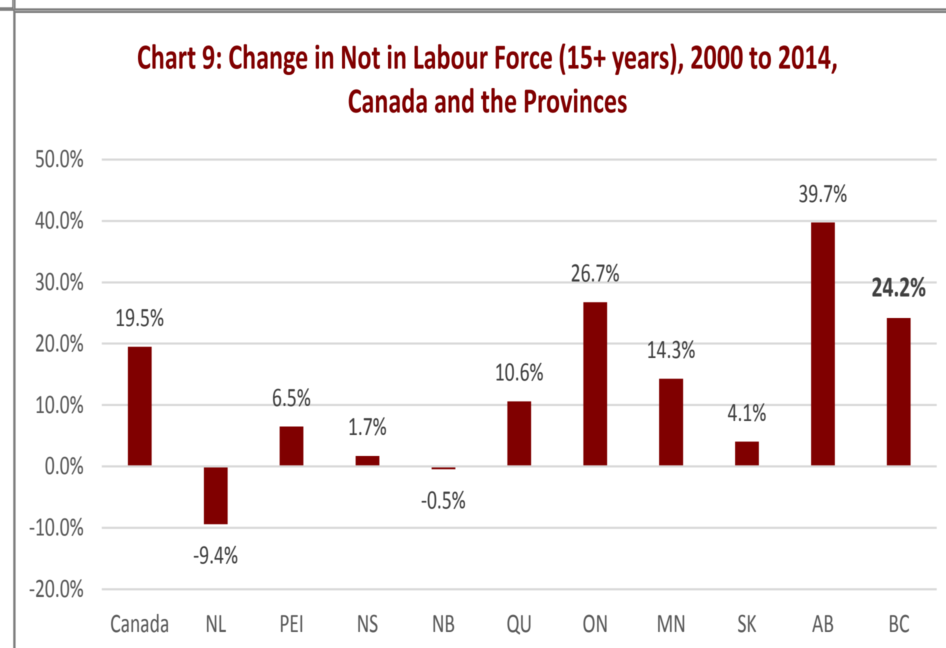


Chart 9: Change in Not in Labour Force (15+ years), 2000 to 2014, Canada and the Provinces
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
-10.0%
-20.0%
19.5%
-9.4%
6.5%
1.7%
-0.5%
10.6%
26.7%
14.3%
4.1%
39.7%
24.2%
Canada
NL
PEI
NS
NB
QU
ON
MN
SK
AB
BC

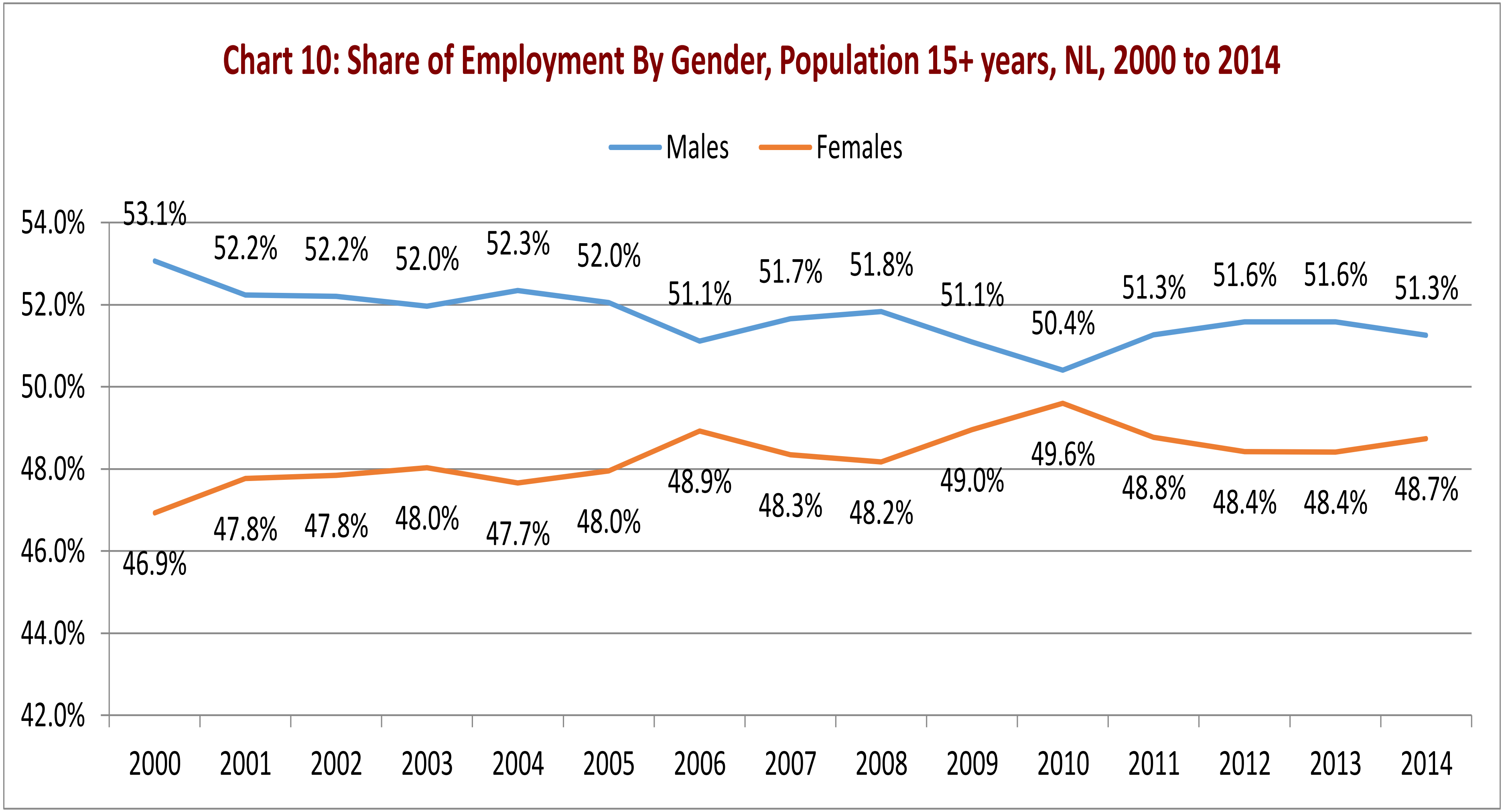


Chart 10: Share of Employment By Gender, Population 15+ years, NL, 2000 to 2014
Males
Females
54.0%
52.0%
50.0%
48.0%
46.0%
44.0%
42.0%
53.1%
52.2%
52.2%
52.0%
52.3%
52.0%
51.1%
51.7%
51.8%
51.1%
50.4%
51.3%
51.6%
51.6%
51.3%
46.9%
47.8%
47.8%
48.0%
47.7%
48.0%
48.9%
48.3%
48.2%
49.0%
49.6%
48.8%
48.4%
48.4%
48.7%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014

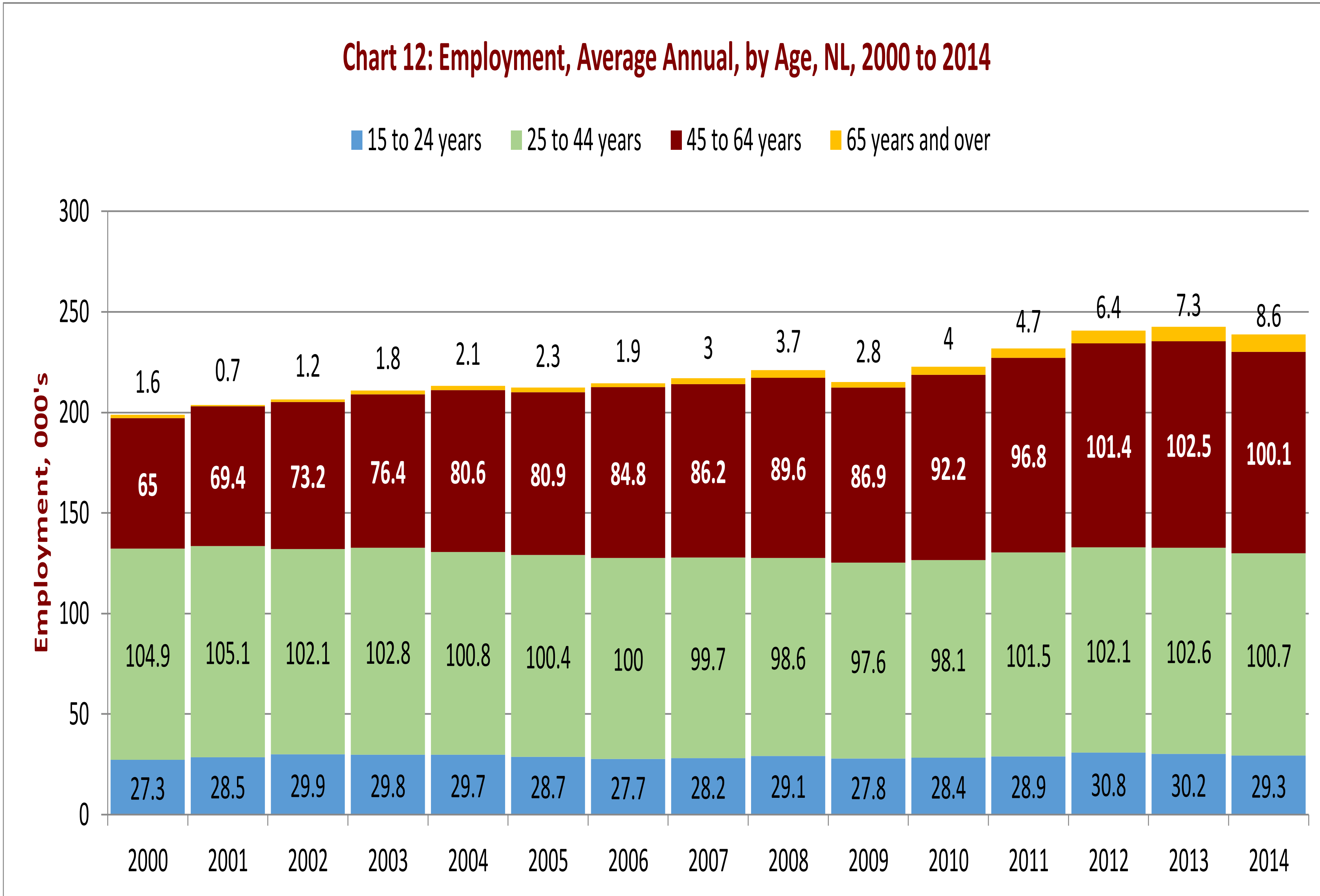


Chart 12: Employment, Average Annual, by Age, NL, 2000 to 2014
15 to 24 years
25 to 44 years
45 to 64 years
65 years and over
Employment, 000's
300
250
200
150
100
50
0
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
27.3
28.5
29.9
29.8
29.7
28.7
27.7
28.2
29.1
27.8
28.4
28.9
30.8
30.2
29.3
104.9
105.1
102.1
102.8
100.8
100.4
100
99.7
98.6
97.6
98.1
101.5
102.1
102.6
100.7
65
69.4
73.2
76.4
80.6
80.9
84.8
86.2
89.6
86.9
92.2
96.8
101.4
102.5
100.1
1.6
0.7
1.2
1.8
2.1
2.3
1.9
3
3.7
2.8
4
4.7
6.4
7.3
8.6

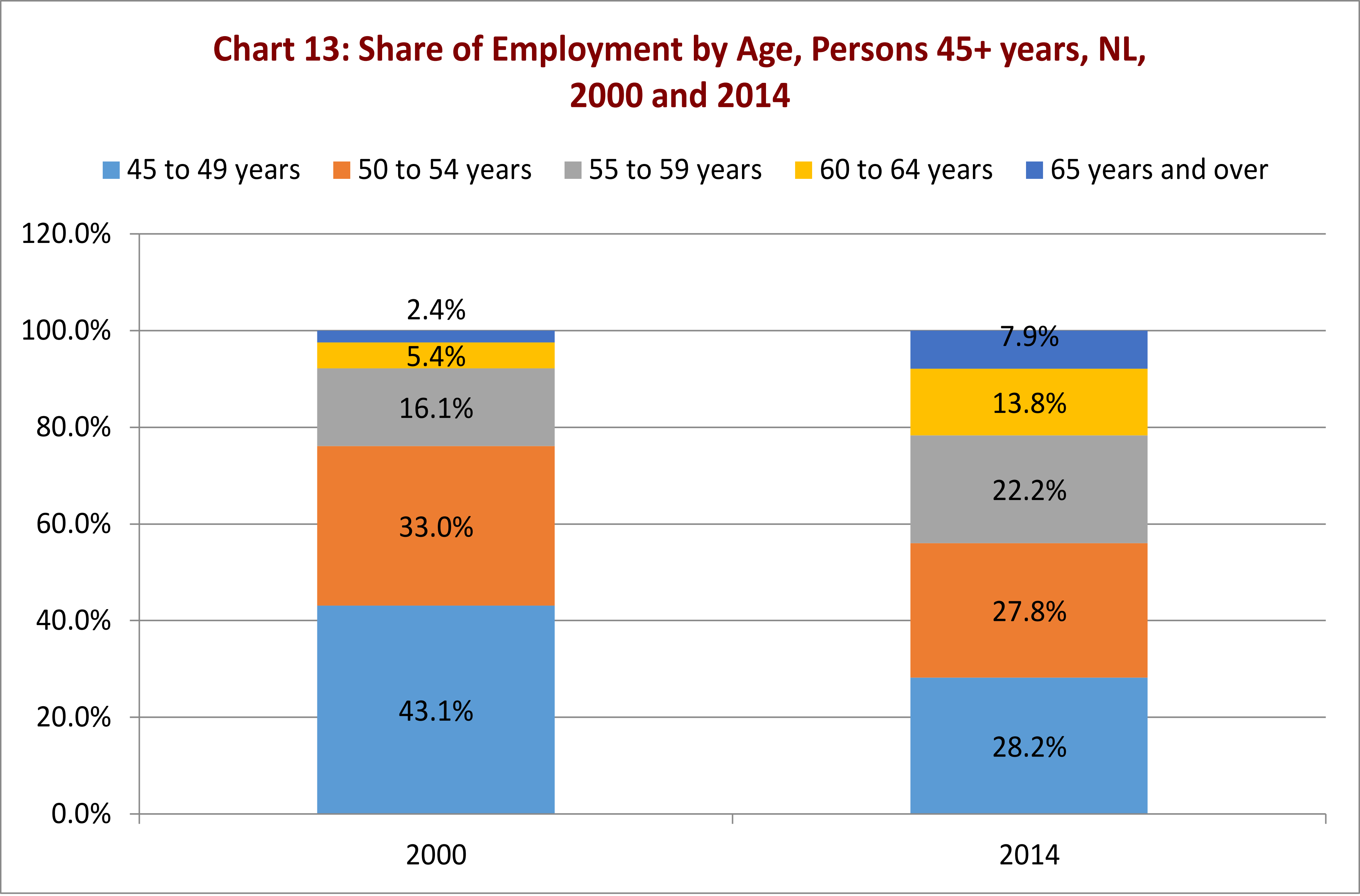


Chart 13: Share of Employment by Age, Persons 45+ years, NL, 2000 and 2014
45 to 49 years
50 to 54 years
55 to 59 years
60 to 64 years
65 years and over
120.0%
100.0%
80.0%
60.0%
40.0%
20.0%
0.0%
2.4%
5.4%
16.1%
33.0%
43.1%
7.9%
13.8%
22.2%
27.8%
28.2%
2000
2014

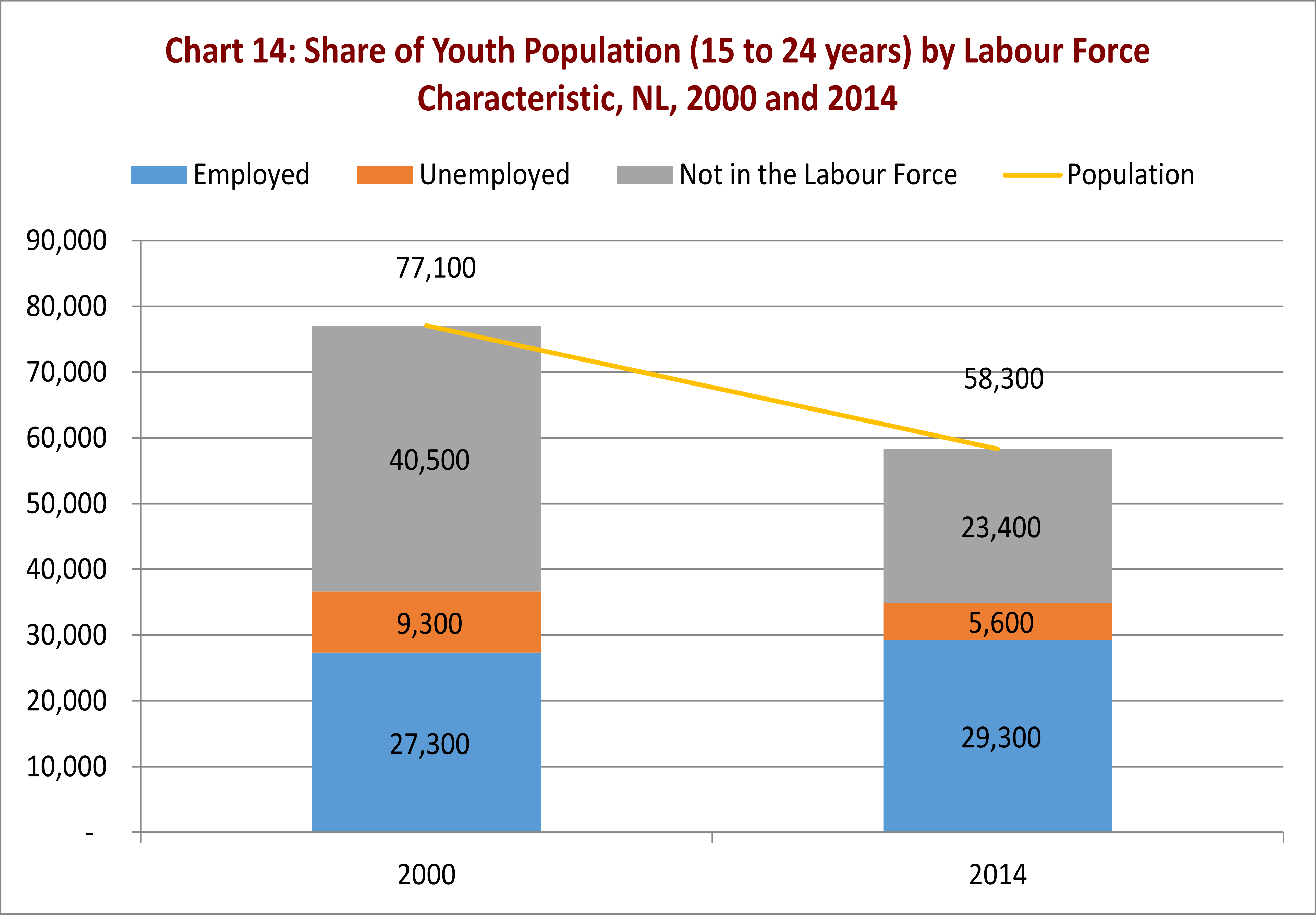
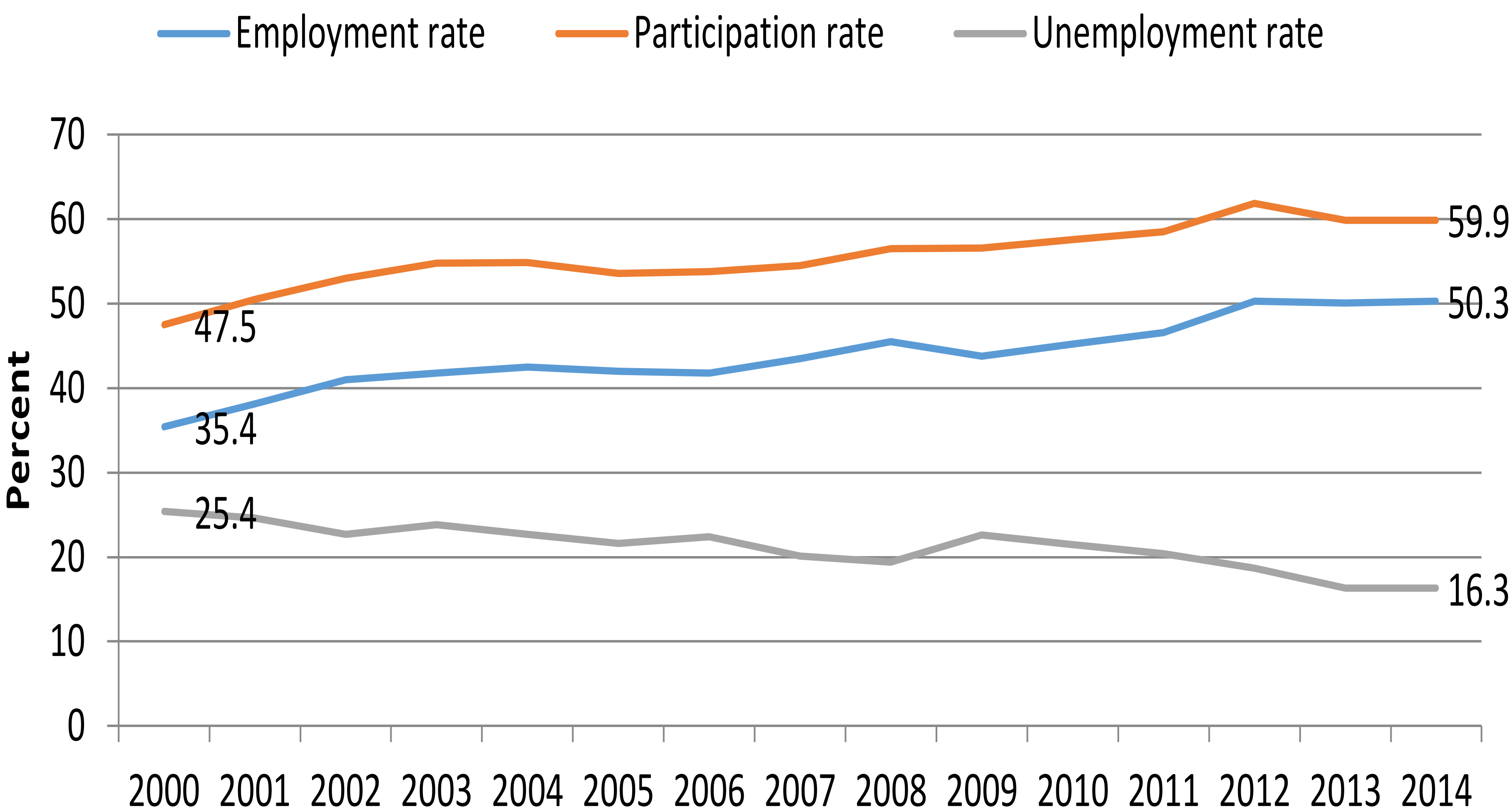


Chart 14: Share of Youth Population (15 to 24 years) by Labour Force Characteristic, NL, 2000 and 2014
Employed
Unemployed
Not in the Labour Force
Population
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
-
77,100
40,500
9,300
27,300
58,300
23,400
5,600
29,300
2000
2014

Chart 15: Participation Rate, Unemployment Rate and Employment Rate, Youth Population (15 to 24 years), NL, 2000 and 2014



The industries that grew the fastest over the 2000 to 2014 in the province include:

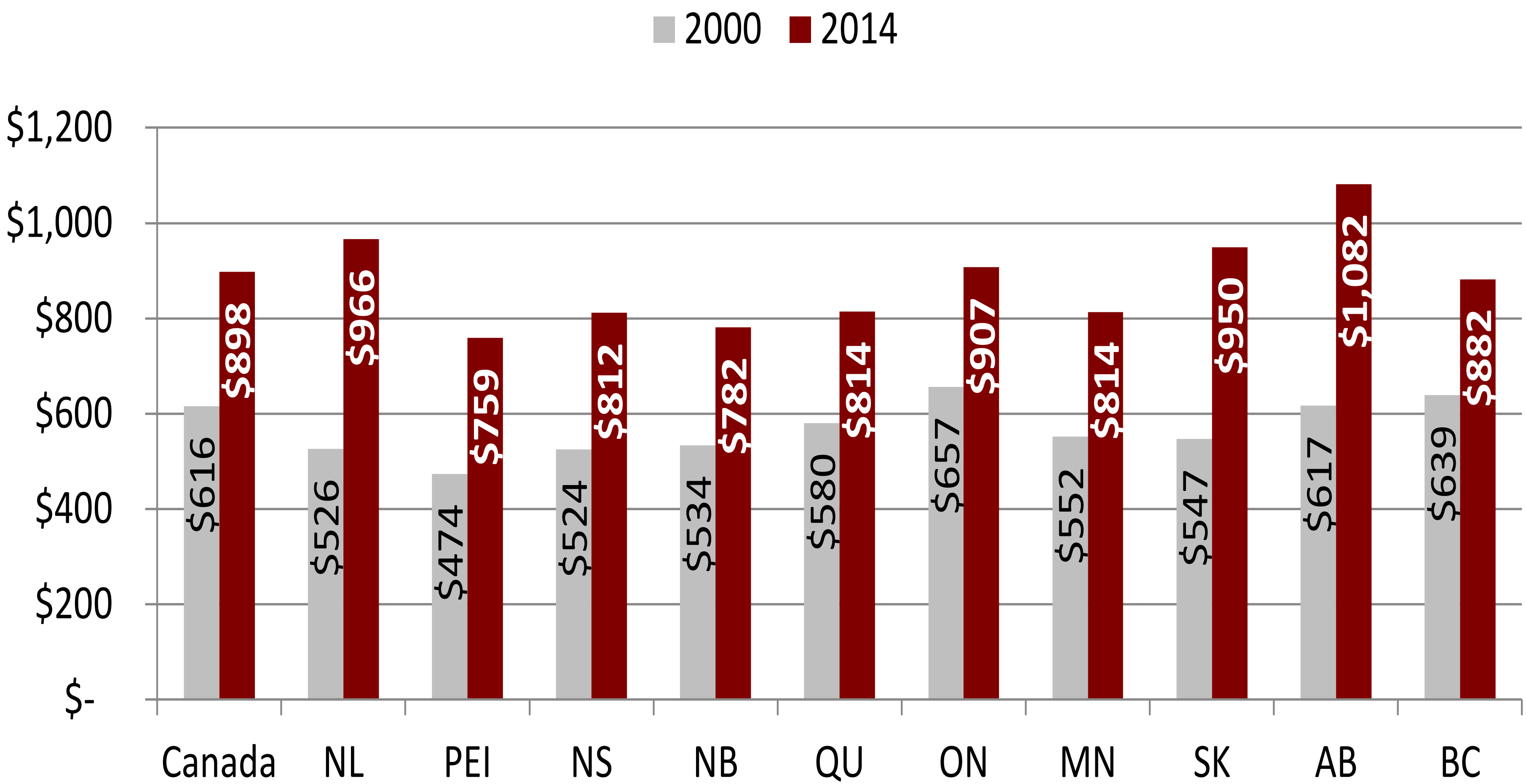
- mining, quarrying, and oil and gas extraction (185.4%);
- construction (113.2%);
- utilities (62.5%);
- professional, scientific, and technical services (51.4%);
- business, building and other support services (33.3%); and
- health care and social assistance (33.0%).

Those that exhibited the strongest growth in terms of absolute employment levels in this period include:

- construction (12,000);
- health care and social assistance (9,300);
- mining, quarrying, and oil and gas extraction (8,900);
- retail trade (3,700); and
- professional, scientific, and technical services (3,600).

Employment by Industry	Newfoundland and Labrador						Canada					
	Levels (000's)		Share of Employment		Change		Levels (000's)		Share of Employment		Change	
	2000	2014	2000	2014	#	%	2000	2014	2000	2014	#	%
Total Employment	198.8	238.6	100%	100%	39.8	20.0%	14760.1	17802.2	100%	100%	3042.1	20.6%
Goods-producing sector (15)	42.5	54.7	21.4%	22.9%	12.2	28.7%	3809.5	3897.1	25.8%	21.9%	87.6	2.3%
Agriculture [111-112 1100 1151-1152] (17)	1	1.3	0.5%	0.5%	0.3	30.0%	371.3	305.1	2.5%	1.7%	-66.2	-17.8%
Fishing, hunting and trapping [114];Forestry	9.5	4	4.8%	1.7%	-5.5	-57.9%	114	65	0.8%	0.4%	-49.0	-43.0%
Mining, quarrying, and oil and gas extraction	4.8	13.7	2.4%	5.7%	8.9	185.4%	159.3	307.5	1.1%	1.7%	148.2	93.0%
Utilities [22]	1.6	2.6	0.8%	1.1%	1.0	62.5%	115.8	136.9	0.8%	0.8%	21.1	18.2%
Construction [23]	10.6	22.6	5.3%	9.5%	12.0	113.2%	806.9	1371.5	5.5%	7.7%	564.6	70.0%
Manufacturing Durables [321 327 331-339]	3.5	4.5	1.8%	1.9%	1.0	28.6%	1343.6	1029.5	9.1%	5.8%	-314.1	-23.4%
Manufacturing Non-durables [311-316 322-3	11.5	6.1	5.8%	2.6%	-5.4	-47.0%	898.7	681.5	6.1%	3.8%	-217.2	-24.2%
Services-producing sector (16)	156.3	183.9	78.6%	77.1%	27.6	17.7%	10950.6	13905.1	74.2%	78.1%	2954.5	27.0%
Wholesale trade [41]	6.2	6.1	3.1%	2.6%	-0.1	-1.6%	545.8	622.2	3.7%	3.5%	76.4	14.0%
Retail trade [44-45]	29.6	33.3	14.9%	14.0%	3.7	12.5%	1754	2107.1	11.9%	11.8%	353.1	20.1%
Transportation and warehousing [48-49]	10.8	11.7	5.4%	4.9%	0.9	8.3%	773	896.8	5.2%	5.0%	123.8	16.0%
Finance and insurance [52]	4.8	6.1	2.4%	2.6%	1.3	27.1%	608	779.7	4.1%	4.4%	171.7	28.2%
Real estate and leasing [53]	2.5	2.5	1.3%	1.0%	0.0	0.0%	250.2	304.2	1.7%	1.7%	54.0	21.6%
Professional, scientific and technical service	7	10.6	3.5%	4.4%	3.6	51.4%	935.7	1333.3	6.3%	7.5%	397.6	42.5%
Business, building and other support service	4.8	6.4	2.4%	2.7%	1.6	33.3%	531.2	734.8	3.6%	4.1%	203.6	38.3%
Educational services [61]	16	17.6	8.0%	7.4%	1.6	10.0%	970.1	1236.9	6.6%	6.9%	266.8	27.5%
Health care and social assistance [62]	28.2	37.5	14.2%	15.7%	9.3	33.0%	1516.9	2219.7	10.3%	12.5%	702.8	46.3%
Information, culture and recreation [51 71]	7	7.5	3.5%	3.1%	0.5	7.1%	667.6	757.2	4.5%	4.3%	89.6	13.4%
Accommodation and food services [72]	12.5	15.1	6.3%	6.3%	2.6	20.8%	940.9	1207.5	6.4%	6.8%	266.6	28.3%
Other services [81]	11	12	5.5%	5.0%	1.0	9.1%	682.7	795.1	4.6%	4.5%	112.4	16.5%
Public administration [91]	16.1	17.5	8.1%	7.3%	1.4	8.7%	774.6	910.7	5.2%	5.1%	136.1	17.6%

Chart 16: Average Weekly Wages, Canada and the Provinces, 2000 and 2014



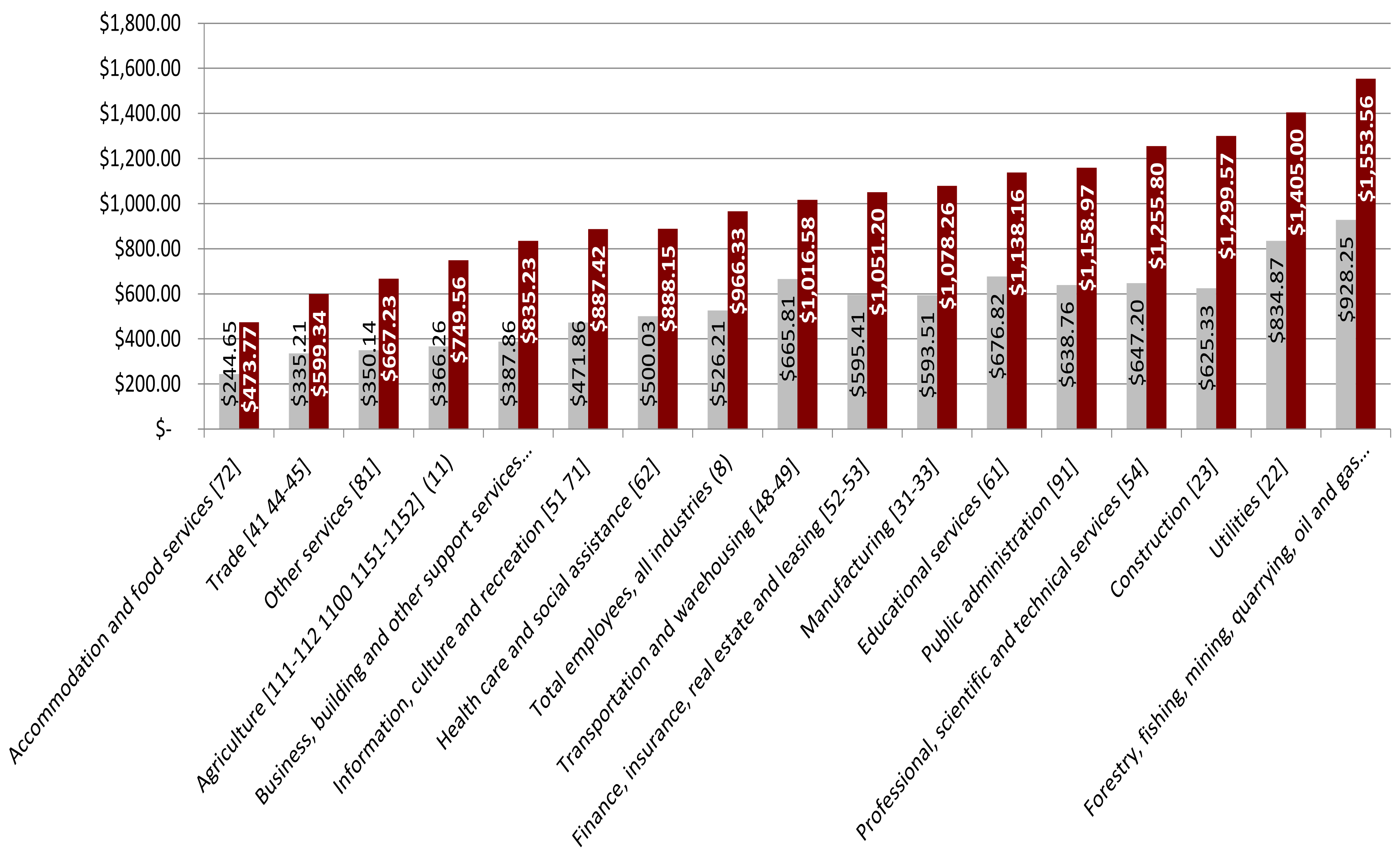
While average weekly wages have grown in every given industry in the province, those that showed above average growth rates between 2000 and 2014 include:

- Other services (90.6%);
- Accommodation and food services (93.7%);
- Professional, scientific and technical services (94.0%);
- Agriculture (104.7%);
- Construction (107.8%); and
- Business, building and other support services (115.3%).

In 2014 the occupations with the highest average weekly wages in Newfoundland included:

- Management occupations ($1465.29);
- Professional occupations in health, nurse supervisors, and registered nurses ($1310.14);
- Occupations unique to primary industry ($1296.33);
- Teachers and professors ($1289.57); and
- Occupations in social sciences, education, government service, and religion ($1199.60).

Chart 17: Average Weekly Wages by Industry, NL, 2000 and 2014



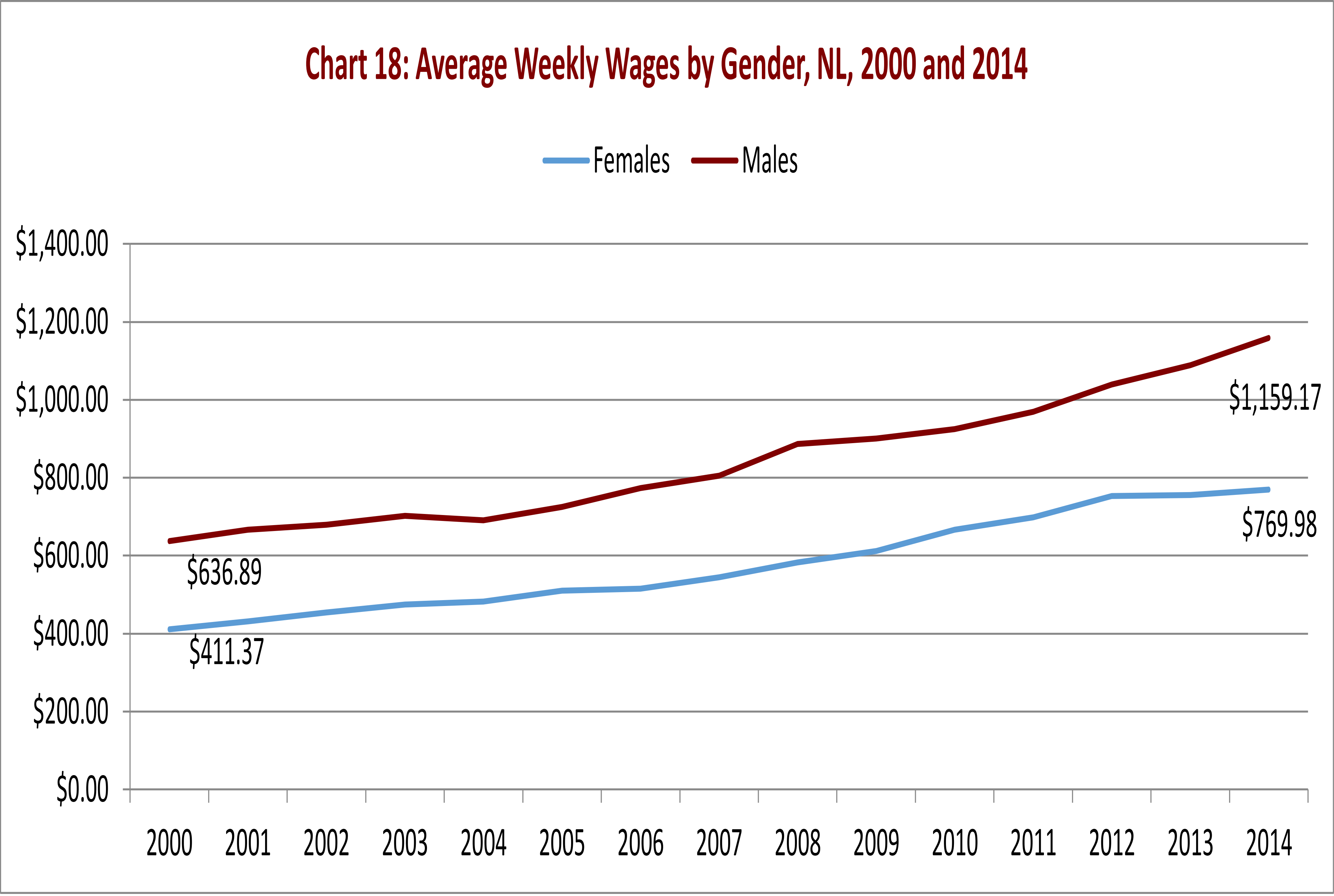
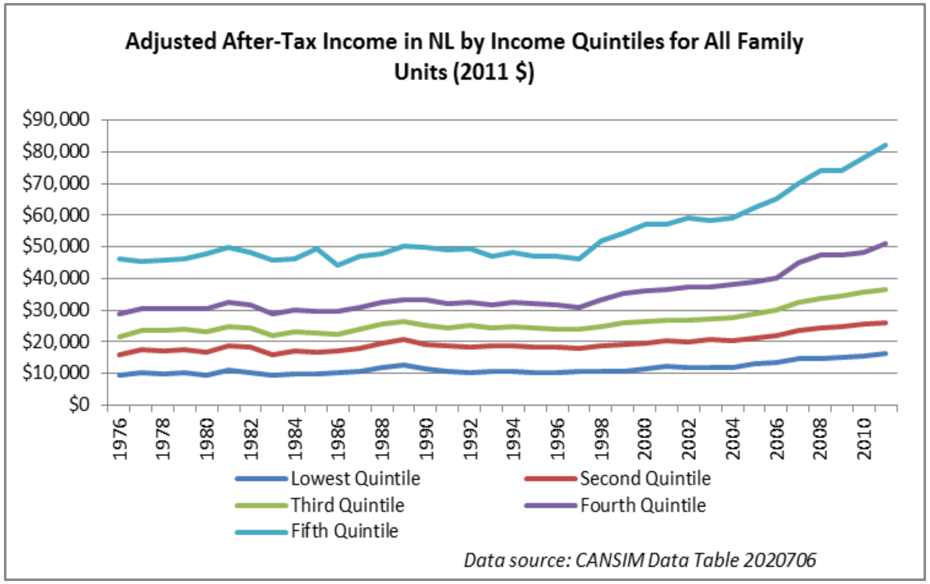
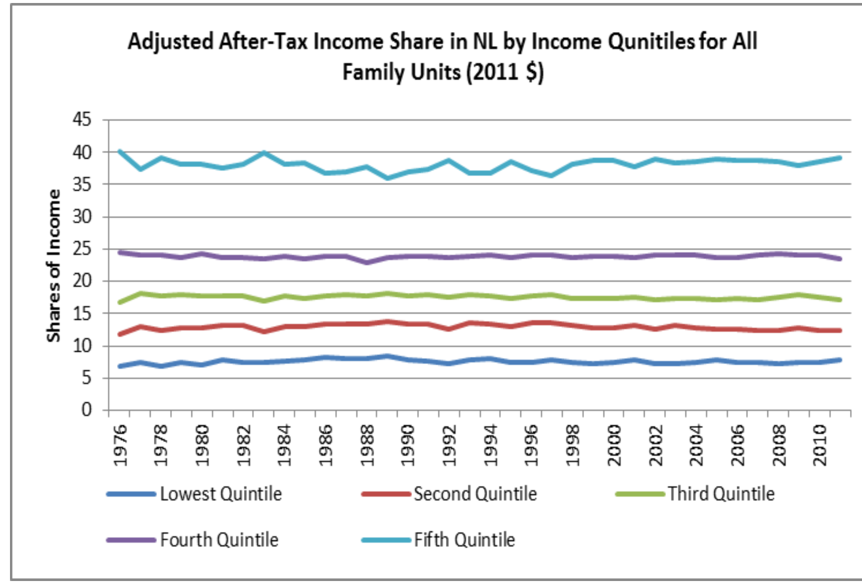


Chart 18: Average Weekly Wages by Gender, NL, 2000 and 2014
Females
Males
$1,400.00
$1,200.00
$1,000.00
$800.00
$600.00
$400.00
$200.00
$0.00
$1,159.17
$769.98
$636.89
$411.37
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014

Occupational Category	Share of Employment 2014			Avg. Weekly Wages 2014			Ratio of Avg. Weekly Wages Males to Females 2014
	Both Sexes	Female	Male	Both Sexes	Female	Male	
Management occupations [A]	7.0%	5.8%	8.1%	$1,465.29	$1,189.13	$1,673.82	1.41
Business, finance and administrative occupations [B]	15.1%	22.4%	8.3%	$871.01	$796.15	$1,086.98	1.37
Natural and applied sciences and related occupations [C]	8.1%	3.5%	12.5%	$1,420.84	$1,170.68	$1,488.22	1.27
Health occupations [D]	8.3%	13.8%	2.9%	$1,046.14	$1,013.40	$1,224.73	1.21
Occupations in social science, education, government service and religion [E]	8.8%	12.6%	5.2%	$1,199.60	$1,136.07	$1,344.54	1.18
Occupations in art, culture, recreation and sport [F]	2.1%	2.8%	1.5%	$668.05	$593.49	$800.89	1.35
Sales and service occupations [G] (11)	26.9%	34.9%	19.3%	$537.57	$448.39	$689.82	1.54
Trades, transport and equipment operators and related occupations [H]	17.1%	1.5%	31.9%	$1,187.07	$900.75	$1,199.69	1.33
Occupations unique to primary industry [I]	4.2%	1.0%	7.3%	$1,296.33	$777.48	$1,359.37	1.75
Occupations unique to processing, manufacturing and utilities [J]	2.3%	1.4%	3.1%	$874.11	$560.55	$1,006.61	1.80

Rising Income Inequality?





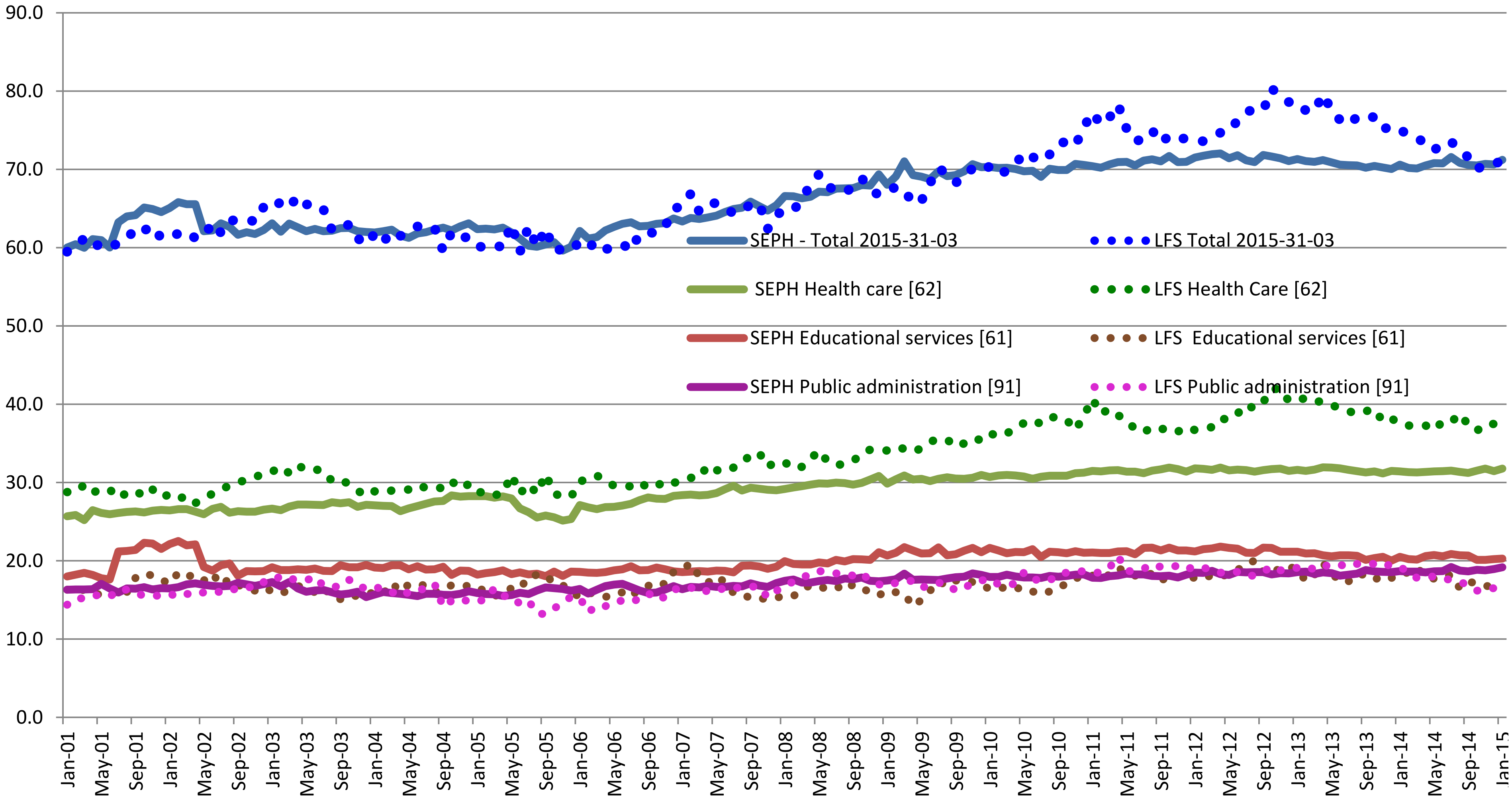
Some Concerns/Questions

1. **LFS** is a household survey of those normally resident within the Province. About 10 % of those employed will be working outside the Province primarily in Alberta, Ontario, and the Maritimes (in that order)
2. The **LFS** is a snapshot of the labour markets during each month. The annual average is just that. BUT the faces in each snapshot change particularly since seasonal employment is important.
3. How reliable is the **LFS**?

3> The Reliability Issue

- Tom Baird, a MUN math professor reports in the newspaper, **The Independent** stated that Statistics Canada (CANSIM Table 282-0011) shows that between October 2012 and October 2104 about 15,600 jobs have been eliminated in this Province (NL) in the public sector! Almost a 22% decline!!
- Subsequently, Ed Downey in The Telegram wrote : "This number is staggering."
- Is the number to be believed?
- Anecdotally, most economy watchers in Newfoundland and Labrador would view the number as dubious since surely someone would have noticed a decrease somewhere.
- On the basis of other Statistics Canada data, the number could also be described as "dubious"

3. Comparison of SEPH and LFS SA Employment in Selected Public Sector Dominated Industries for NL



Source: Statistics Canada, CANSIM 281-0063 (SEPH), 282-0088 (LFS) [REVISED] Collected 15-03-31

PART III:
LME Micro Perspective

Microeconomic Understandings

- Market demand and supply for labour is the sum of all employer demands and all worker supplies.
- All economics agents are rational optimizers! They make decisions which are in their own best interests (over the long run)
- Workers and employers have alternatives available to them and relative prices are used by these agents in making a decision.
- Individuals consider working or not working (relaxing in retirement or taking care of children) and if they decide to work part-time versus full-time or full-year versus part-year.
- Market outcomes are often not efficient outcomes and/or socially desirable (income inequalities and poverty).

Market Dynamics

- Market gravitate towards an equilibrium
- All markets are inter-connected through prices

Workers

- When governments intervene for whatever reason in labour markets and change compensation levels (taxes, transfers, regulations) they cause agents to almost always modify their behaviour!
- Compensation includes wages, fringe benefits (health and dental care), holidays and sick-leave.
- Workers are social beings and so consider well-being of family and friends. Move because of a partner or an ailing parent.
- In pursuing their own interests, employees pursue the interests of their employers.
- Workers make decisions which have long-term consequences such as education, retirement etc. Do so workers consider the net benefits.

Extensions to Behaviour

- Work and associated compensation is not the only factors that affect well-being: location, climate, work-place environment, stress, self-realization, control, security, safety ????

- As "social" individuals may not act rationally e.g. gender, racial, looks, height etc, discrimination exists.

Employers

- BUSINESS: Profit maximizers and cost minimizers.
- Government and NFP Orgs: Cost minimizers and social well-being maximizers.
- Workers hired because needed to produce output.
  - **Gross benefit** of a worker is his/her contribution to output times the unit value of that output in the market place. (As oil prices drop the value of each worker's contribution also drops).
  - **Net Benefit =** Gross Benefit – (Compensation plus any associated labour costs [training, hiring, redundancy etc)
- Contribution = Labour productivity (depends on technology plus managerial skills of employer, unionized environment)
- Need for workers depends on technology.
- **Opportunity costs** for labour depends on price of purchased inputs and capital services (replace LPNs by robots?) TFW vs domestic workers?

Labour Market Tensions

- Both workers and employers would like to control the LM in order to set compensation levels.
- Employers: govts> nurses, teachers,
- Workers through unions, professional associations, unique skills (professional athletes, singers, actors

Role of Governments

- Can affect labour market outcomes through altering employer/worker behaviour.

General Equilibrium

- All markets in an economy are interconnected.

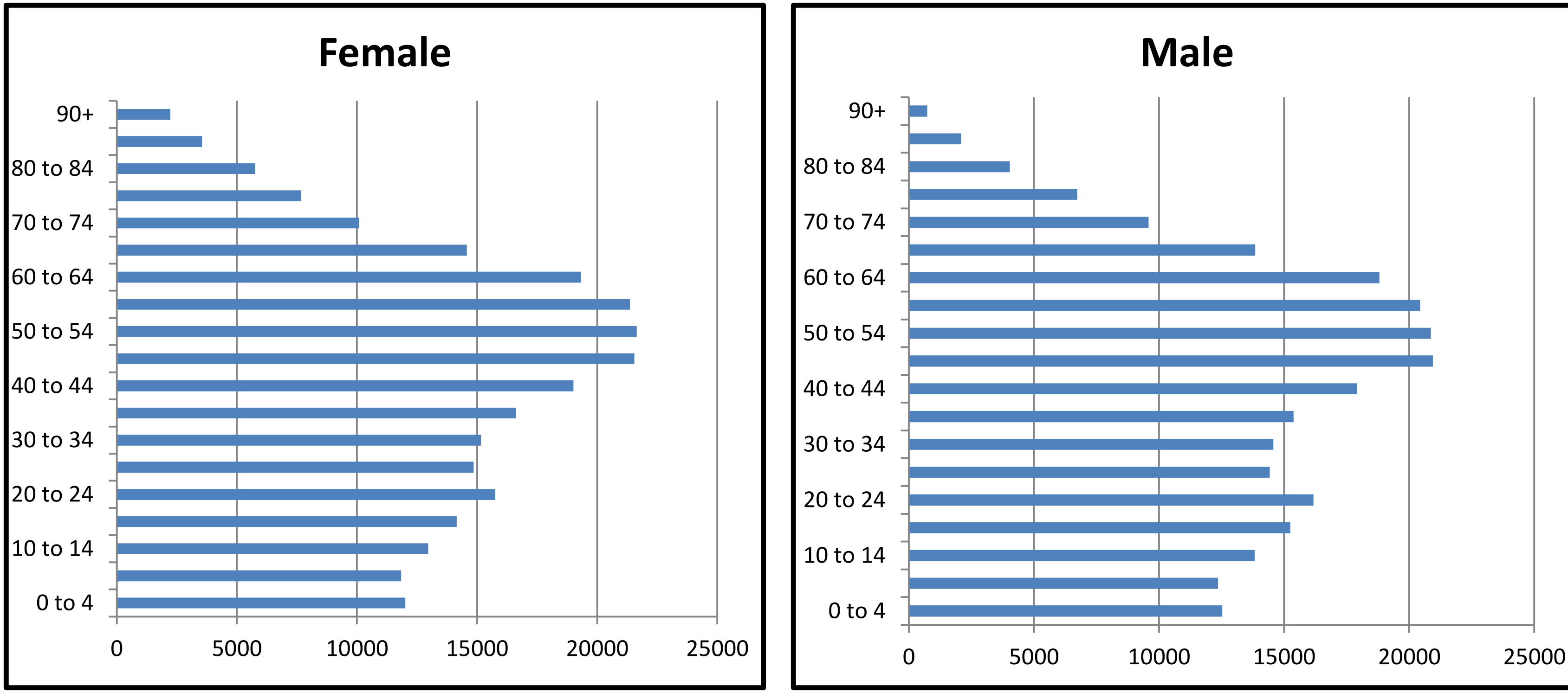
PART IV:
LM Projections

Supply Side Considerations

LM Supply Side Dynamics

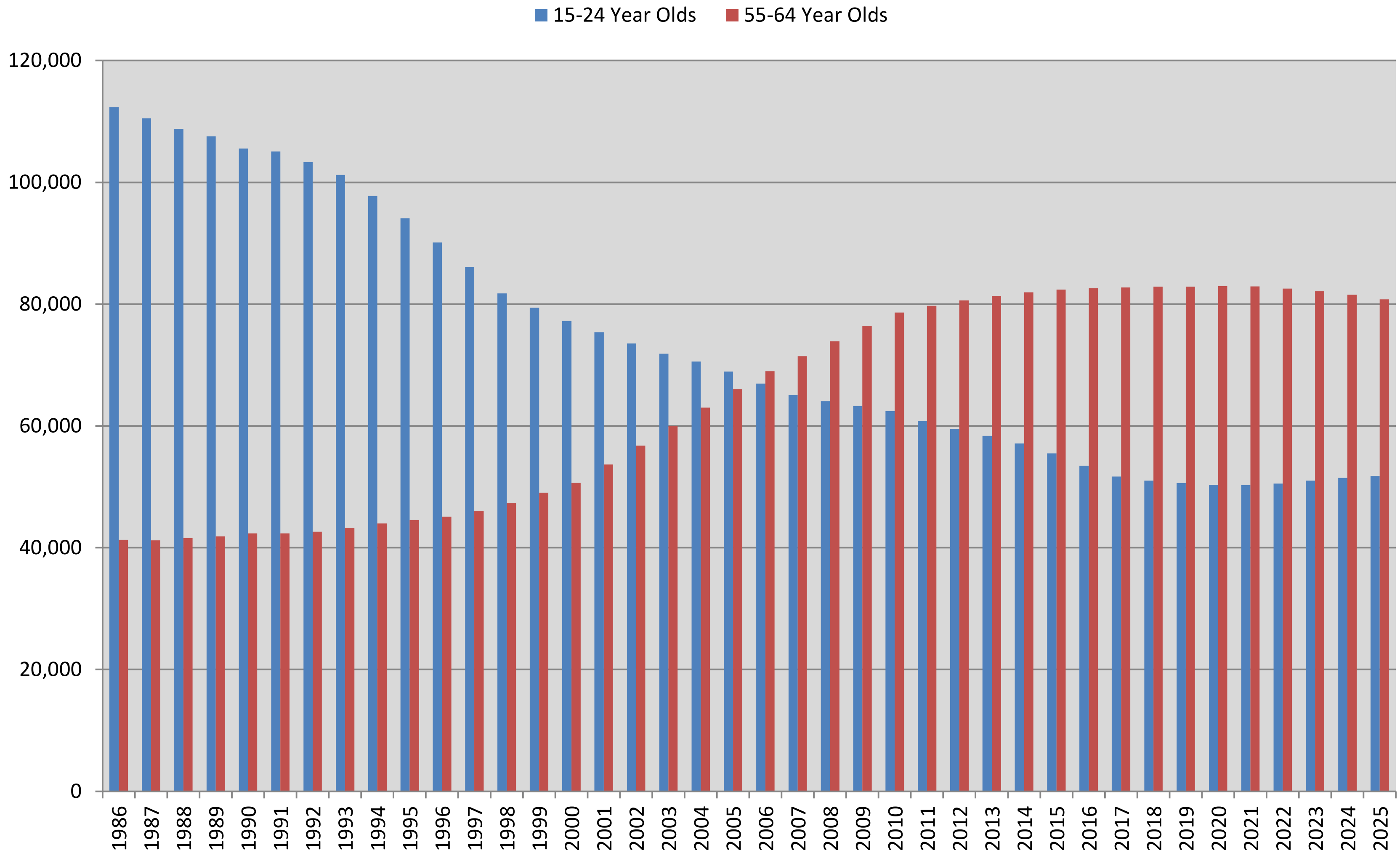
- Within the Province
  - Stayers
  - Leavers
- Within the Country
  - Permanent Migrants
  - Temporary Migrants
- Foreign
  - Permanent
  - Temporary

Age Cohorts



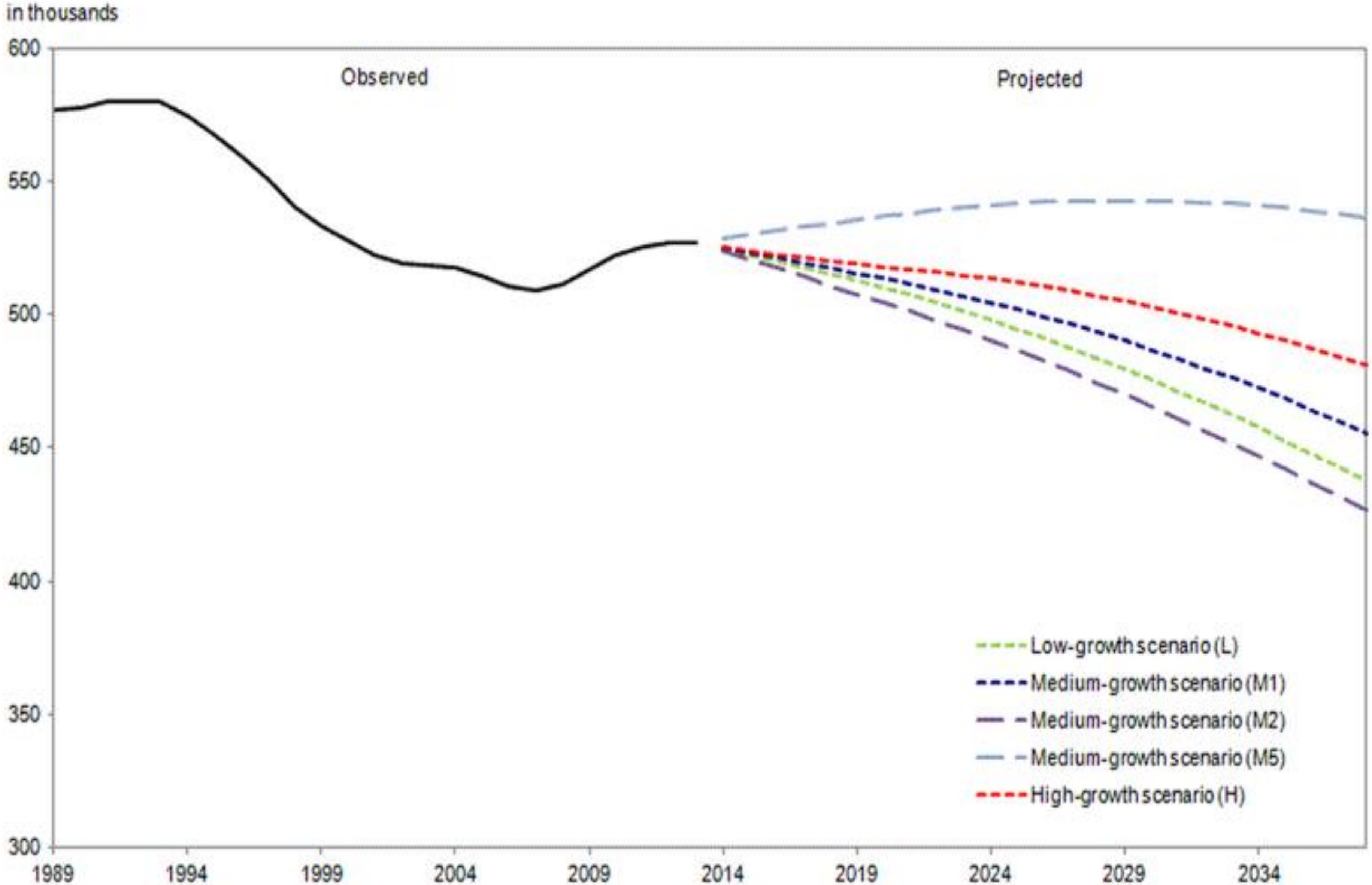
Source: Statistics Canada (Cansim Series v467014, v467015, v467032, v467033, v467053, v467054, v467074, v467075, v467092, v467093, v467113, v467114, v467131, v467132, v467152, v467153, v467173, v467174, v467191, v467192, v467200, v467201, v467212, v467213, v467230, v467231, v467251, v467252, v467254, v467255, v467257, v467258, v467260, v467261, v467263, v467264, v467269, v467270)

Potential Domestic Entrants

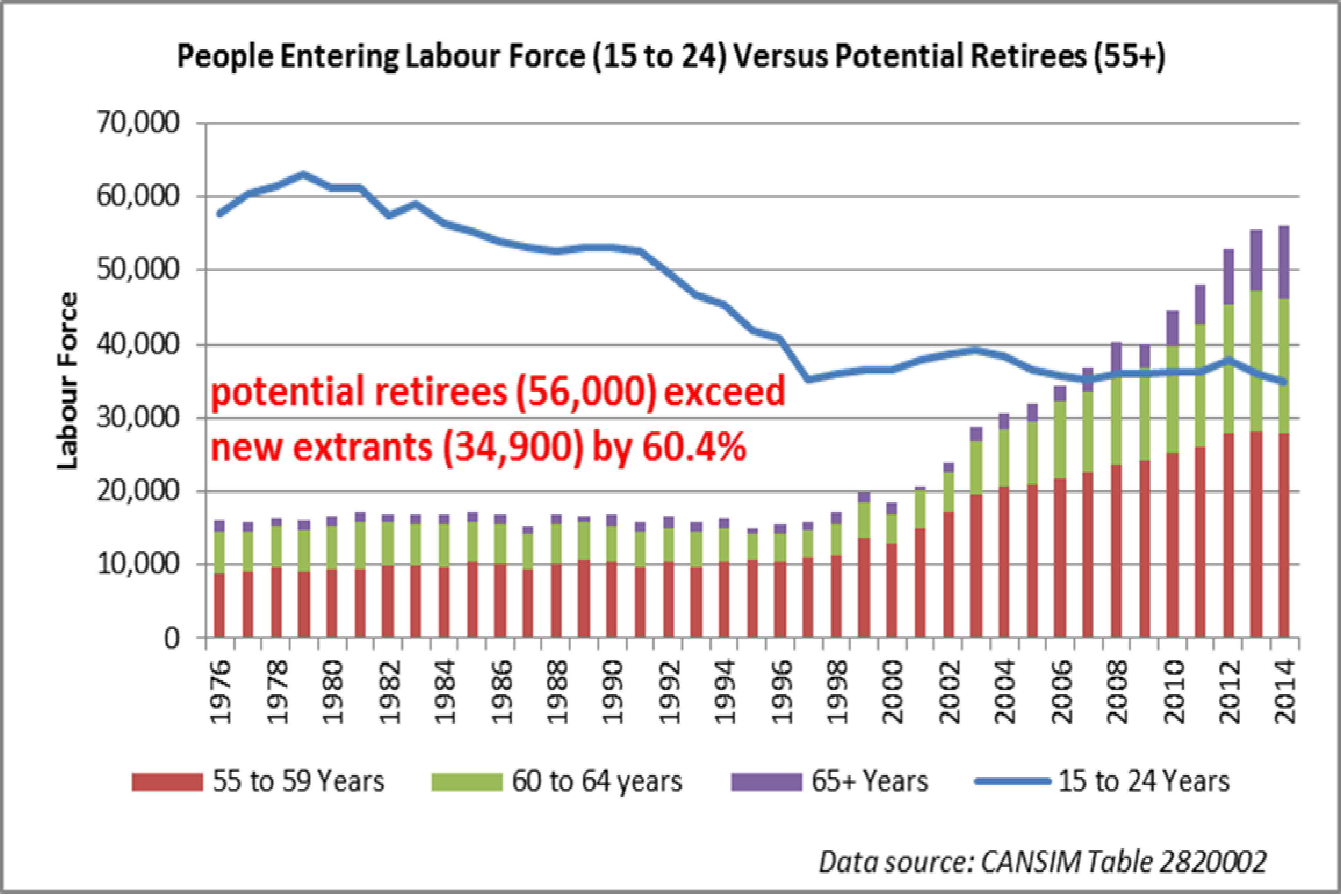


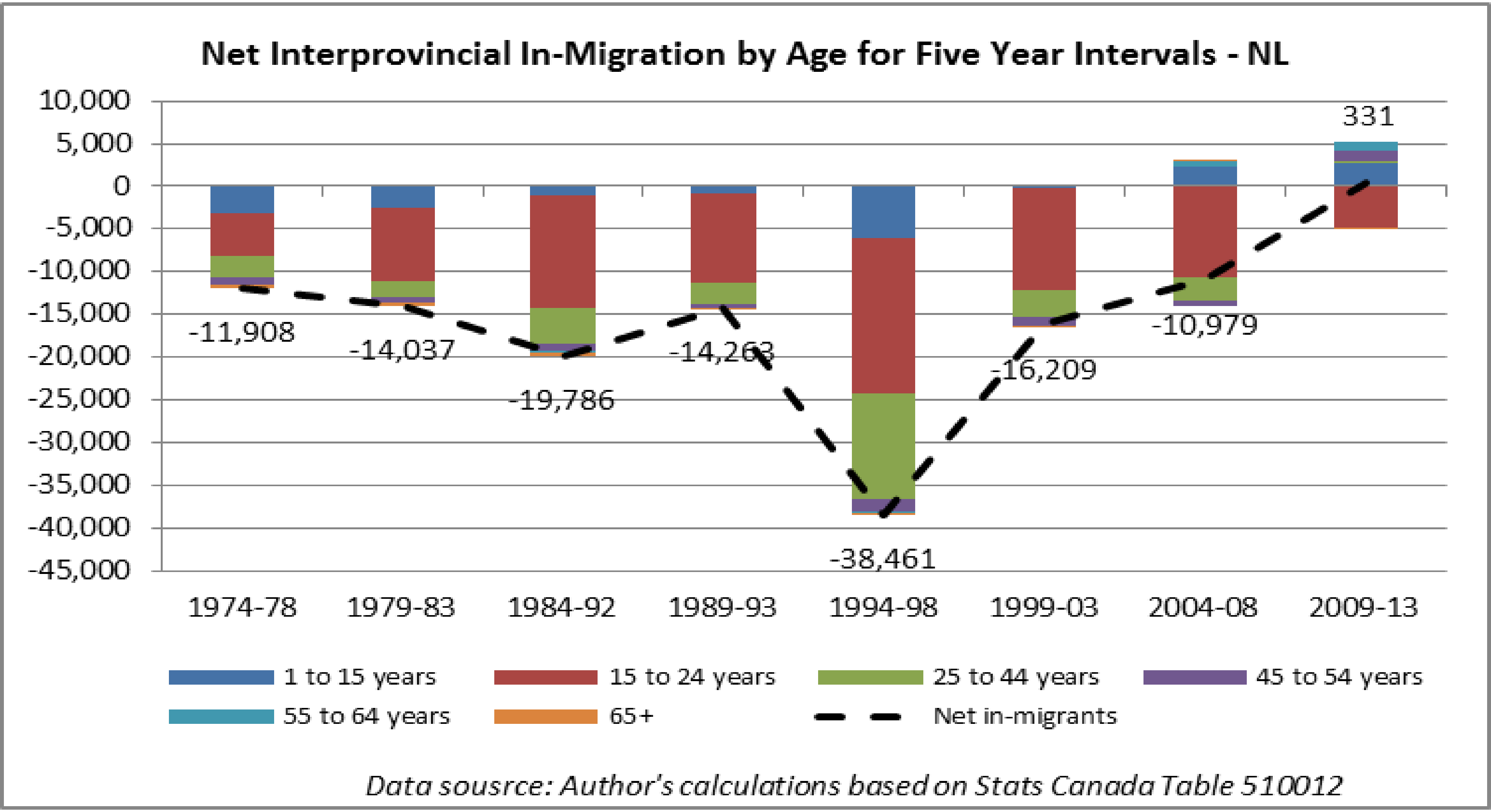
Source: Statistics Canada (population estimates 1986-2010); Economic Research and Analysis Division, Dept of Finance (projections 2011-2025).

Figure 3.1
Population, observed (1989 to 2013) and projected (2014 to 2038) according to selected scenarios, Newfoundland and Labrador

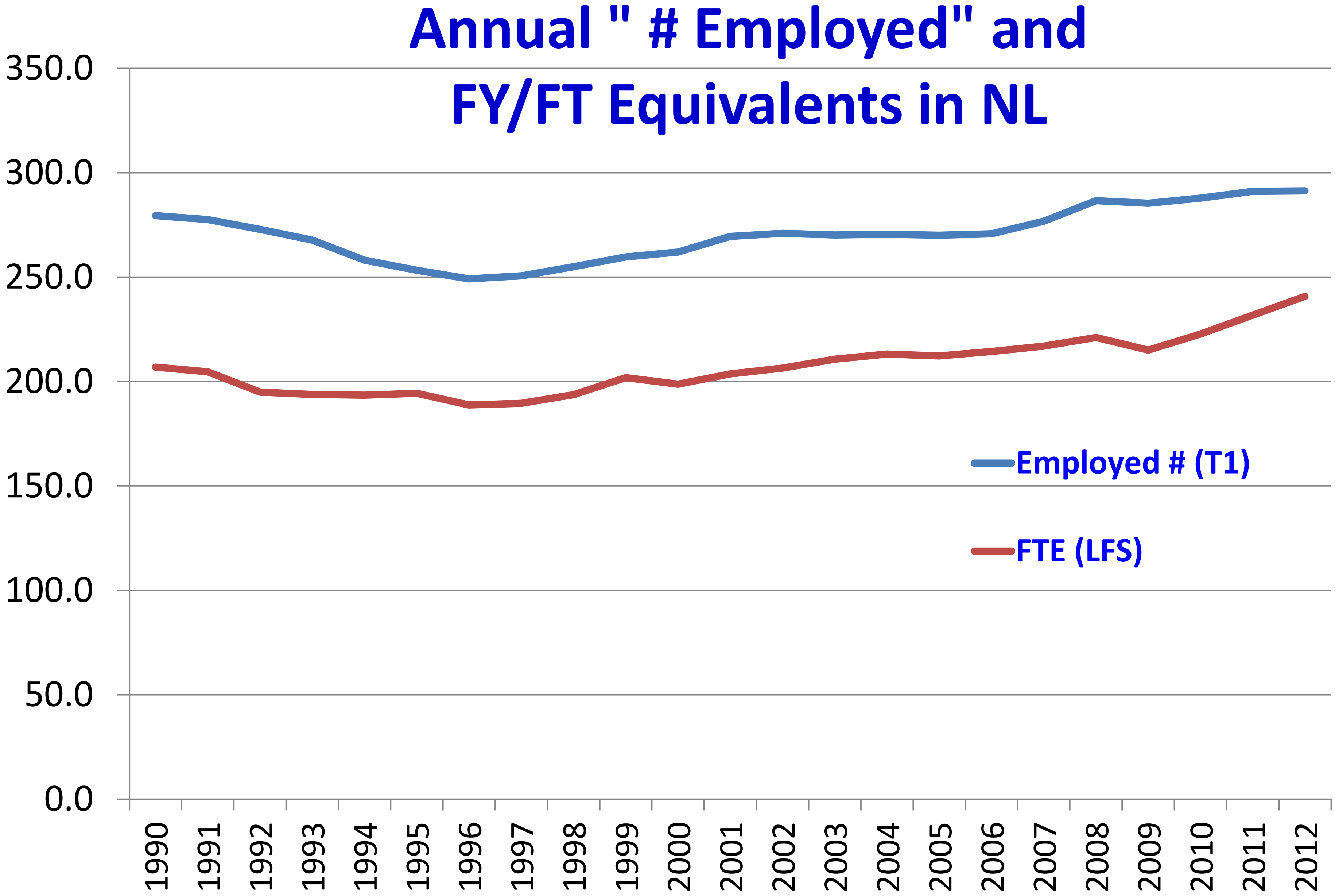


Source: Statistics Canada, Demography Division.


People Entering Labour Force (15 to 24) Versus Potential Retirees (55+)
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
Labour Force
potential retirees (56,000) exceed
new extrants (34,900) by 60.4%
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
55 to 59 Years
60 to 64 years
65+ Years
15 to 24 Years
Data source: CANSIM Table 2820002


Net Interprovincial In-Migration by Age for Five Year Intervals - NL
10,000
5,000
0
-5,000
-10,000
-15,000
-20,000
-25,000
-30,000
-35,000
-40,000
-45,000
331
-11,908
-14,037
-19,786
-14,263
-38,461
-16,209
-10,979
1974-78
1979-83
1984-92
1989-93
1994-98
1999-03
2004-08
2009-13
1 to 15 years
15 to 24 years
25 to 44 years
45 to 54 years
55 to 64 years
65+
Net in-migrants
Data sousrce: Author's calculations based on Stats Canada Table 510012

Demand Side Considerations


Annual " # Employed" and
FY/FT Equivalents in NL
350.0
300.0
250.0
200.0
150.0
100.0
50.0
0.0
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
Employed # (T1)
FTE (LFS)

Employment Growth in NL 1990-2012
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
Employed # (T1)
FTE (LFS)

LM Assumption

- Supply tracks demand: Blanchard and Katz (1992*) Regional Evolutions* for U.S. providing there is inter-state labour mobility.

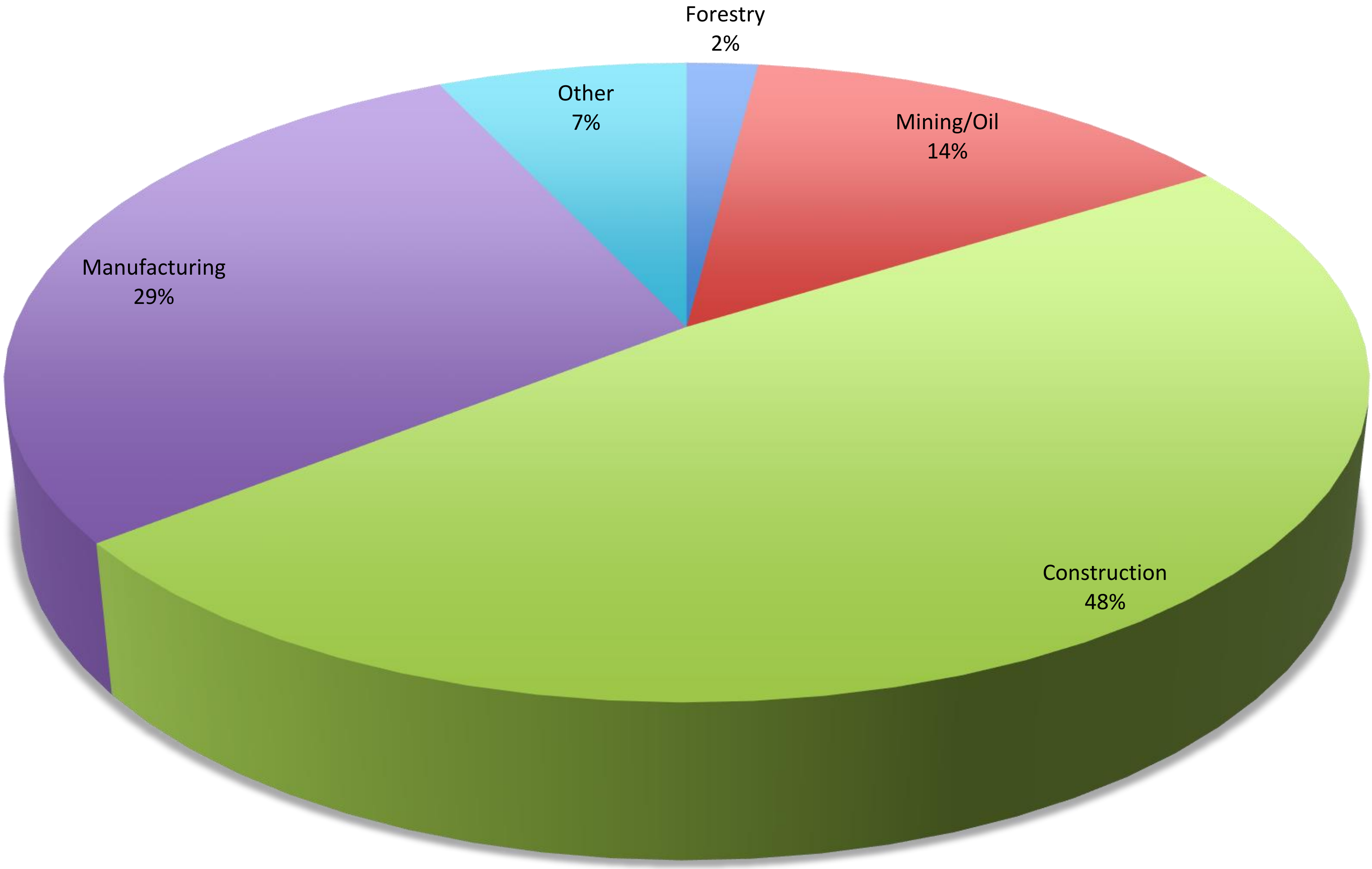
The industries that grew the fastest over the 2000 to 2014 in the province include:

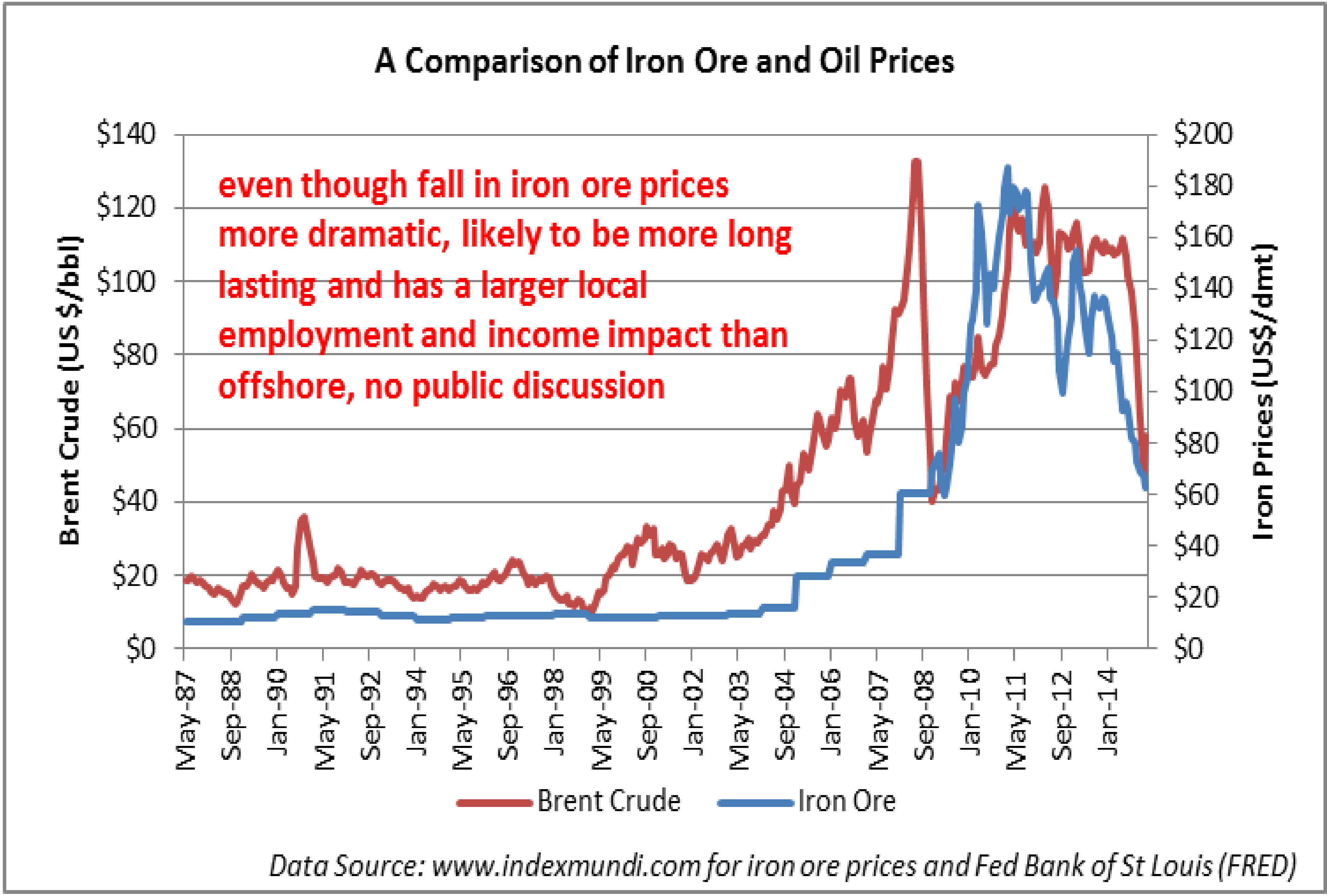
- mining, quarrying, and oil and gas extraction (185.4%);
- construction (113.2%);
- utilities (62.5%);
- professional, scientific, and technical services (51.4%);
- business, building and other support services (33.3%); and
- health care and social assistance (33.0%).

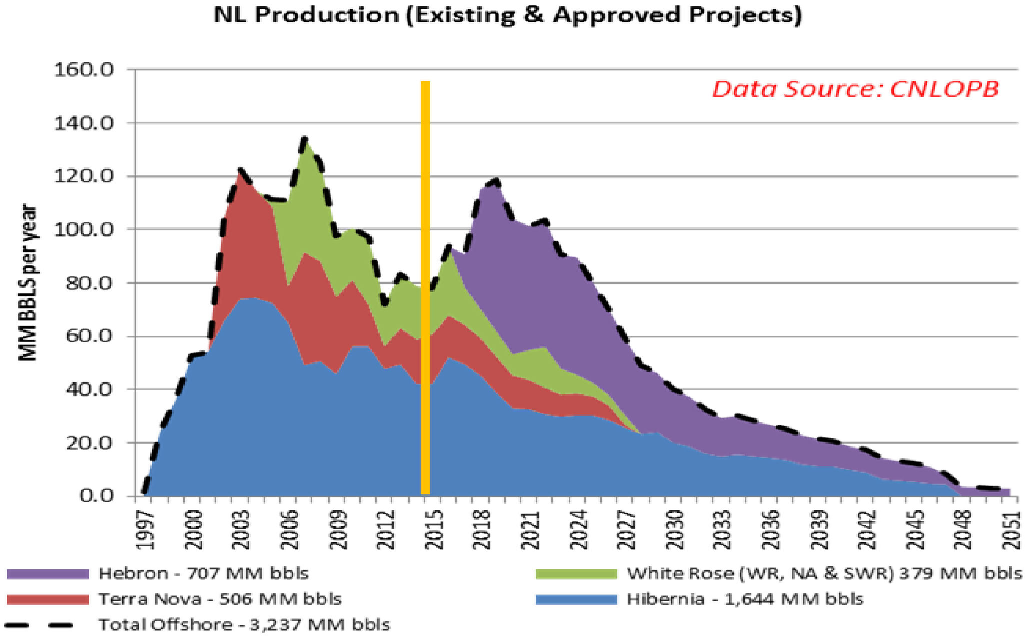
Those that exhibited the strongest growth in terms of absolute employment levels in this period include:

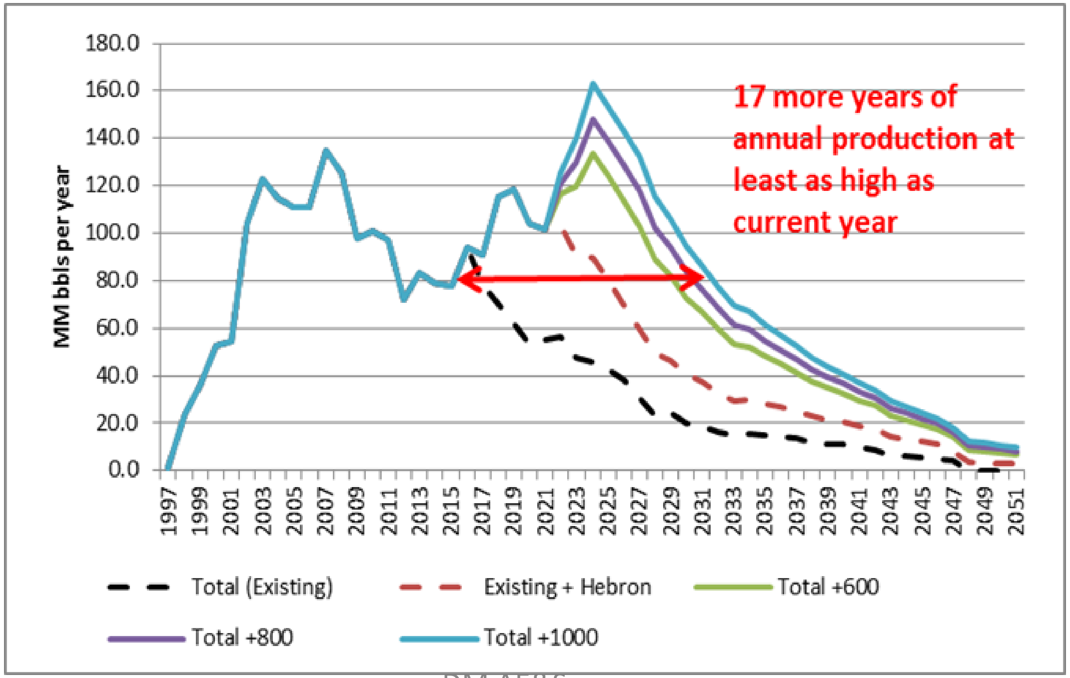
- construction (12,000);
- health care and social assistance (9,300);
- mining, quarrying, and oil and gas extraction (8,900);
- retail trade (3,700); and
- professional, scientific, and technical services (3,600).

Distribution of Paid Workers in Goods Sector Nov 2012



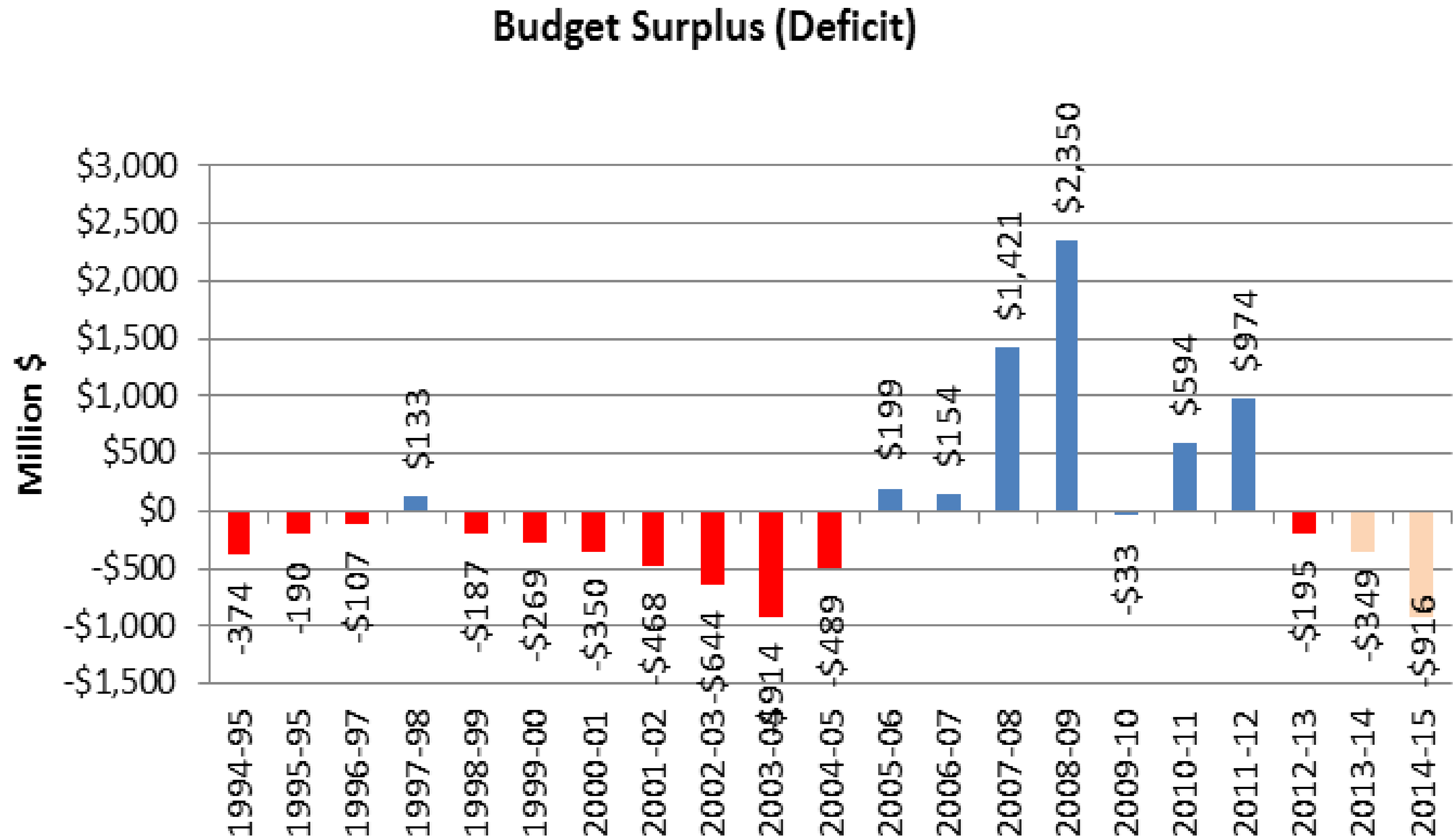

A Comparison of Iron Ore and Oil Prices
even though fall in iron ore prices more dramatic, likely to be more long lasting and has a larger local employment and income impact than offshore, no public discussion
Brent Crude (US $/bbl)
Iron Prices (US$/dmt)
$140
$120
$100
$80
$60
$40
$20
$0
$200
$180
$160
$140
$120
$100
$80
$60
$40
$20
$0
May-87
Sep-88
Jan-90
May-91
Sep-92
Jan-94
May-95
Sep-96
Jan-98
May-99
Sep-00
Jan-02
May-03
Sep-04
Jan-06
May-07
Sep-08
Jan-10
May-11
Sep-12
Jan-14
Brent Crude
Iron Ore
Data Source: www.indexmundi.com for iron ore prices and Fed Bank of St Louis (FRED)


NL Production (Existing & Approved Projects)
Data Source: CNLOPB
MM BBLS per year
Hebron - 707 MM bbls
White Rose (WR, NA & SWR) 379 MM bbls
Terra Nova - 506 MM bbls
Hibernia - 1,644 MM bbls
Total Offshore - 3,237 MM bbls


17 more years of annual production at least as high as current year
MM bbls per year
Total (Existing)
Existing + Hebron
Total +600
Total +800
Total +1000

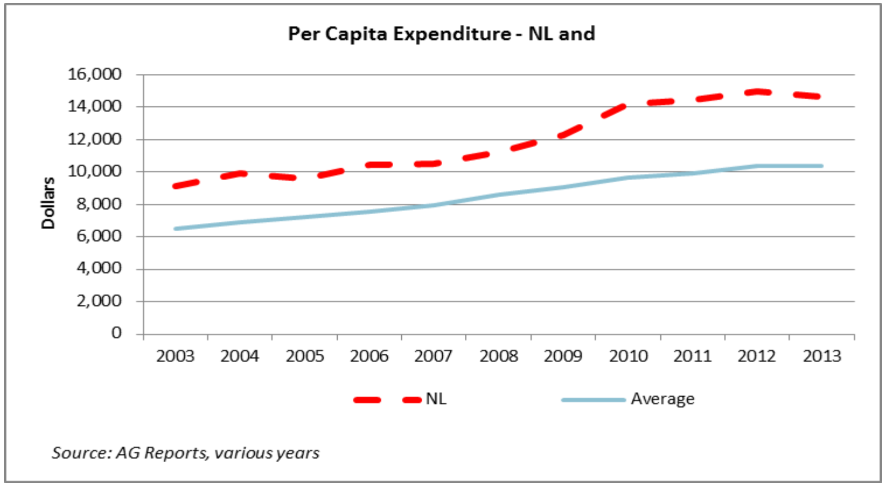
LM Employment Projection for Goods Producing Sector

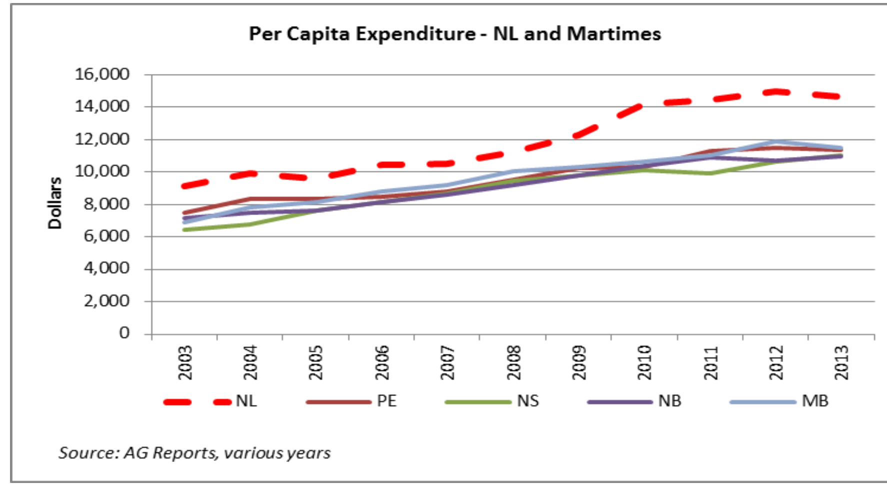
- Likely that new mining jobs will slow down and possibly contract.
- Oil extraction jobs will increase to field extensions and Hebron production but the past is NOT the future.
- Expect large decline in construction jobs to decline due to slow down in Alberta and winding up of large projects in NL: Hebron and Muskrat Falls.
- Decline in employment in fish harvesting and processing other than aquaculture especially with EU trade agreement.

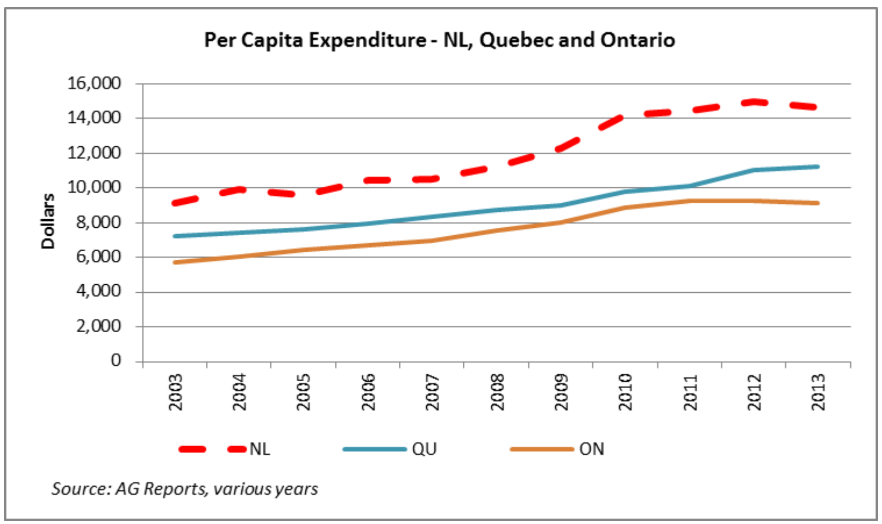


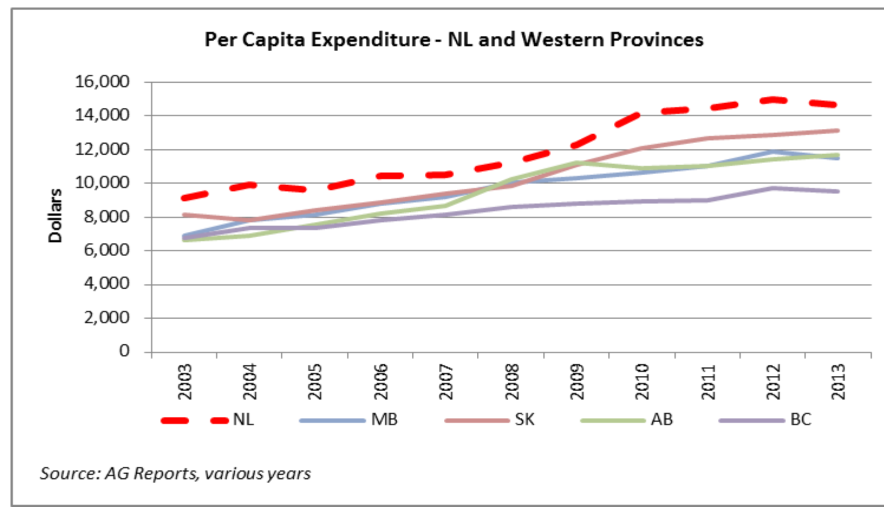
Source: Public Accounts, AG Reports and Budgets, various years

Government Expenditures – A Comparison







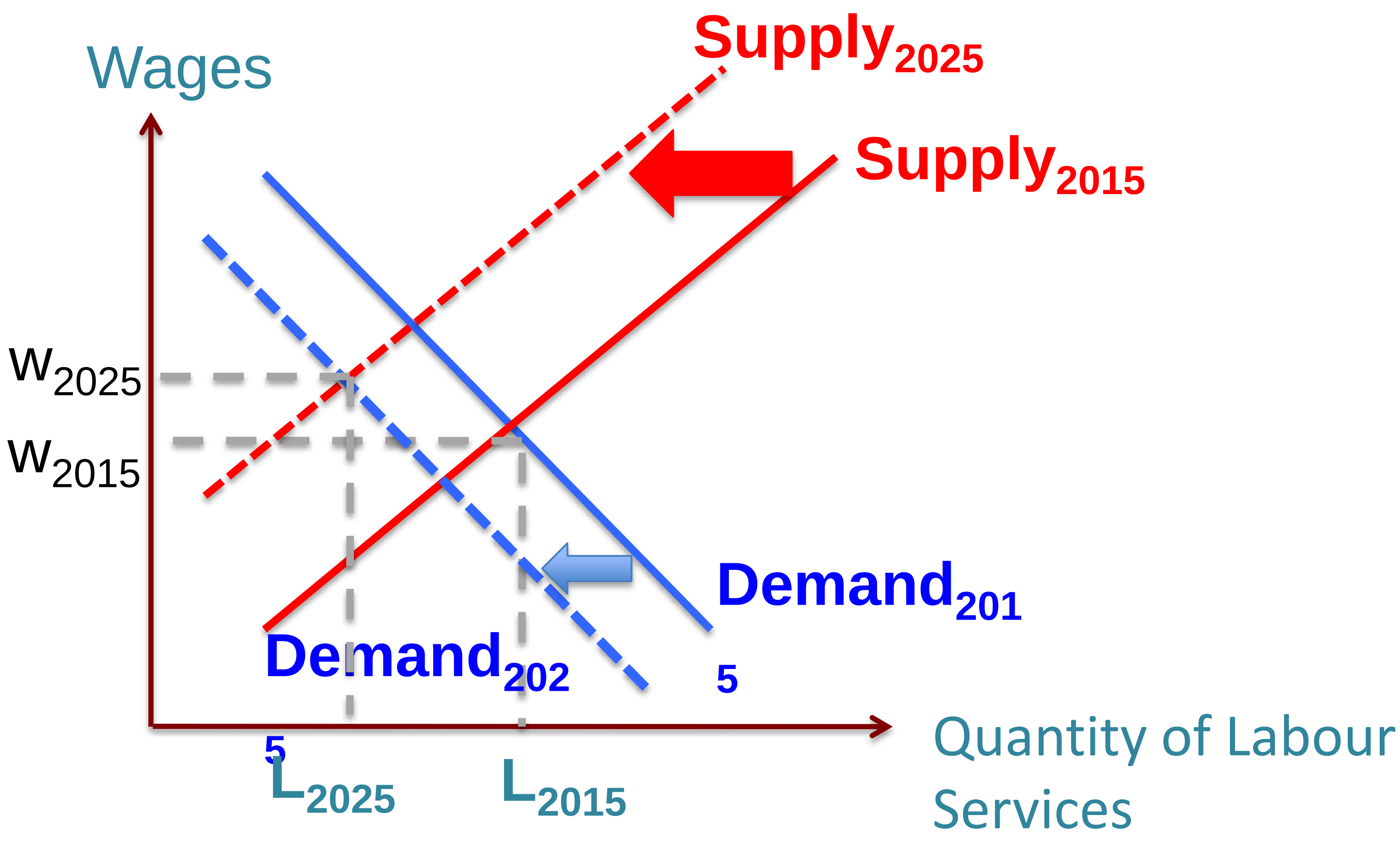


- NL per capita expenditure 44% higher than CDN Ave, 33% higher than Maritime Provinces, 34% than average of QU and 60% higher than ON and 18% higher than SK (the next highest province)

LM Employment Projection for Service Producing Sector

- As government finds itself with looming deficits expect employment levels to decline. Per capita expenditure levels by provincial government are non-sustainable.
- Priorities will be health services BUT employment levels have been level or declining in recent past!
- Nominal wages will be frozen and real wages will decline for the public sector.
- Curtailed public sector spending in 2016-2017 budget will affect economic activity. Breeze this year. Potential gale next year.
- Construction employment in new housing and real estate will fall as will housing prices.
- Employment in wholesale and retail trade will be steady.

A Labour Market Projection for NL



Job Openings?? YES!!

- Although demand contracts supply contracts more due to demographics AND labour market dynamics as people shift industries, occupations and location….NLAD!!

- Expect to see more ugly neon hiring signs outside Tim Hortons!

The talk has ended!

TBTG