

State of NL Economy: From Bad to Worse

A presentation to the Department of Economics

By

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Introduction

- The goal for our speakers' program is to help people to understand the NL economy and the fiscal position of the province in order to help them make better decisions as they relate to NL and issues in their daily lives.
- Funding for these talks are provided by the Vice-President Academic's "Support for Scholarship in the Arts at Memorial Program" and the Collaborative Applied Research in Economics (CARE) initiative. We are very appreciative of this support and it enables the department to satisfy its public engagement role within the university.
- I want to thank you for coming out to hear another staid economics lecture.
- I will try to answer any questions that you may be interested in asking, but I remind you that we need to be civil, respectful and professional in our interaction.
- By attending this lecture, you are guests of the Department of Economics. I will treat you as such and I hope you will reciprocate.

Ten Key Messages (1)

- 1. The collapse of commodity prices (i.e., primarily oil prices) has had a dramatic and negative effect on NL. Clearly, the economy is struggling. The province is incurring large deficits, expanding debt, lower employment and rising unemployment. While there is hope that things will get better, currently, there is no clearly articulated plan of how to get there.**
- 2. We need a clear vision of where we want to go to from here and a straight-forward explanation of how we are going to try and get there. Political mumbo-jumbo and obfuscation are not part of the solution.**
- 3. It is important to appreciate that we have an expenditure problem, that is exacerbated by and has been exposed by the collapse of oil prices, but needs to be addressed separately from whatever happens with the price of oil.**
- 4. Health care costs are and will be one of the biggest drivers of public expenditures within NL. To control these costs and to mitigate their significance without compromising health outcomes, we need a Royal Commission or taskforce that can examine all aspects of health care costs – the problem of controlling health care costs is multi-faceted and the solutions will need to be multi-dimensional.**

This might include, for example, providing more physical education in school, improved education on healthy eating/lifestyles, a review of the incentive structures faced by primary care providers, more effective scope of practice definitions for primary care providers, streamlining infrastructure, implementing institutional reform, increasing cost awareness for patients and other users of the health care system, and there are many other facets that will need to be addressed to end up with a system we want, can afford and for which we are willing to pay.

No one group of stakeholders has all of the solutions or all of the answers to the array of questions that need to be addressed; especially given the economic development implications of health care expenditures on a sub-provincial basis

Ten Key Messages (2)

5. Stopping **Muskrat Falls** is not an option. **However, it is** unambiguous that we need a comprehensive inquiry into all the issues surrounding the development of Muskrat Falls.

There are just too many unanswered questions that have to be addressed. We need to know what happened, how it happened and how we can avoid repeating the problems associated with this project; especially given that we are likely to develop other projects such as Gull Island.

And yes, if it is deemed helpful by the commission, invite Wade Locke. No one should be exempt, not even the current premier.

In an inquiry, the kinds of questions that, in my opinion, need to be answered are:

- a) How can the forecast demand for electricity change by 20% in eight months (Sept 2015 to May 2016). With this change, we currently not expected to get to 2020 levels of demand for electricity until 2036? This is particularly troubling since these estimates were forecast in 2015 (not 2012).

It is important to appreciate that with this change in forecast demand, had it been known at the time of sanction, there would have alternate ways of meeting domestic energy demand other than Muskrat Falls. In short, there would not have been a need for Muskrat Falls and other options may have been feasible (i.e., at lower costs).

- a) In 2012, should we have known that the price of oil would decrease by the amount it did in 2014? Is there something that we ought to have done to minimize this risk and if so, why didn't we do it?

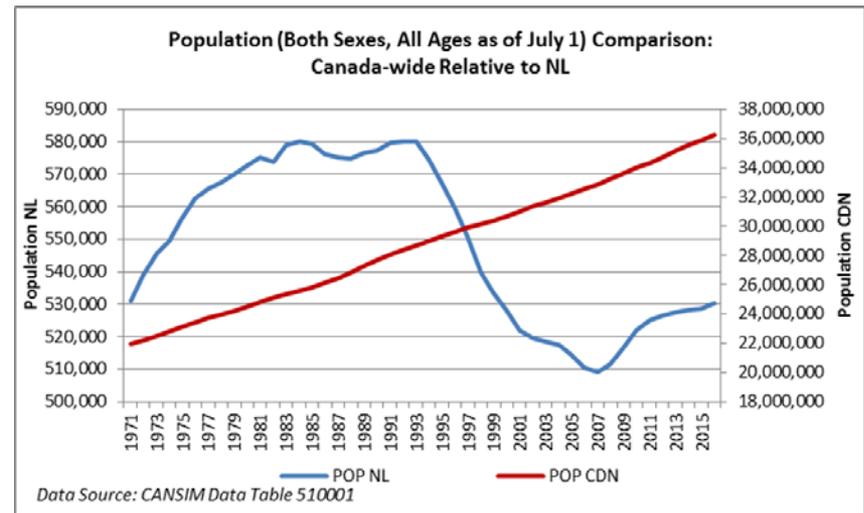
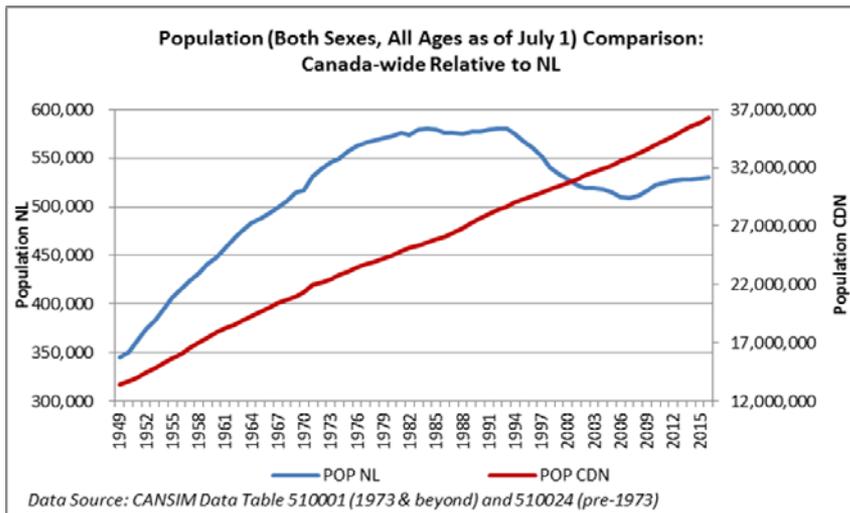
It is important to recognize that hindsight is more than 20-20 because sometimes people see what they want to see and sometimes they see it through a political lens.

- a) How did the costs escalate as they did? Was it deliberate (i.e., a conspiracy to achieve some undefined and unclear goal) or was accidental (i.e., bad luck or incompetence)? As well, we need to understand whether the incentive structure provided through the hiring of embedded contractors had anything to do with project delays?

Ten Key Messages (3)

6. Marketing without substance **is probably** more hurtful than helpful, **even though it produces an attractive sound bite (e.g., The Way Forward sounds better than We Will End Up Somewhere, but the former is probably no more precise than the latter).**
7. Continuously whining **about the** previous government's **responsibility for all the fiscal problems that NL currently faces** is not productive. **At some point, you have to start doing things for which you will be judged responsible and are positive and make the situation better. Hopefully, in two years, the government elected at that time can say with honesty that the administration previous to them (i.e., the current liberal government) left a positive legacy which has set NL on a path to sustainability and improved well being.**
8. **Establishing** commissions without expertise and support **(e.g., the NL Tax Review Commission) is not an effective strategy and, in my opinion, can be most damaging of all the initiatives being undertaken by the current government.**
9. **The data you are about to see can be summarize as follows: anything good, NL is currently at the bottom (e.g., employment growth, employment rates, participation rates) and anything bad, NL is currently at the top (e.g. unemployment rate, health care costs, diabetes, obesity).**
10. **For the residents of the province and for the government, in particular, it is important to educate yourself, know your options as a province, understand your constraints, make a clear decision and then communicate this in a transparent way that is easily understood. We are in a deep hole and we all have to work as a team to legitimately find the best way forward!**

Population Levels and Change



| | CDN | NL | PEI | NS | NB | QU | ON | MN | SK | AB | BC |
|--------------|--------|--------|-------|-------|-------|--------|--------|-------|-------|--------|--------|
| 1993 to 2007 | 14.7% | -12.2% | 4.2% | 1.2% | -0.5% | 7.5% | 19.4% | 6.4% | -0.5% | 31.7% | 20.3% |
| 1949 to 2016 | 169.8% | 53.7% | 58.1% | 51.0% | 49.0% | 114.5% | 219.4% | 74.1% | 38.3% | 380.6% | 326.9% |

The cod moratorium has changed the demographic profile within the province, relative to the country as a whole and relative to all other provinces.

Between 1993 and 2007 our population fell by 12.2%.

NL is only Canadian province to have experienced a population loss over the period 1990 to 2016

We are getting fewer people (and as demonstrated below, we are getting older)

Population Shares and Change

| | POP SHR NL | POP SHR PEI | POP SHR NS | POP SHR NB | POP SHR QU | POP SHR ON | POP SHR MN | POP SHR SK | POP SHR AB | POP SHR BC | POP SHR AC | POP SHR WEST CDN |
|----------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|------------------------|
| Pop Share 1949 | 2.57% | 0.70% | 4.68% | 3.78% | 28.87% | 32.56% | 5.63% | 6.19% | 6.58% | 8.28% | 11.72% | 26.68% |
| Pop Share 2016 | 1.46% | 0.41% | 2.62% | 2.09% | 22.95% | 38.54% | 3.63% | 3.17% | 11.72% | 13.09% | 6.57% | 31.62% |

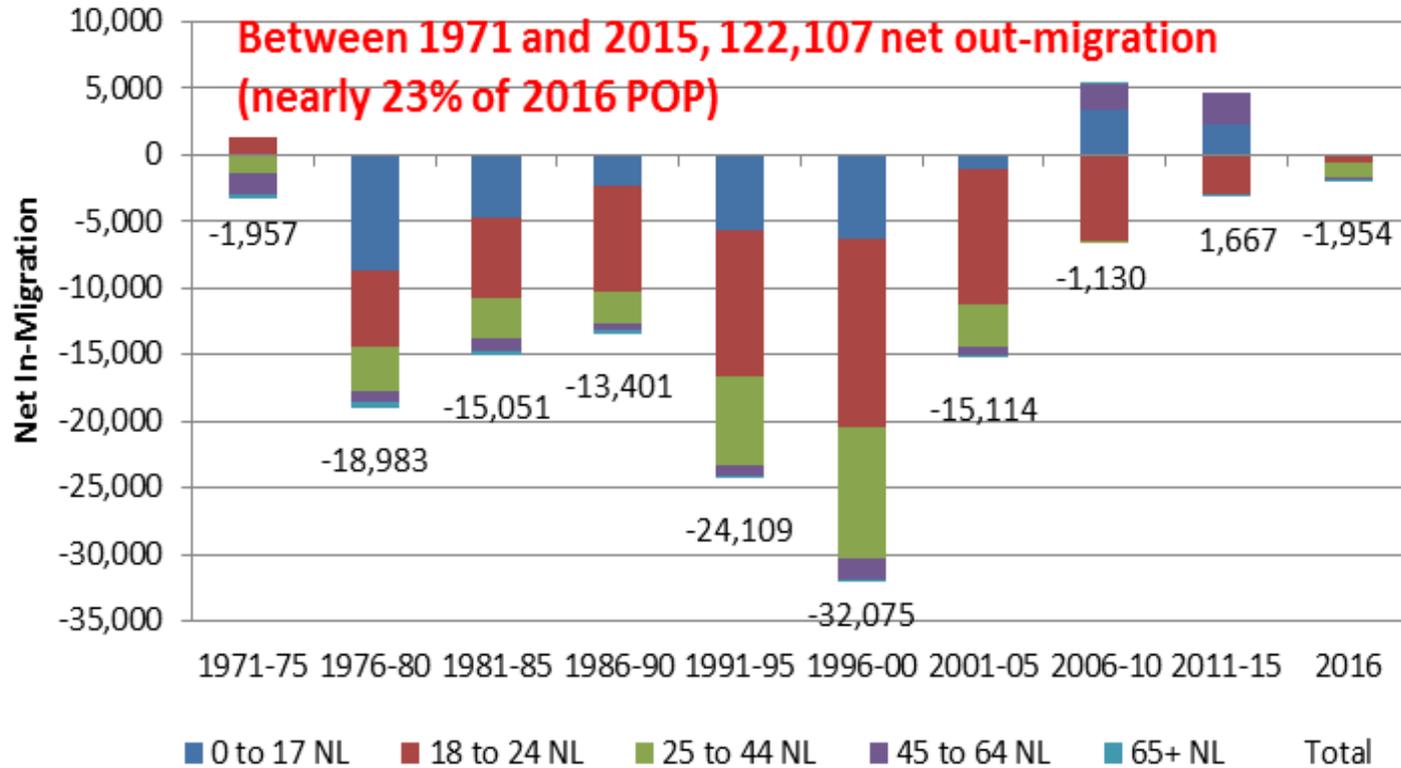
NL's population share within Canada has decreased by more than a full percentage point.

Interestingly, population shares have been decreasing in the east and increasing in the west.

The loss of AC's population share (-5.15%) has been about the same as the gain in the western provinces (4.94%) and the loss of QU population share (-5.92%) has been similar to that gained by ON (5.98%).

This has implications for political influence and importance within the federation.

Net Interprovincial In-Migration by Age for Five-Year Intervals - NL

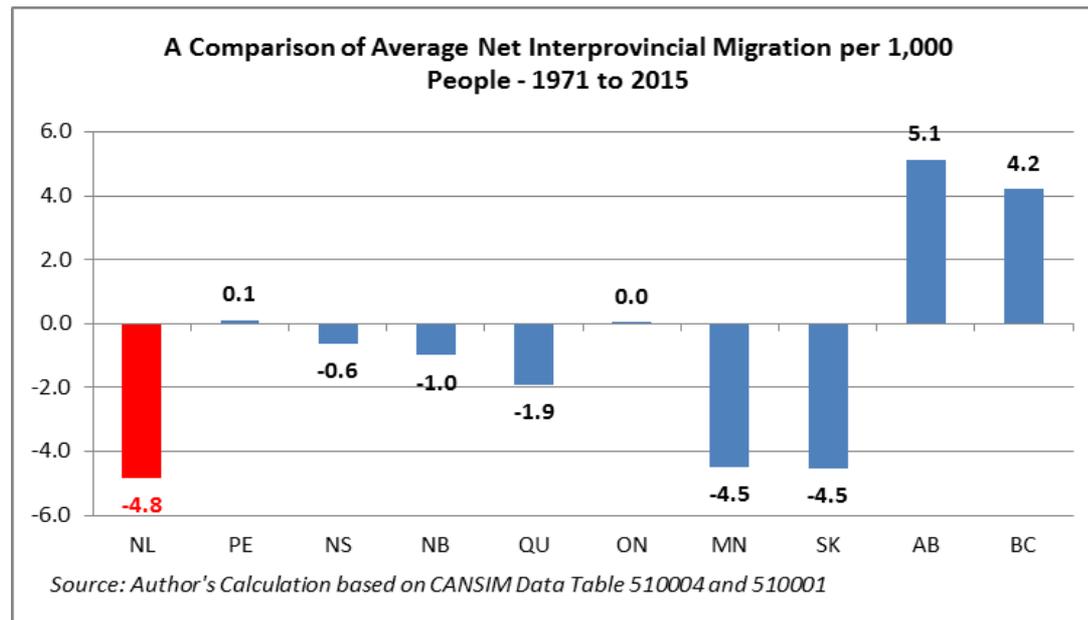


Data source: Author's calculations based on CANSIM Table 510012

Recent in-migrants are in 45 to 64 group and 0 to 17, coming for jobs with families, but even that appears to have reverse in 2016

Net Interprovincial Migration per 1,000 People

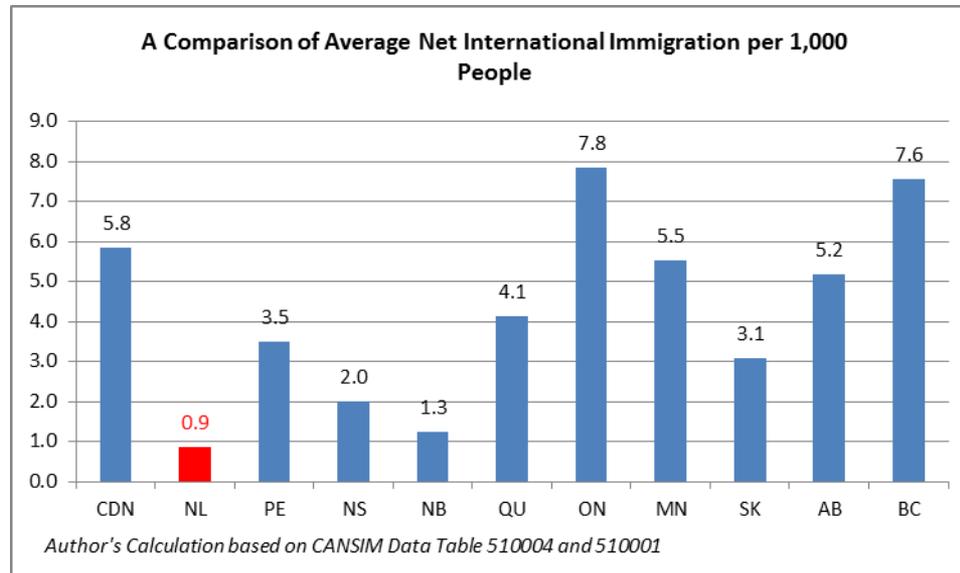
| Average Net Interprovincial Migration per 1,000 People – 1971 to 2015 | | | | | | | | | | | |
|---|-----|------|-----|------|------|------|-----|------|------|-----|-----|
| | CDN | NL | PE | NS | NB | QU | ON | MN | SK | AB | BC |
| Average | 0.0 | -4.8 | 0.1 | -0.6 | -1.0 | -1.9 | 0.0 | -4.5 | -4.5 | 5.1 | 4.2 |



Over the period (1971 to 2015), NL leads the country in interprovincial out-migration, but MN and SK are close and AB and BC have been the net beneficiaries of this movement of people with Canada

Peak out-migration was 1997 when 17.6 more people per 1,000 population left the province. This was not the highest in the country. Saskatchewan had 20.6 people per 1,000 population leave in 1971 and 19.3 people per 1,000 population leave in 1989

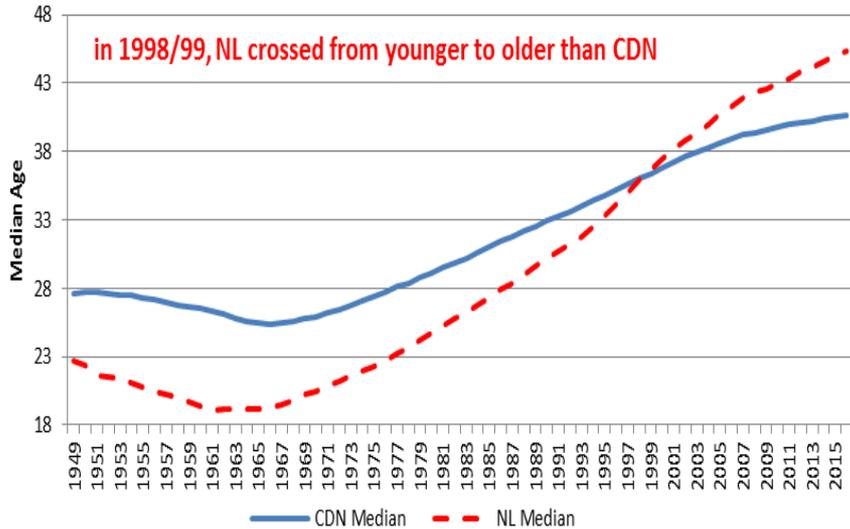
Demographics – Net International Migration per 1,000 People



| Average Net Interprovincial Migration per 1,000 People – 1971 to 2015 | | | | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | CDN | NL | PE | NS | NB | QU | ON | MN | SK | AB | BC |
| Average | 5.8 | 0.9 | 3.5 | 2.0 | 1.3 | 4.1 | 7.8 | 5.5 | 3.1 | 5.2 | 7.6 |

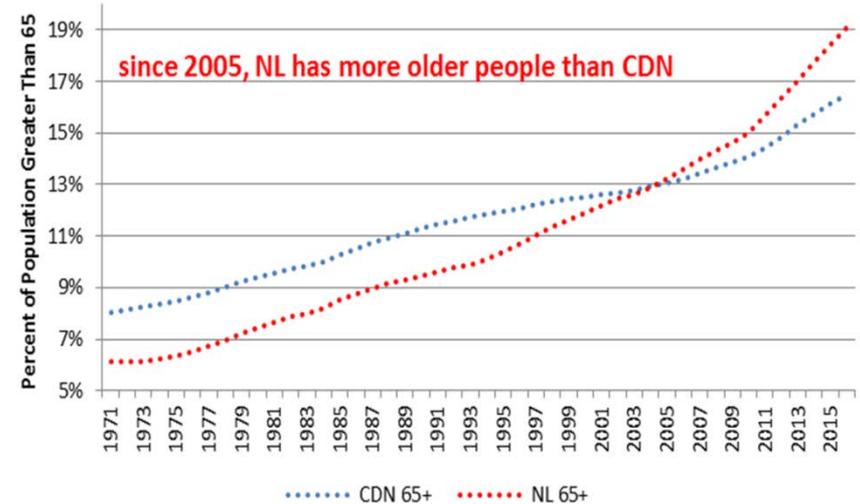
Over the period (1971 to 2015), NL lagged the country in international immigration. We really have not taken advantage of international immigration.

Comparison of Median Age - NL and CDN



Data Source: CANSIM Data Table 510001 (1971 & beyond) and D892901 & D892583 (pre-1971)

Comparison of Proportion of Population More than 65 Years of Age - NL and CDN

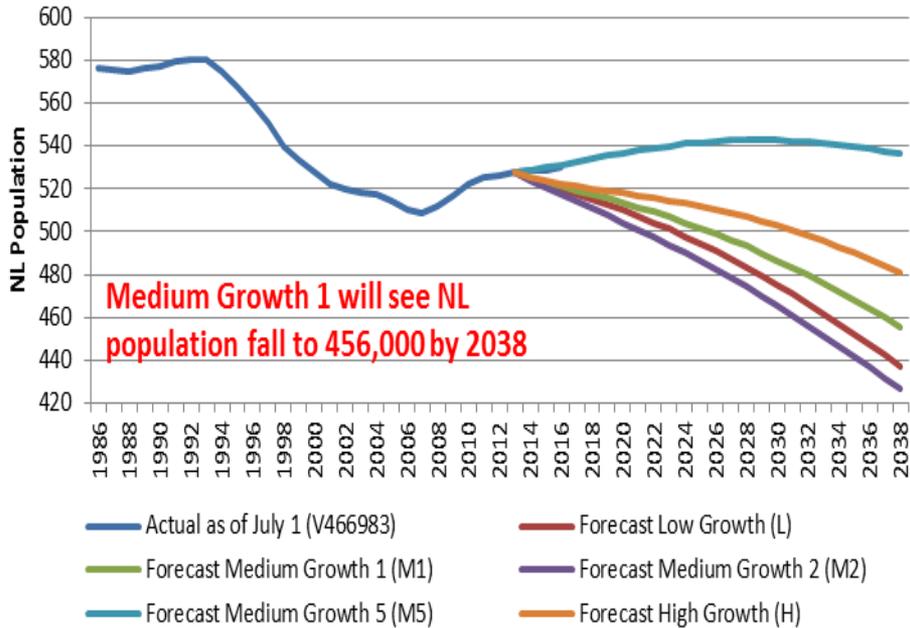


Data Source: Author's Calculations Based on CANSIM Data Table 510001

Of any Canadian province, NL went from the youngest to the oldest population (as measured by median age)

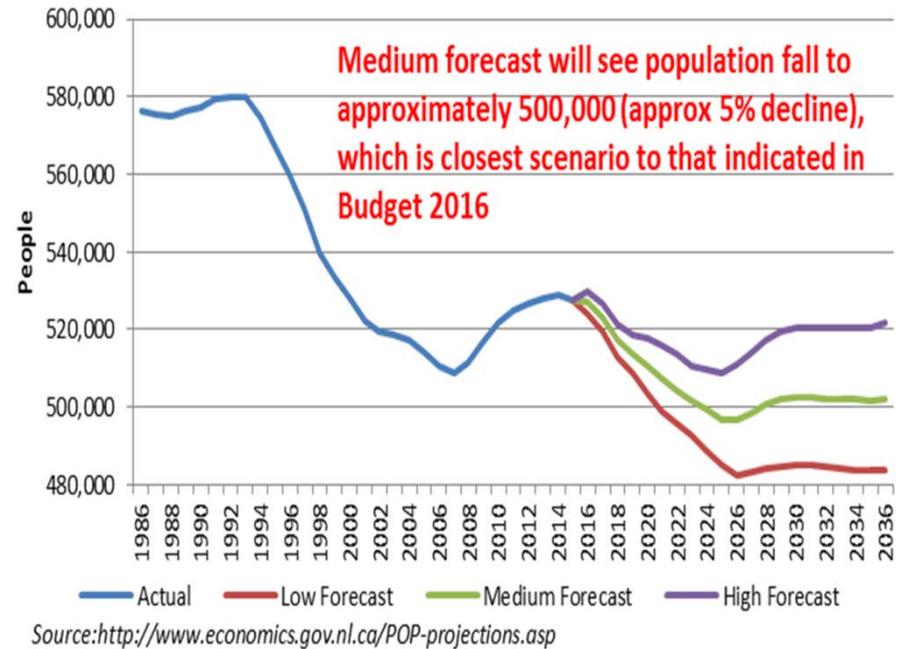
NL has gone from the province with the lowest population share aged 65 years of ages and older to a province with the highest share (except for the other Atlantic Provinces and NL is comparable to those provinces currently and it is about to quickly overtake them).

NL Population (Stats Canada Projections - Modified: May 26, 2015)



Source: <http://www.statcan.gc.ca/pub/91-520x/2014001/c-g/desc3.1-eng.htm>

NL Population (Actual and Forecast - NL Finance July 2016)

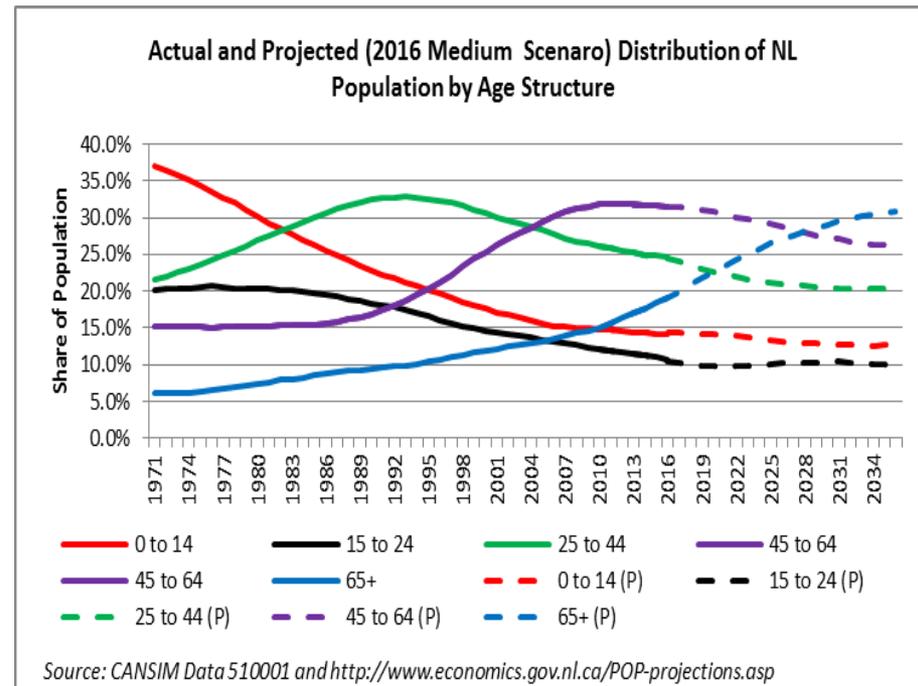
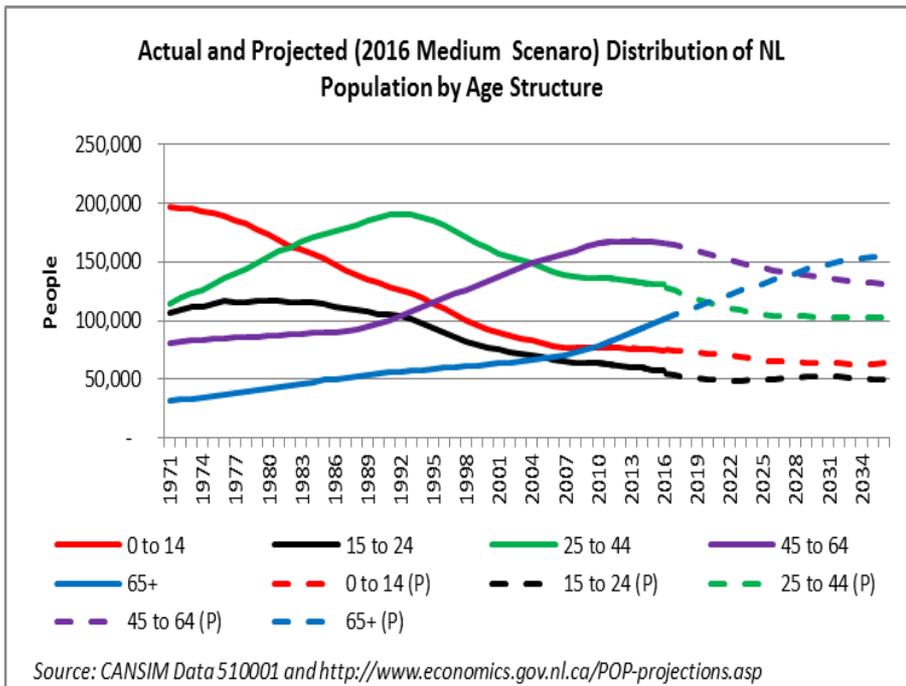


Source: <http://www.economics.gov.nl.ca/POP-projections.asp>

While these demographic projections were developed before the collapse of oil, medium growth forecast will see a substantial fall in NL's population – 450,000 (Stats Canada M1 projection) or 500,000 (NL Finance medium projection)

The number of people who are 65+ will double and lead all provinces by 2038

NL's population is comprised of fewer and older people

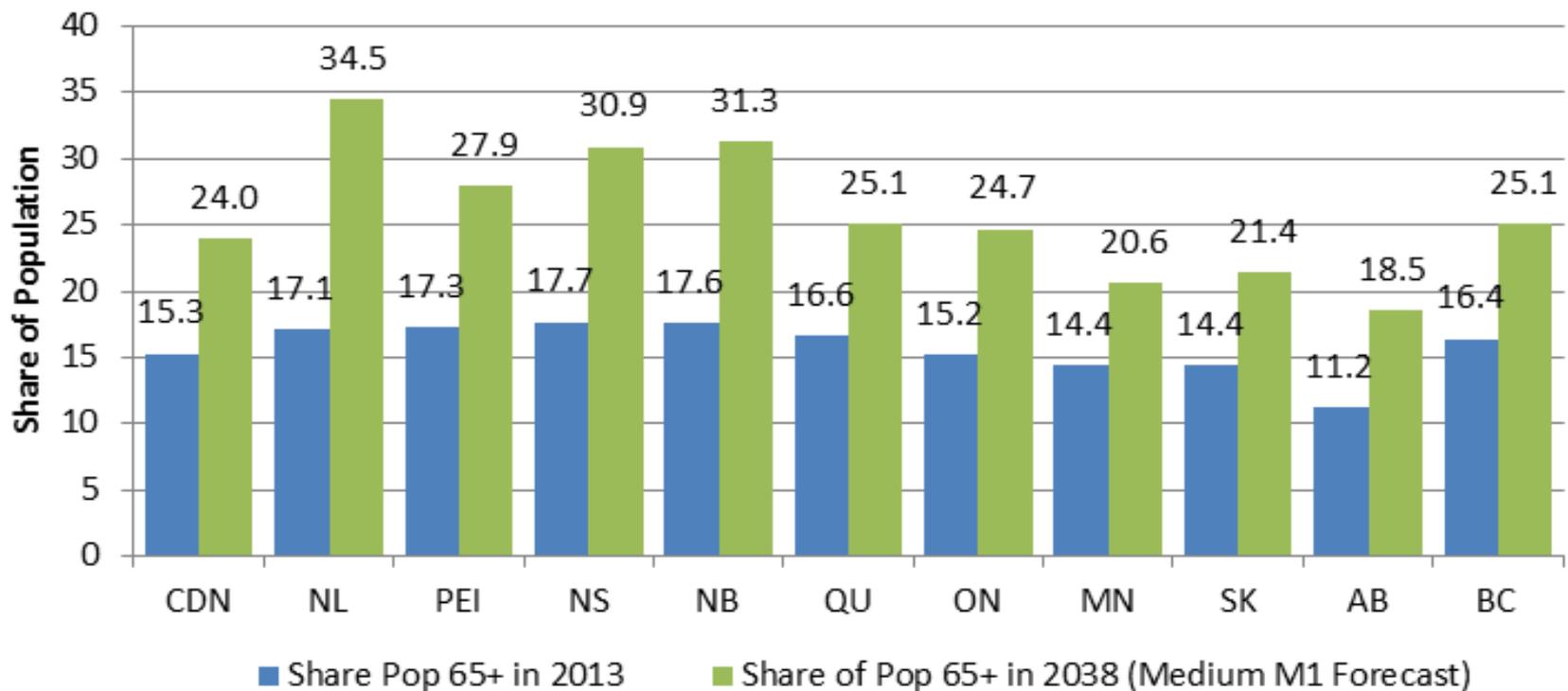


Under the NL-Dept of Finance, medium-growth scenario, the population starts to stabilize around 500,000 people

Young people and prime age workers have been declining and are expected to continue to decline in both absolute and relative terms

This does not bode well for labour supply and for the provision of public services (especially health care)

Share of Population 65 Year and Older in 2013 and 2038 (Stats Canada Medium M1 Growth Forecast - Modified: May 26, 2015)

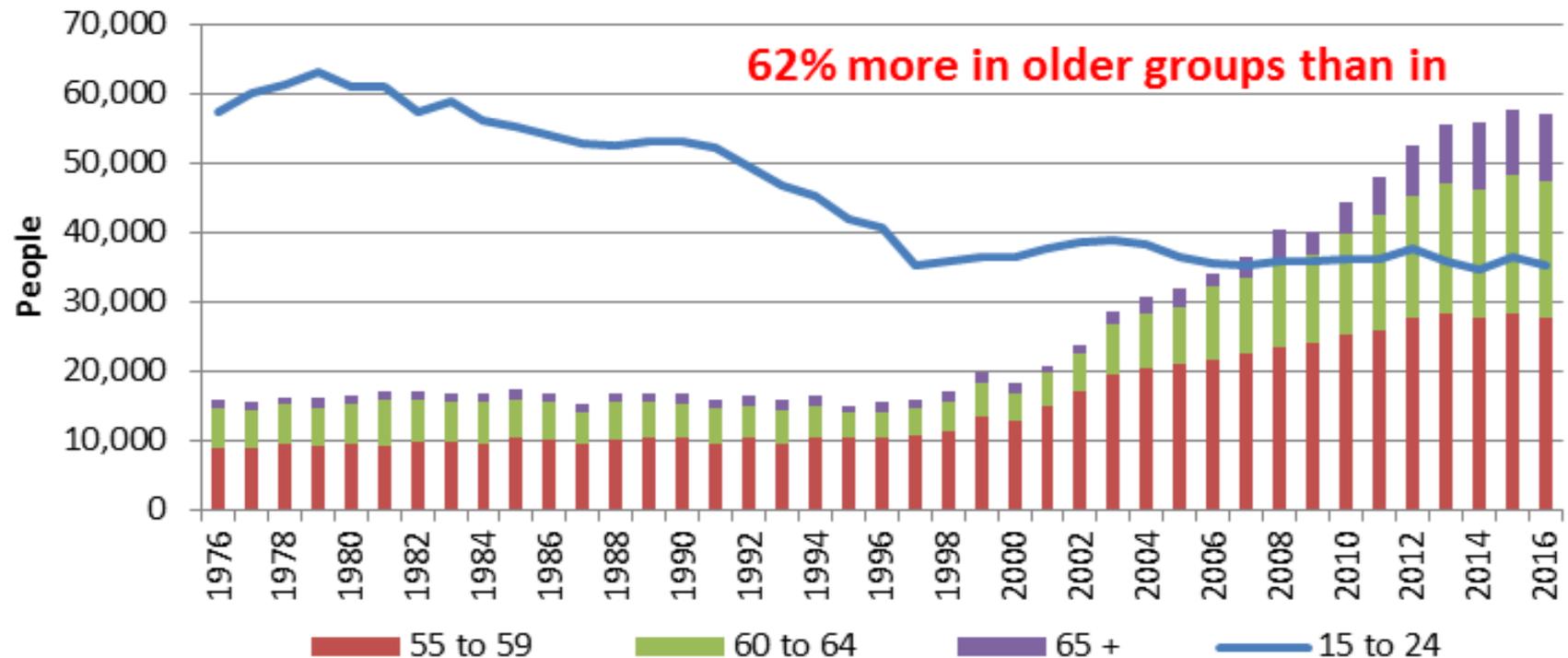


Source: <http://www.statcan.gc.ca/pub/91-520-x/2014001/tbl/tbl3.5-eng.htm>

It has been estimated that NL's standard of living will fall by 20% due to the effects of aging alone. This is independent of any fiscal issues, enhanced out-migration due to lower job prospects, higher taxes and reduced public services and any issues caused by lower commodity prices making resource development less attractive

Labour Force

People Entering the Labour Force Versus People Getting Ready for Retirement

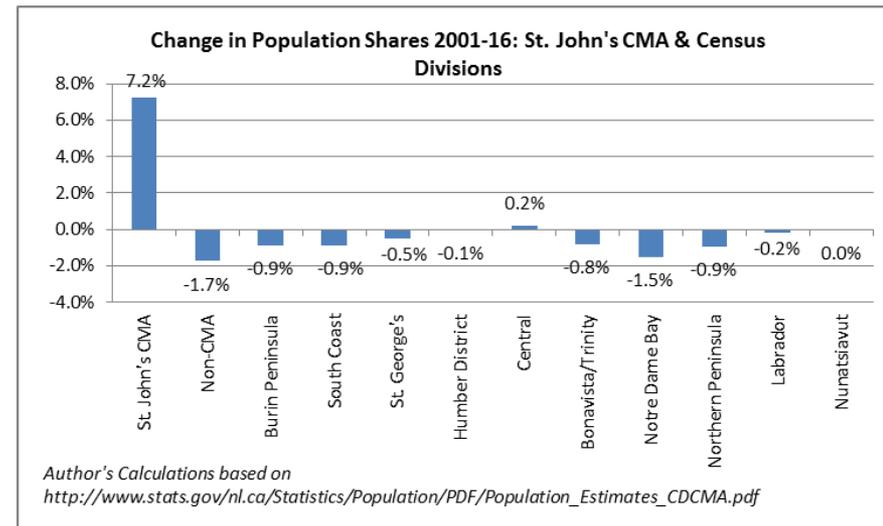
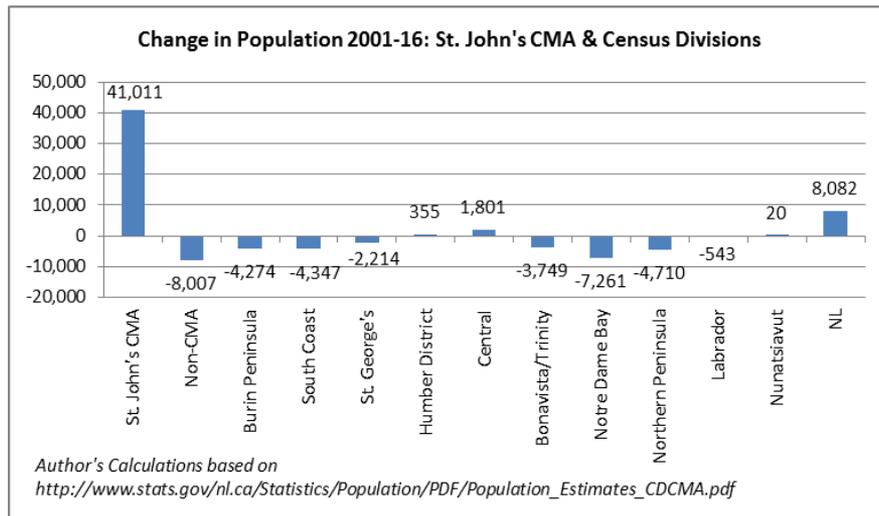


Data Source: Stats Can CANSIM Data Table 2820002

There is a limit on the extent that older workers can continue to substitute for younger workers

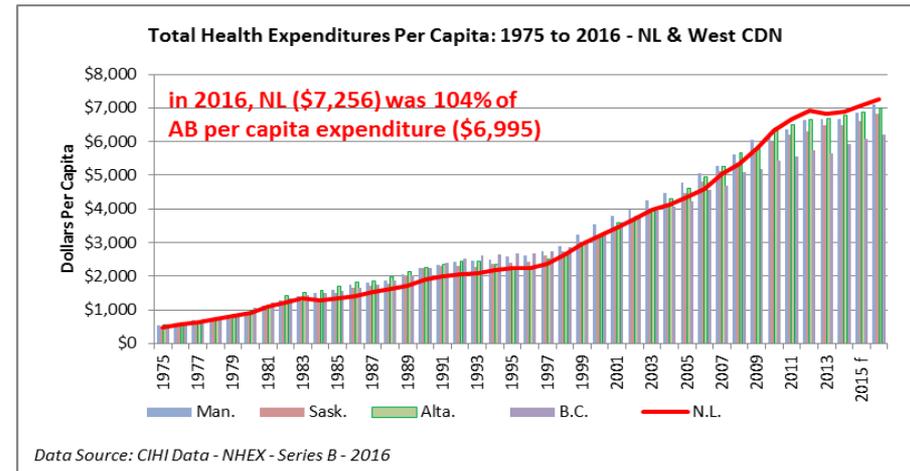
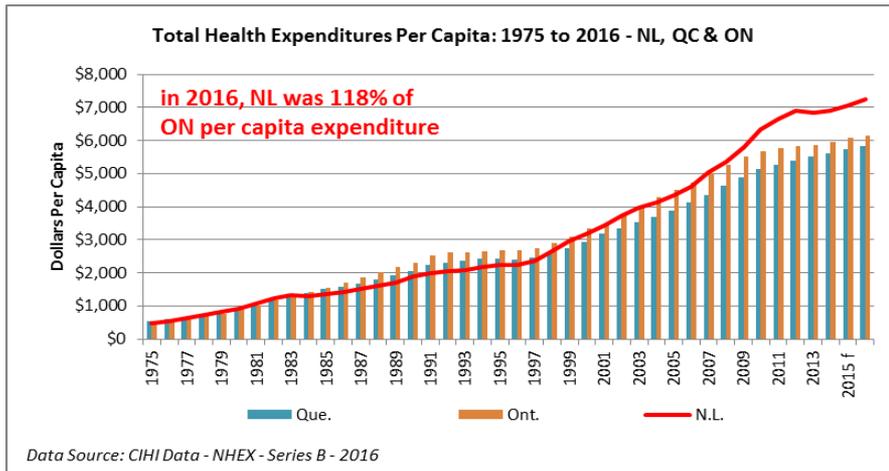
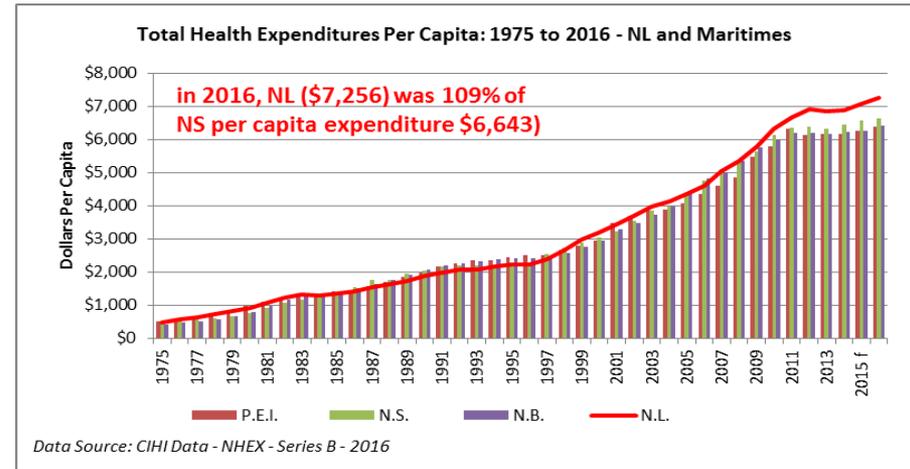
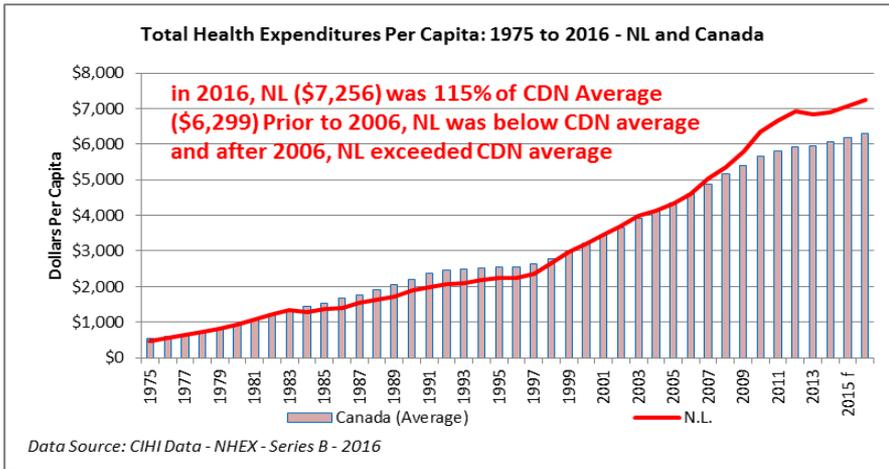
Intraprovincial Population Issues

| | Population 2001 | Population 2016 | Change 2001-16 Population | Pop Shares 2001 | Pop Shares 2016 | Change 2001-16 Pop Shares |
|-----------------------|--------------------|--------------------|------------------------------|--------------------|--------------------|------------------------------|
| Avalon Peninsula | 247,406 | 280,410 | 33,004 | 47.4% | 52.9% | 5.5% |
| St. John's CMA | 176,443 | 217,454 | 41,011 | 33.8% | 41.0% | 7.2% |
| Non-CMA | 70,963 | 62,956 | -8,007 | 13.6% | 11.9% | -1.7% |
| Burin Peninsula | 24,761 | 20,487 | -4,274 | 4.7% | 3.9% | -0.9% |
| South Coast | 19,663 | 15,316 | -4,347 | 3.8% | 2.9% | -0.9% |
| St. George's | 22,542 | 20,328 | -2,214 | 4.3% | 3.8% | -0.5% |
| Humber District | 41,184 | 41,539 | 355 | 7.9% | 7.8% | -0.1% |
| Central | 36,864 | 38,665 | 1,801 | 7.1% | 7.3% | 0.2% |
| Bonavista/Trinity | 37,961 | 34,212 | -3,749 | 7.3% | 6.5% | -0.8% |
| Notre Dame Bay | 42,867 | 35,606 | -7,261 | 8.2% | 6.7% | -1.5% |
| Northern Peninsula | 20,420 | 15,710 | -4,710 | 3.9% | 3.0% | -0.9% |
| Labrador | 25,692 | 25,149 | -543 | 4.9% | 4.7% | -0.2% |
| Nunatsiavut | 2,686 | 2,706 | 20 | 0.5% | 0.5% | 0.0% |
| NL | 522,046 | 530,128 | 8,082 | 100.0% | 100.0% | 0.0% |



Most census divisions are losing population and their shares of provincial population are falling, while the St. John's CMA has seen its share of population increase.

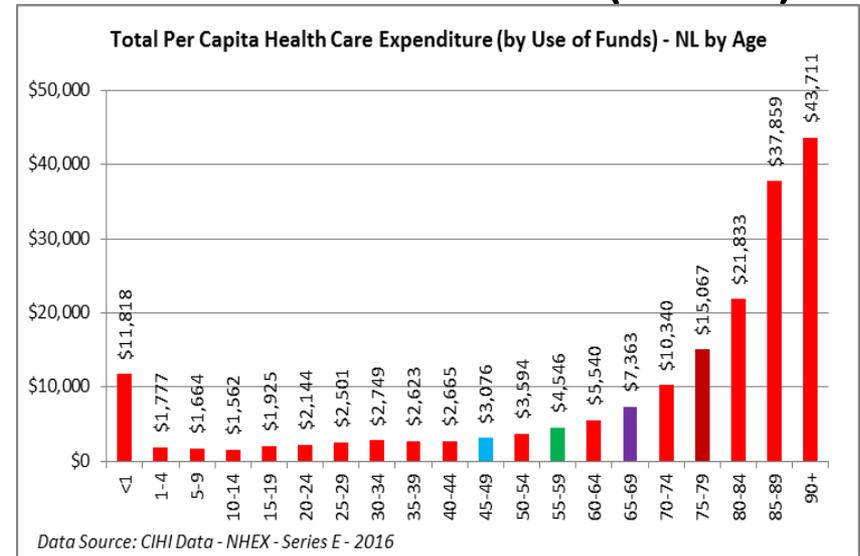
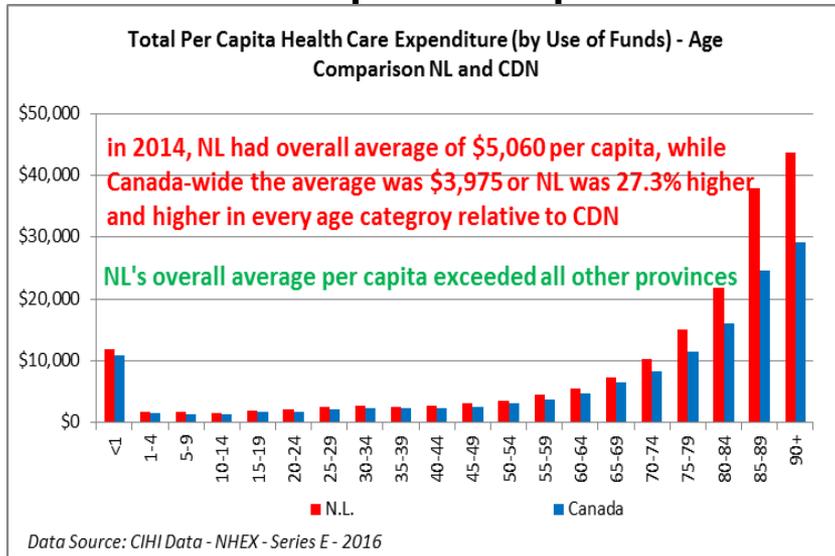
Per Capital Health Care Expenditures



NL per capita expenditures on total health exceeds that in any other provinces

Expenditure per capita on health has been similar to that experienced Canada-wide, but in the most recent decade, NL is far outpacing the rest of Canada.

Per Capita Expenditure on Health Care – NL (2014)



An aging population would normally be expected to put more pressure on health care costs

On average, it costs NL \$5,060 per capita for health care costs in 2014, which compares to \$3,975 per capita Canada-wide or we were 27.3% higher in per capita terms in 2014. We exceed all other provinces on average – closest is Alberta where we were 8.5% higher in 2014

Also, NL exceed CDN average in every age category, with the older categories representing the biggest difference. For example, NL per capita cost for the 85-89 category is 54% higher than Canadian average

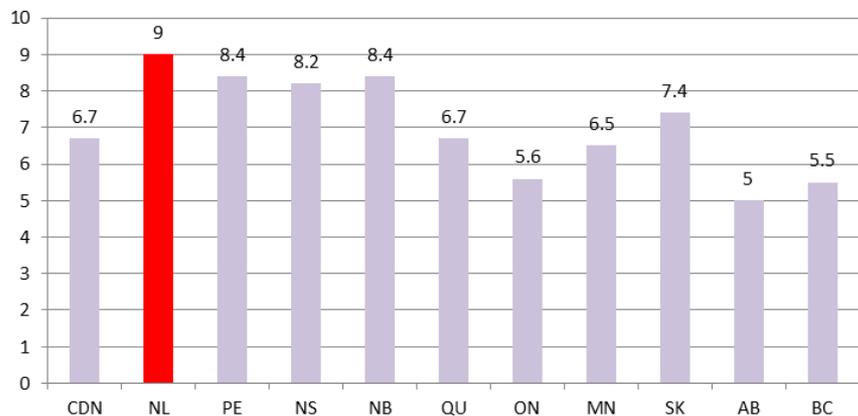
If no other cost drivers change (doctor's salaries, cost of band aids, etc.), then the median age (currently 45 years) person's health cost will increase by 48% in 10 years, increase by a further 61% in the next 10 years or in 20 years time, it will cost 139% (\$3,706 to \$7,363) more to treat that person

Health care is so important to Newfoundlanders and Labradorians and is the biggest expenditure in the budget (36% of expenditure on the Health Care Sector)

It is one of the most significant cost drivers for the government

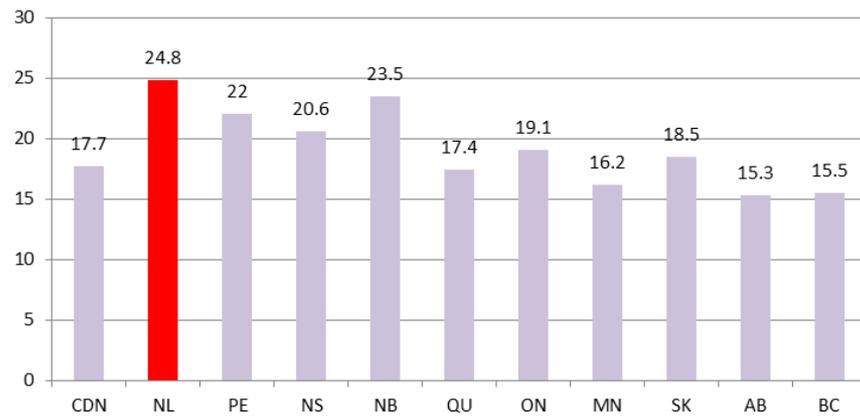
Health Indicators

Percent of People 12 Years and Over with Diabetes



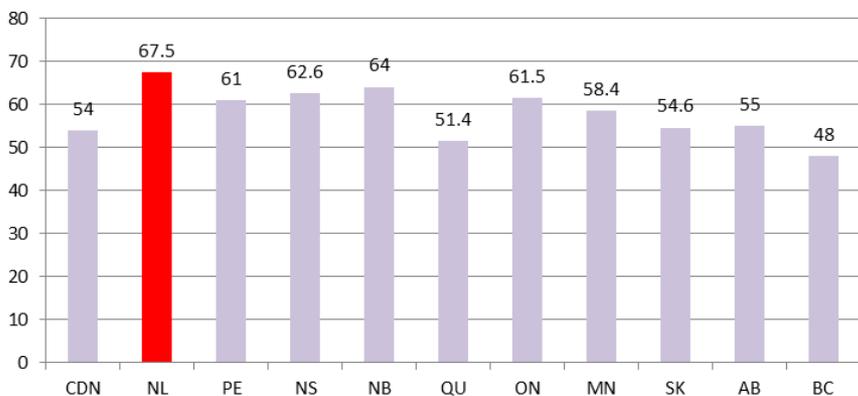
Data Source: Stats Canada CANSIM Table 1050501

Percent of People (12 years and over) with High Blood Pressure



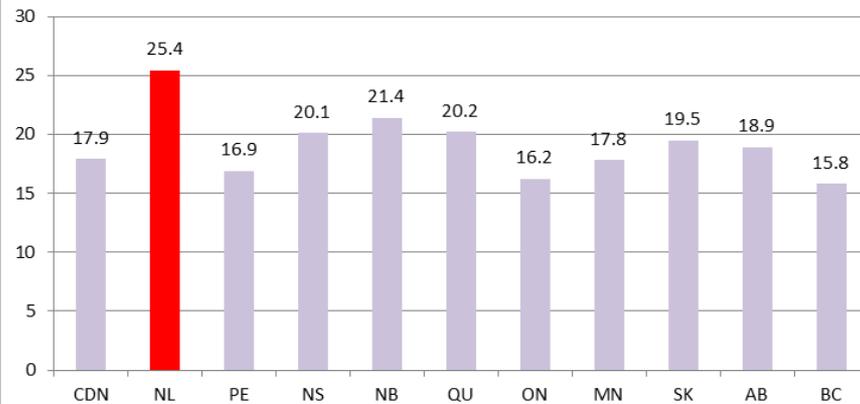
Data Source: Stats Canada CANSIM Table 1050501

Percent of people 18 years and over with a self-reported Body Mass Index which is Obese or Overweight



Data Source: Stats Canada CANSIM Table 1050501

Percent of Population who are 12 and over who are Heavy Drinkers

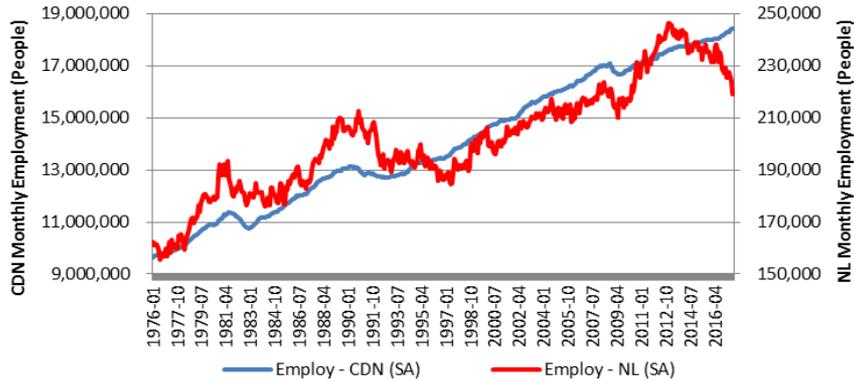


Data Source: Stats Canada CANSIM Table 1050501

It is not just fiscal issues.

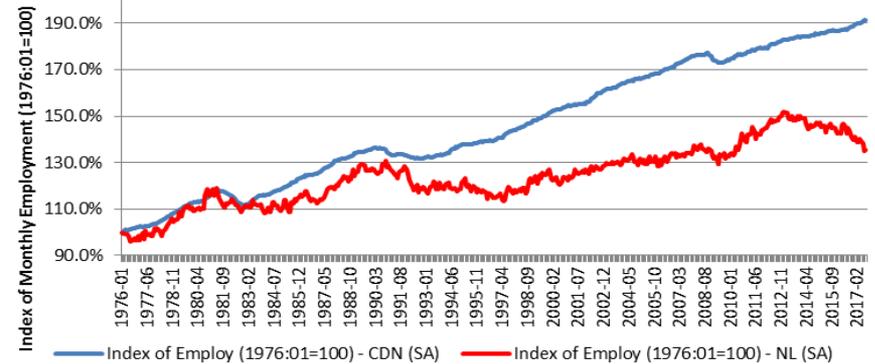
Employment (1)

Comparison of Seasonally-Adjusted, Monthly Employment Levels - 1976:01 to 2017:08 - NL and CDN



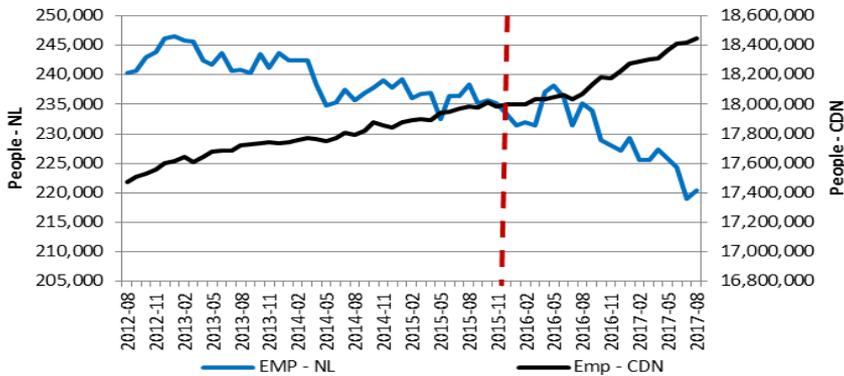
Data Source: STATS CANADA CANSIM DATA Table 2820087

Comparison of Index of Seasonally-Adjusted, Monthly Employment (1976:01 = 100) - 1976:01 to 2017:08 - NL and CDN



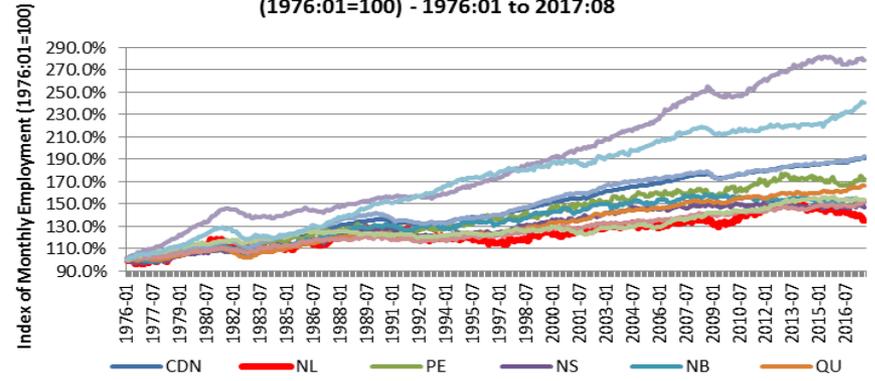
Data Source: Author's Calculation based on STATS CANADA CANSIM DATA Table 2820087

Seasonally-Adjusted, Monthly Employment - 2012:08 to 2017:08 - NL & CDN



Data Source: Stats Canada CANSIM 2820087

Comparison of Index of Seasonally-Adjusted Monthly Employment (1976:01=100) - 1976:01 to 2017:08



Author's calculation based on STATS Canada CANSIM DATA Table 2820087

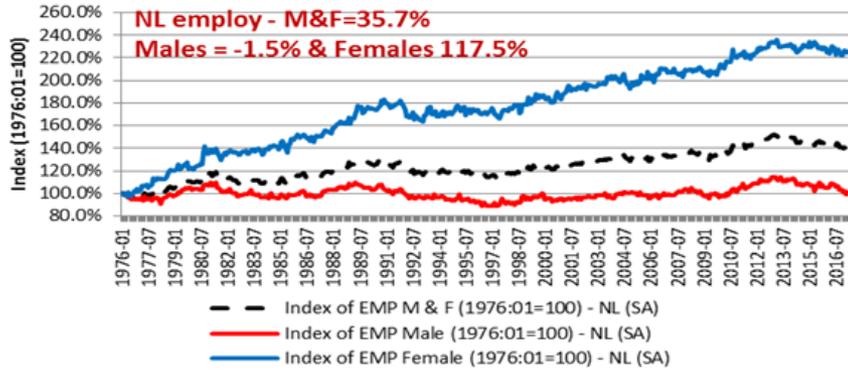
NL Employment in 2017:08 was 36% higher than 1976:01. The corresponding estimate for CDN was 91%.

No decline after 2013 in CDN, but obvious decline in NL.

Employment growth in NL has not keep up with any other provinces and it exhibits substantially more seasonality than in other provinces and in recent years, the seasonality has gotten worse

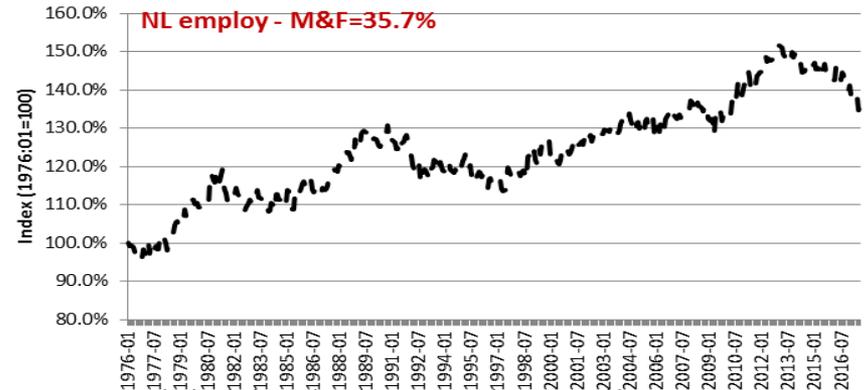
Employment (2)

Index of Seasonally-Adjusted, Monthly Employment by Gender - 1976:01 to 2017:08 - (1976:01=100) - NL



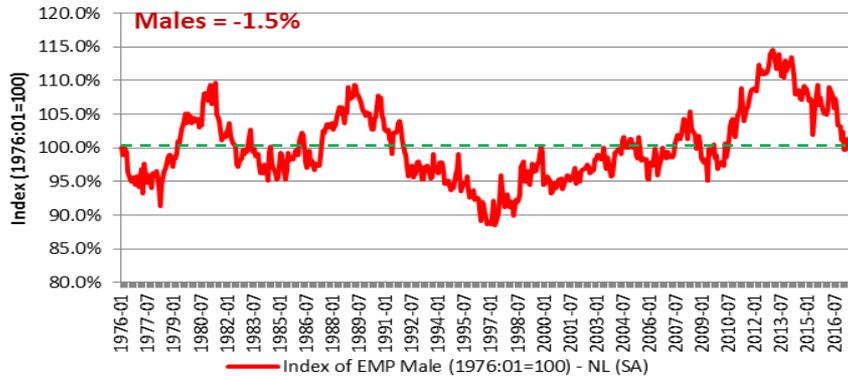
Data Source: Author's calculations based on Stats Canada CANSIM Table 2820087

Index of Seasonally-Adjusted, Monthly Employment by Gender - 1976:01 to 2017:08 - (1976:01=100) - NL



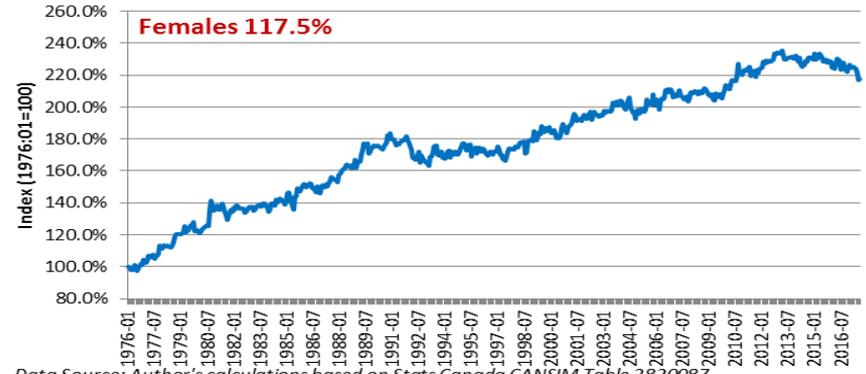
Data Source: Author's calculations based on Stats Canada CANSIM Table 2820087

Index of Seasonally-Adjusted, Monthly Employment for Males - 1976:01 to 2017:08 - (1976:01=100) - NL



Data Source: Author's calculations based on Stats Canada CANSIM Table 2820087

Index of Seasonally-Adjusted, Monthly Employment for Females - 1976:01 to 2017:08 - (1976:01=100) - NL



Data Source: Author's calculations based on Stats Canada CANSIM Table 2820087

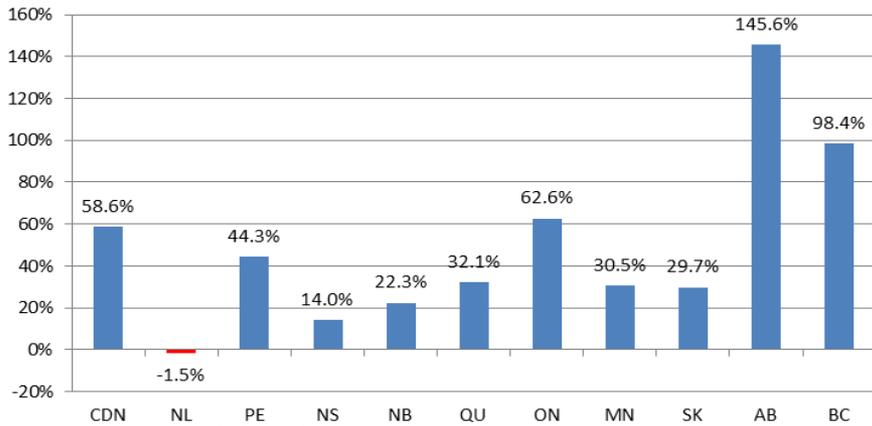
NL Employment in 2017:08 was 36% higher than 1976:01, but there is a significant difference by gender.

Over the period, employment of males in NL is now lower than it was in January of 1976

The employment of females has more than doubled over this period, but is flattening out in recent years

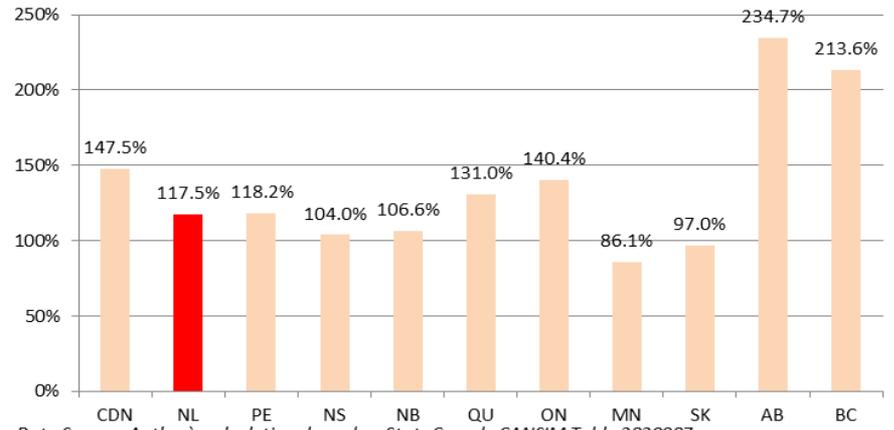
Employment (3)

Percentage Change in Employment 1976:01 to 2017:08 - Males



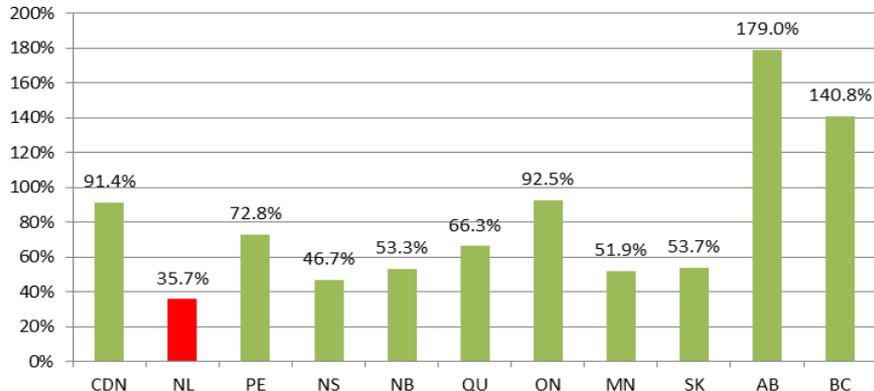
Data Source: Author's calculations based on Stats Canada CANSIM Table 2820087

Percentage Change in Employment 1976:01 to 2017:08 - Females



Data Source: Author's calculations based on Stats Canada CANSIM Table 2820087

Percentage Change in Employment 1976:01 to 2017:08 - Both Males and Females Combined

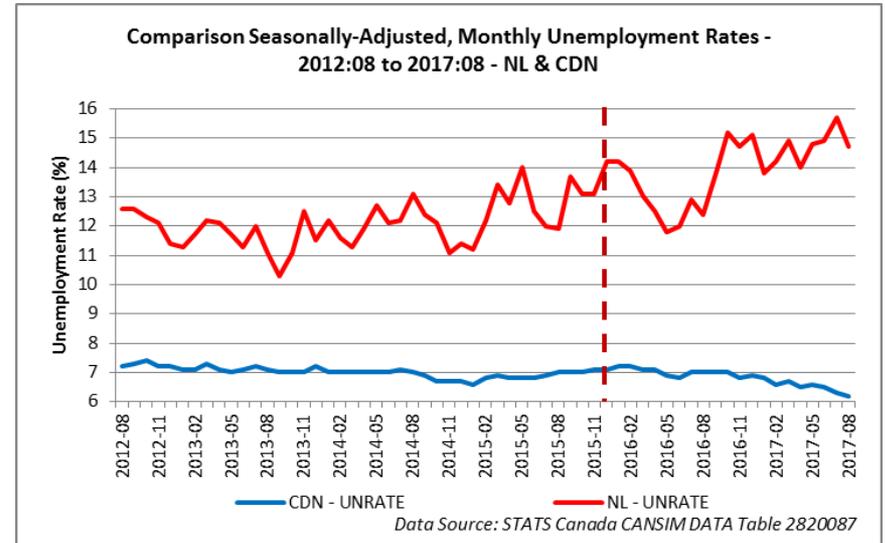
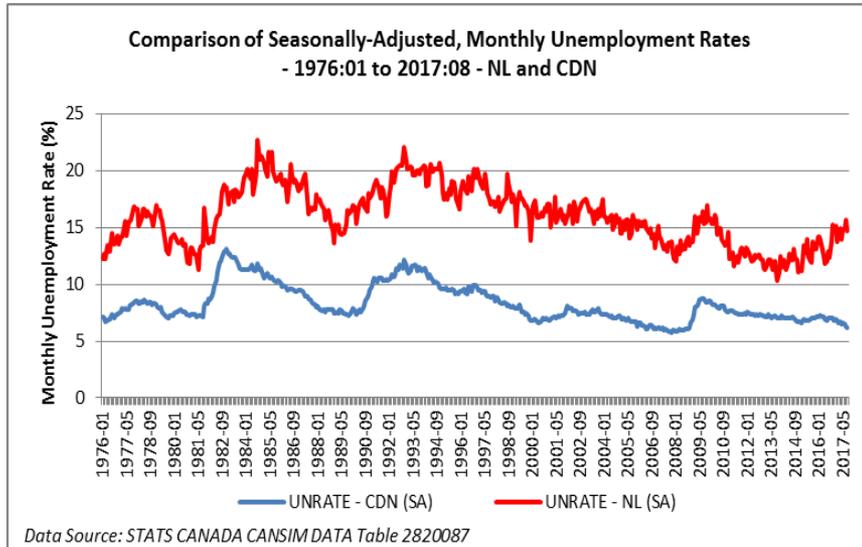


Data Source: Author's calculations based on Stats Canada CANSIM Table 2820087

NL Employment in 2017:08 was 36% higher than 1976:01. This fell short of all other provinces.

While the growth of female employment is in the middle of all provinces, the growth of male employment is the lowest of all provinces – the only province to experience negative growth over this period (1976 to 2017)

Unemployment Rate



| 1976:01 to 2017:08 | CDN | NL | PE | NS | NB | QU | ON | MN | SK | AB | BC |
|-----------------------|------|------|------|------|------|------|------|------|------|------|------|
| UNRATE AVERAGE (%) | 8.3 | 16.0 | 12.4 | 10.4 | 11.3 | 9.8 | 7.5 | 6.4 | 5.8 | 6.4 | 8.4 |
| Ratio (NL as Percent) | 195% | 100% | 131% | 155% | 144% | 166% | 219% | 260% | 282% | 274% | 200% |

NL has highest unemployment rate of any province and nearly double the CDN average

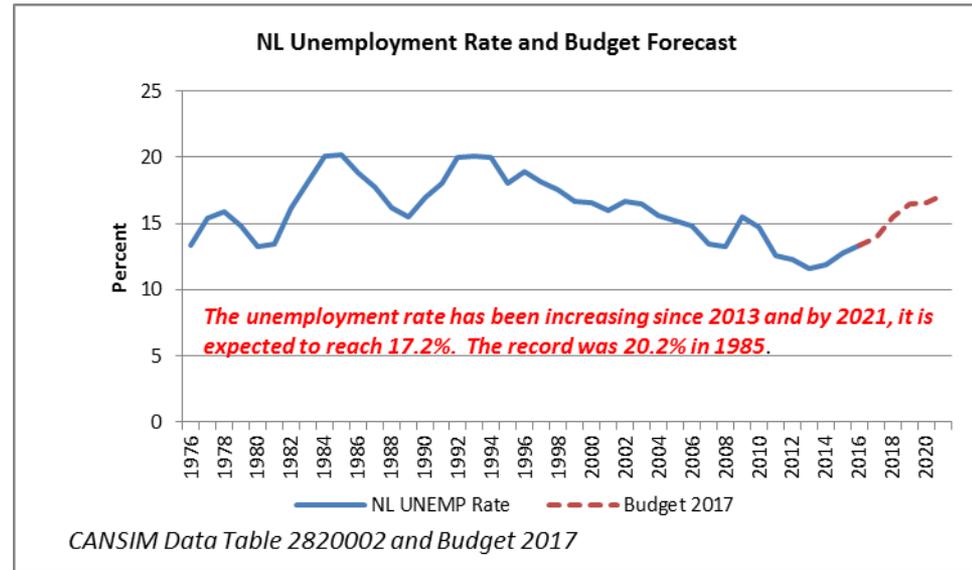
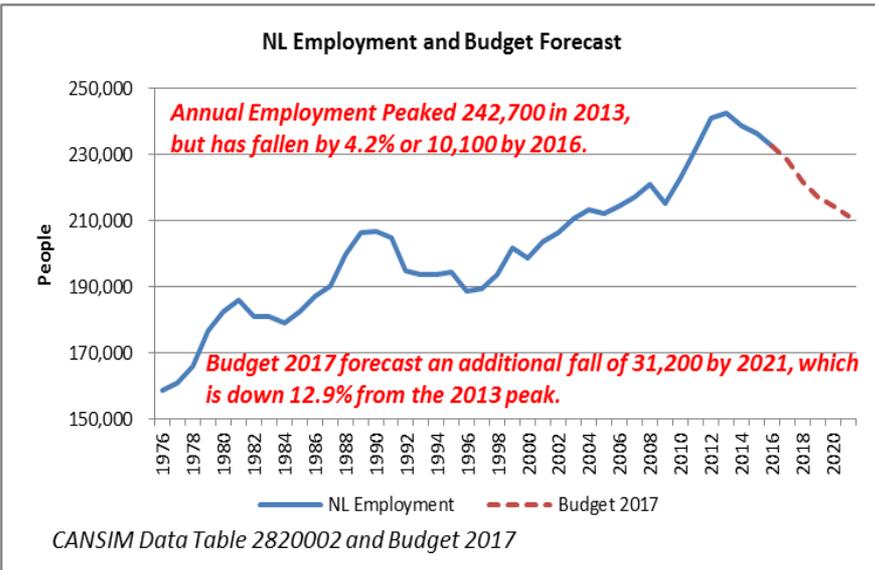
Unemployment rate has noticeable upward trend since 2013, but declining CDN wide

NL has highest unemployment rate for youth and 10 percentage points higher for youth than all ages

NL's participation rate is the lowest in the country (for males and females and for youth & all ages)

NL's employment rate is the lowest in the country (for youth & all ages)

Employment Crisis

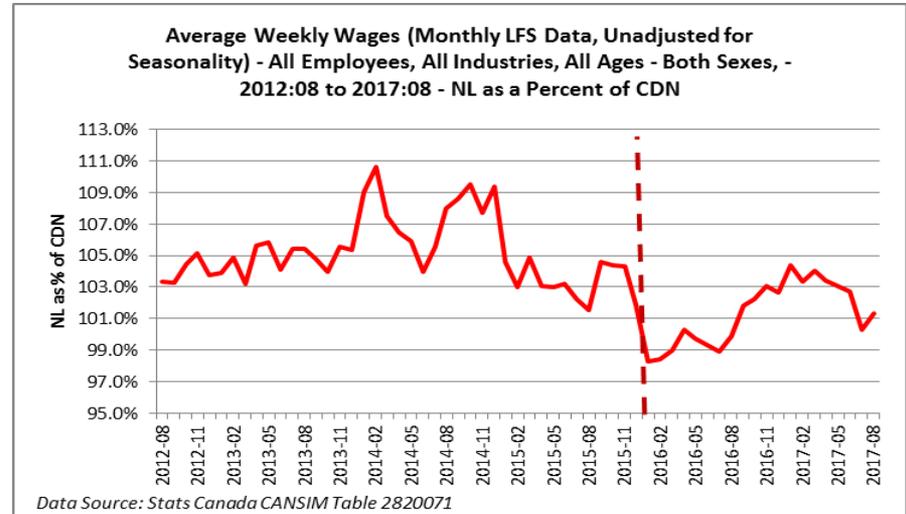
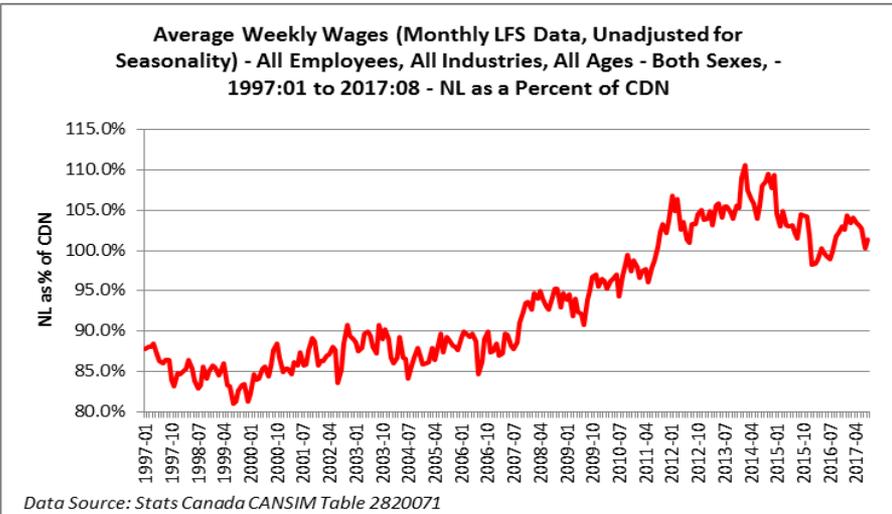
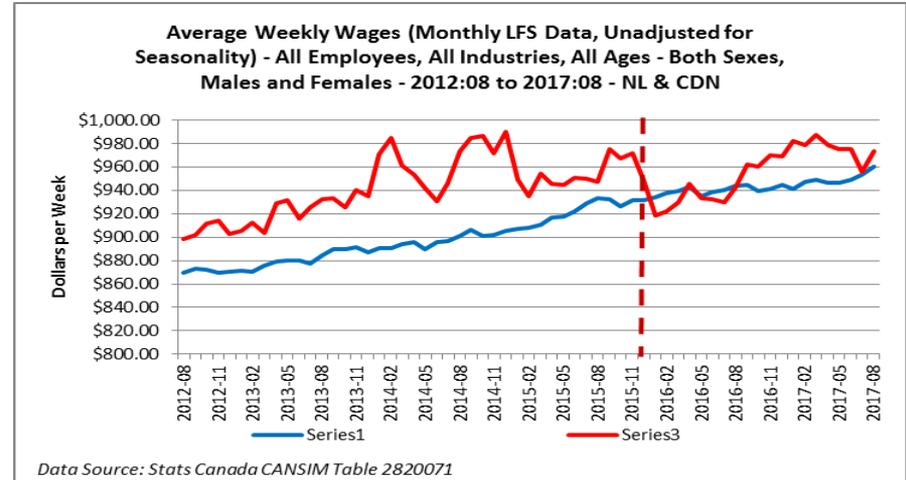
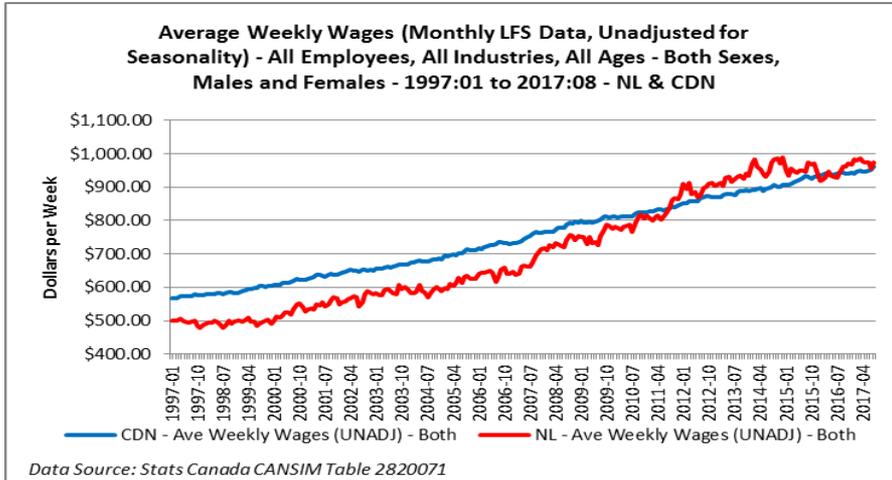


There is a noticeable decline in employment and a noticeable increase in the seasonally adjusted unemployment rate in the last three years, which pre-dates the fall in the price of oil.

Employment levels expected to be 42,300 lower than they were in 2013, when annual and monthly employment peaked. This represents a 12.9% reduction in employment levels from 2013 to 2022.

To put this in perspective, in the last three years, employment fell by 4.2% from peak or there are 10,100 fewer people working in 2016 than in 2013. Budget 2017 predicted that a fall of an additional 31,200 job by 2021.

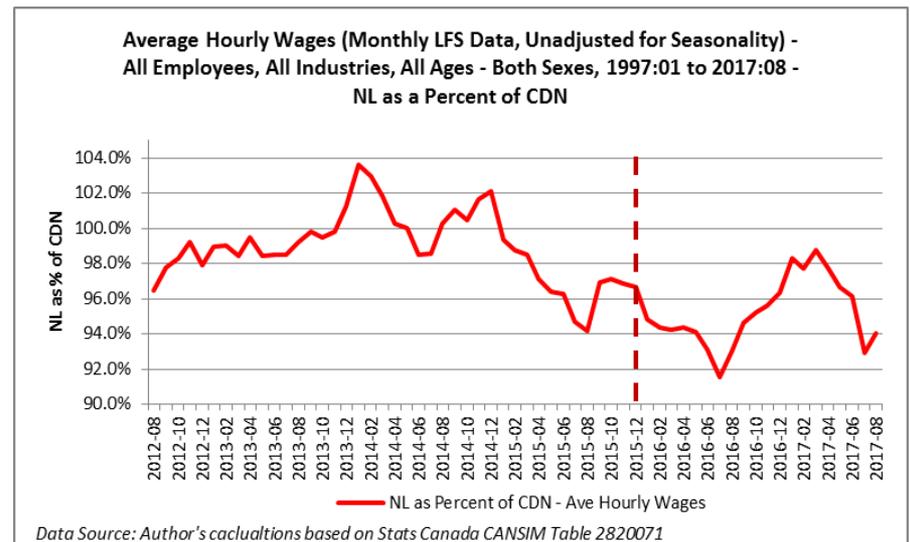
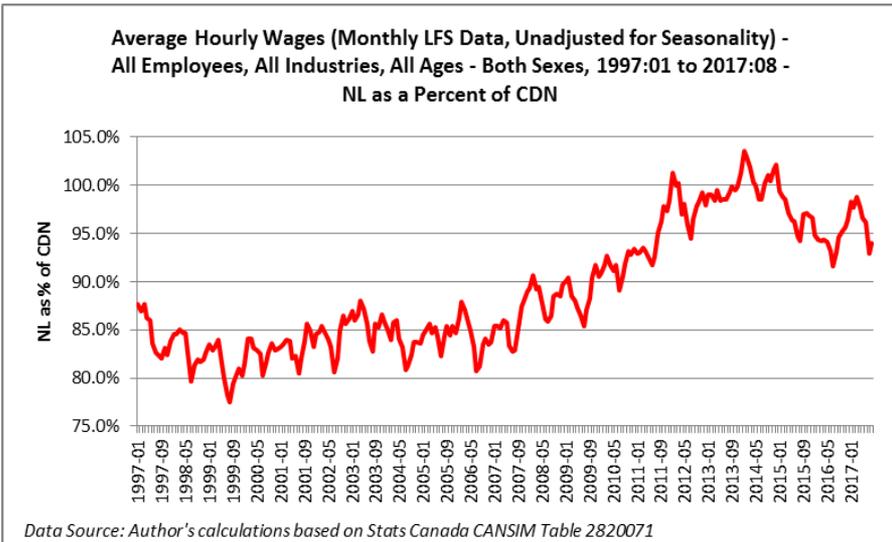
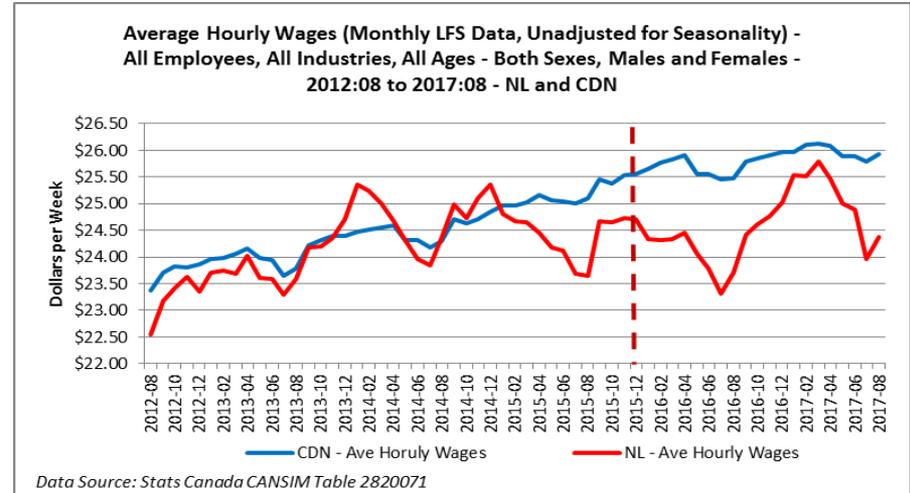
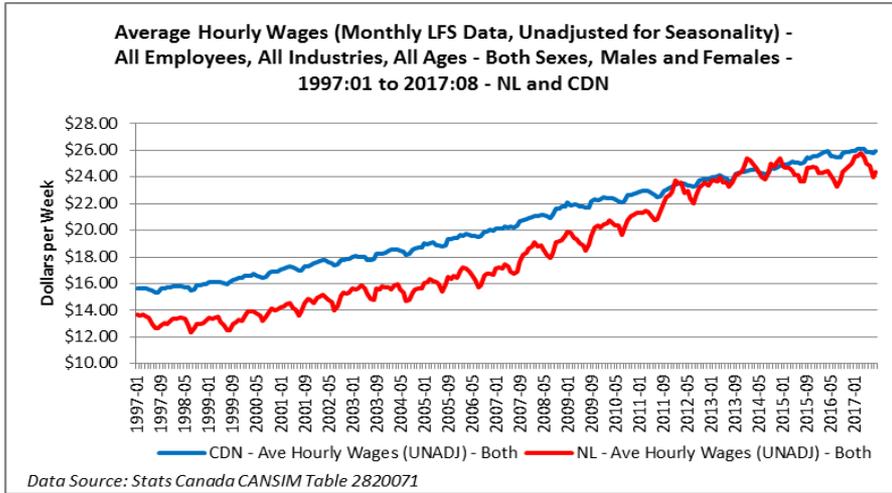
Weekly Wages



In relative terms weekly wages have increased significant, but have been falling recently.

In absolute terms, weekly wages have not improved and depending upon the reference point chosen, they may have fallen. This will influence the ability of government to raise revenues

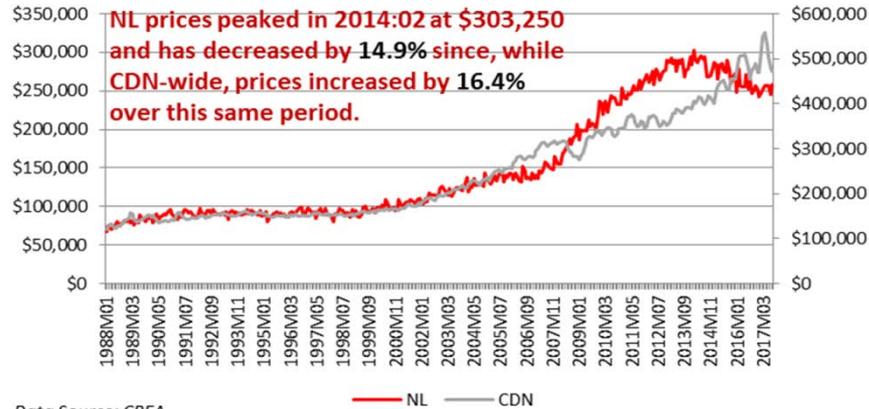
Hourly Wages



Hourly wages have increased in absolute and relative terms, but have flattened out and declining relative to the rest of Canada in the last five years

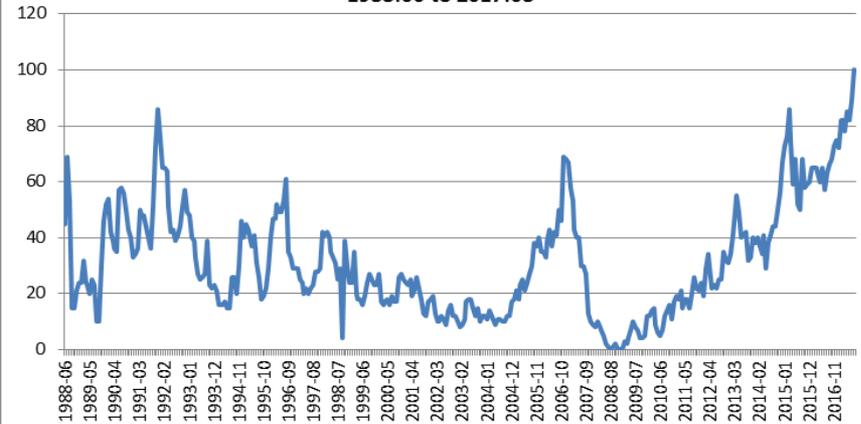
NL Housing Market

A Comparison of Seasonally-Unadjusted, Monthly MLS Housing Prices - NL and CDN



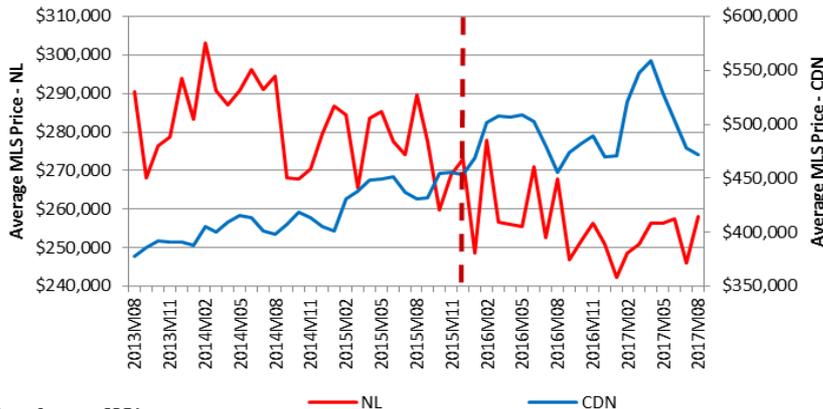
Data Source: CREA

Unabsorbed Inventory of Newly Completed Dwellings in St. John's 1988:06 to 2017:08



Data Source: Stats Canada CANSIM Table 270038

A Comparison of Seasonally-Unadjusted, Monthly MLS Housing Prices for the Last Five Years - NL and CDN



Data Source: CREA

Actual and Forecast Housing Starts (1955 to 2016) - NL

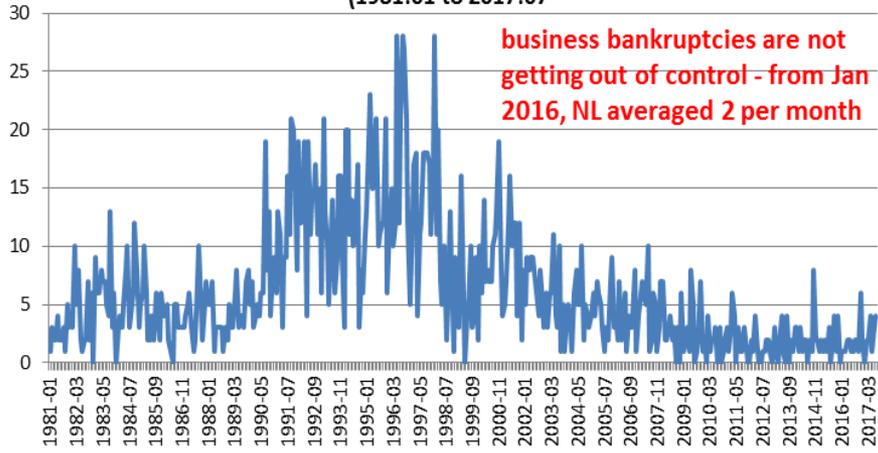


Data Source: Stats Canada CANSIM Data Table 270009 and forecast taken from 2017 The Economy

Aging population, lower employment, higher taxes (including HST), lower expenditures, higher interest rates, more stringent mortgage requirements and lower confidence in the economic future do not bode well for the housing market. These effects are compounded by uncertainty as to how provincial government will address their fiscal problems.

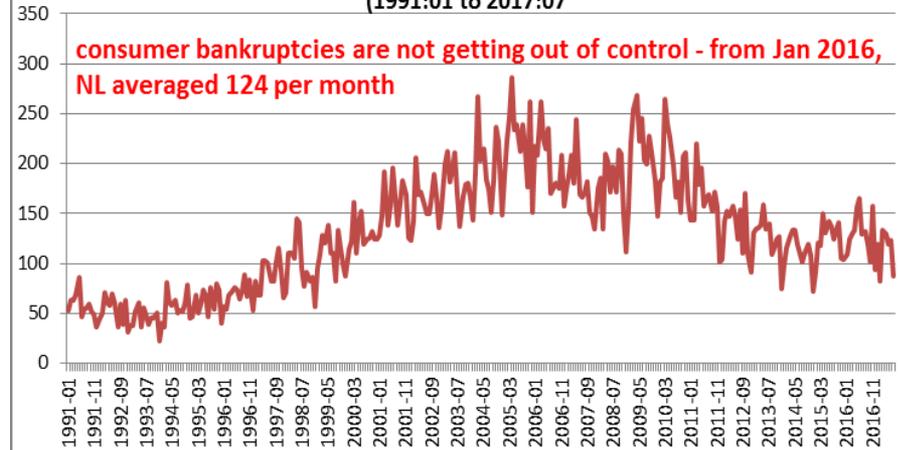
Bankruptcies – NL

Monthly Business Bankruptcies - NL
(1981:01 to 2017:07)



Stats Canada CANSIM Tables 1770003,1770004,170007 and Office of Superintendent of Bankruptcy

Monthly Consumer Bankruptcies - NL
(1991:01 to 2017:07)



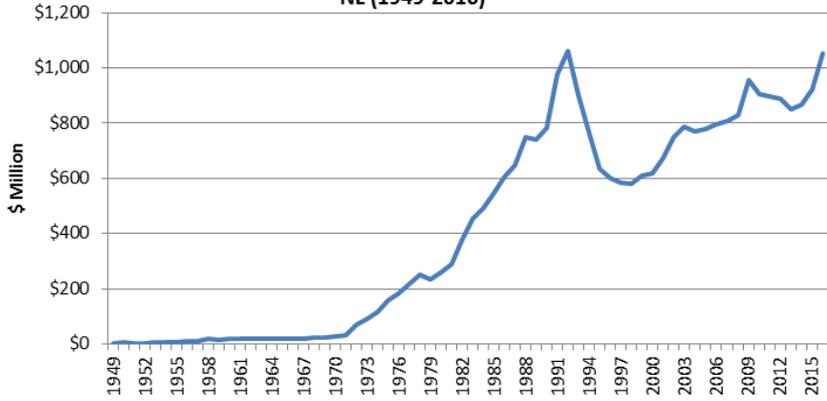
Stats Canada CANSIM Tables 1770003,1770004,170007 and Office of Superintendent of Bankruptcy

Bankruptcies are not getting out of control.

It is really consistent with strains on the economy as commodity prices have fallen, but it does not appear to be the crisis that some people have portrayed

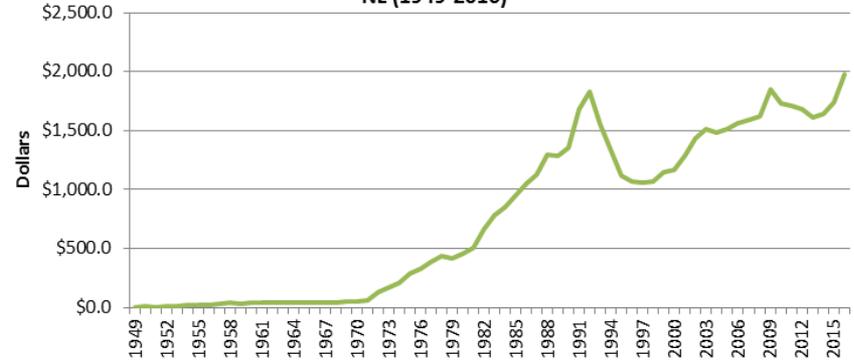
Employment Insurance

Annual Unemployment/Employment Insurance Benefits - NL (1949-2016)



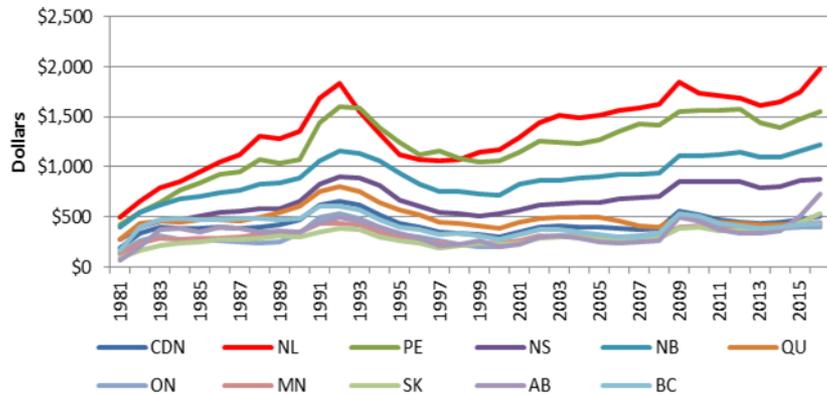
Data Source: Author's Calculation based Statistics Canada CANSIM Series D42649 (1961-80), Table 3840009 (1981-96), Table 2670017 (1997-2016) and Historical Statistics of NL (pre-1961)

Annual Unemployment/Employment Insurance Benefits Per Capita - NL (1949-2016)



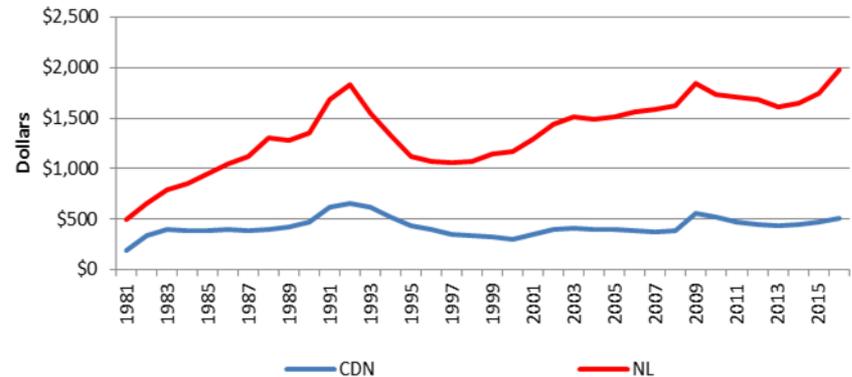
Data Source: Author Calculation based on UI/EI from Statistics Canada CANSIM Series D42649 (1961-80), Table 3840009 (1981-96), Table 2670017 (1997-2016) and Historical Statistics of NL (pre-1961) and Population Table 510024 (1949-70) and Table 510001 (1971-2016)

A Comparison of Annual Unemployment/Employment Insurance Benefits Per Capita - 1981 to 2016



Data Source: Author Calculation based on Stats Canada data: UI/EI Table 3840009 (1981-96) and Table 2760017 (1997-2016) and Pop Table 510001

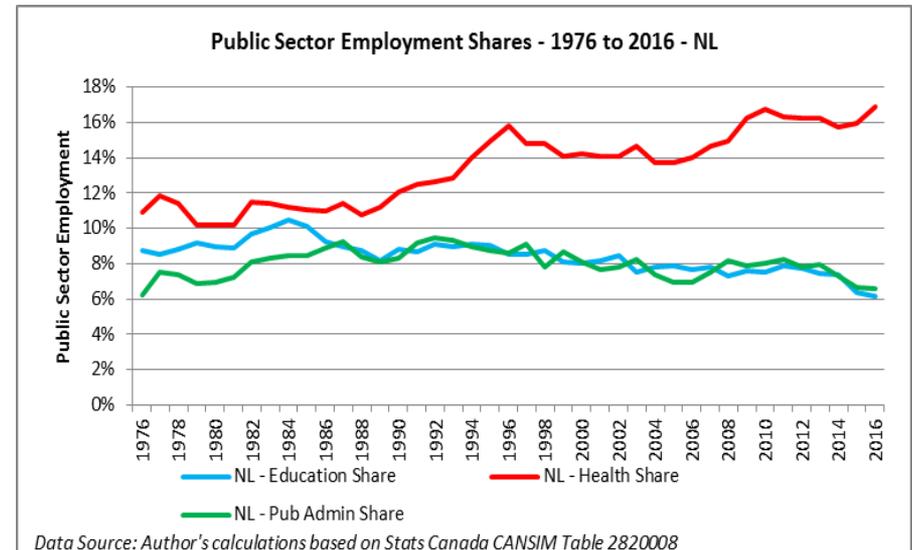
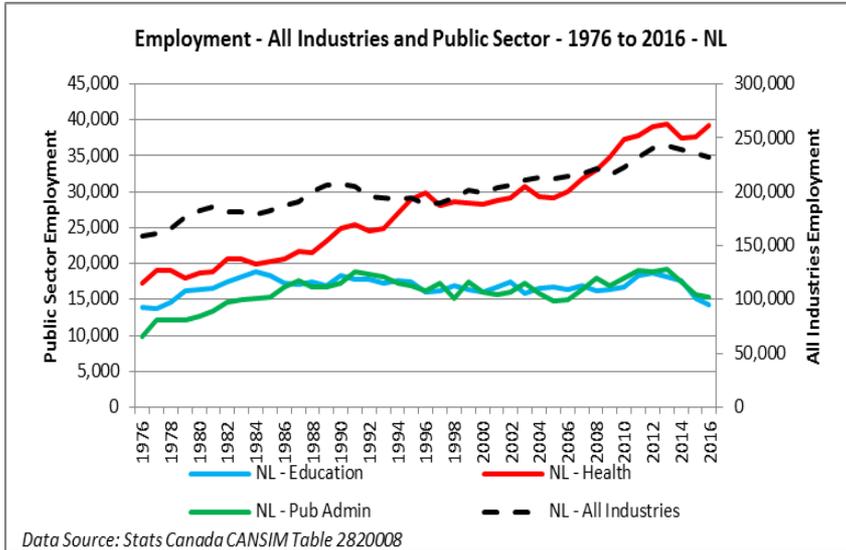
A Comparison of Annual Unemployment/Employment Insurance Benefits Per Capita - 1981 to 2016: NL and CDN



Data Source: Author Calculation based on Stats Canada data: UI/EI Table 3840009 (1981-96) and Table 2760017 (1997-2016) and Pop Table 510001

While we lead the country in EI payments per capita and it totals \$1 B currently. Even though transfers are not part of GDP, according to the latest version of the Economy, this exceeds the GDP contribution to agriculture forestry & logging (\$175M) (fishing – harvesting and manufacture (\$850M), wholesale (\$793M), transportation (\$835 M), utilities (\$617 M), accommodations (\$531M) and there are several others

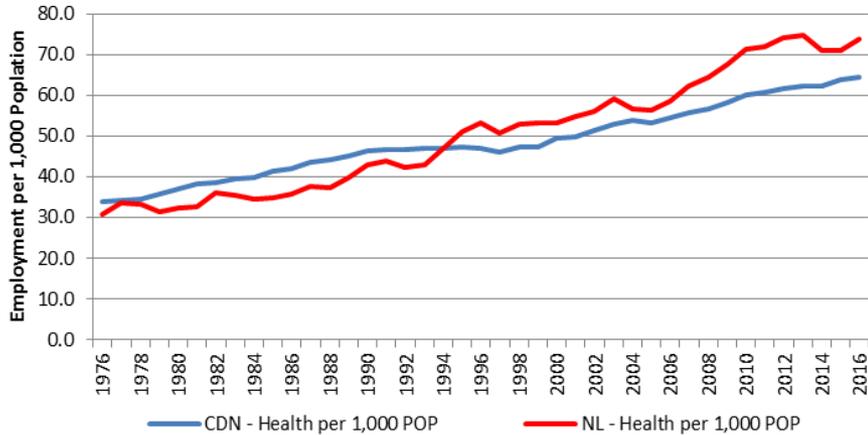
Public Sector Employment



In NL public sector employment is growing faster than overall employment, but public sector is really being driven by the health care sector

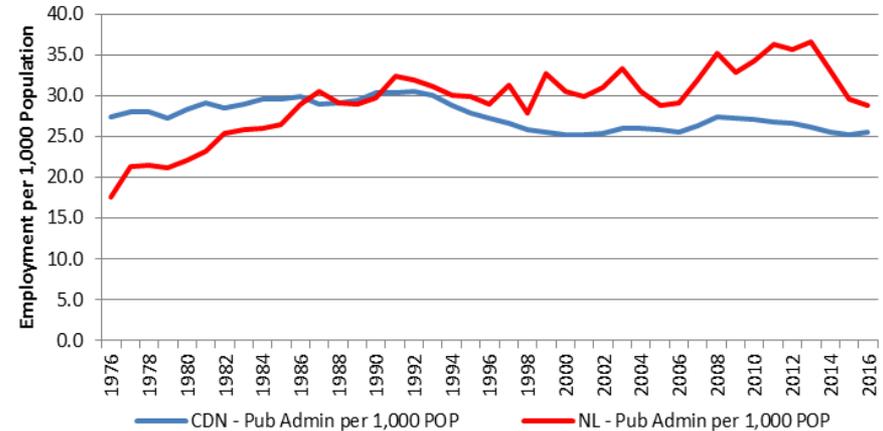
Public Sector Employment per 1,000 Population – NL and CDN

Comparison of Employment in the Health Sector per 1,000 Population
- 1976 to 2016 - NL and CDN



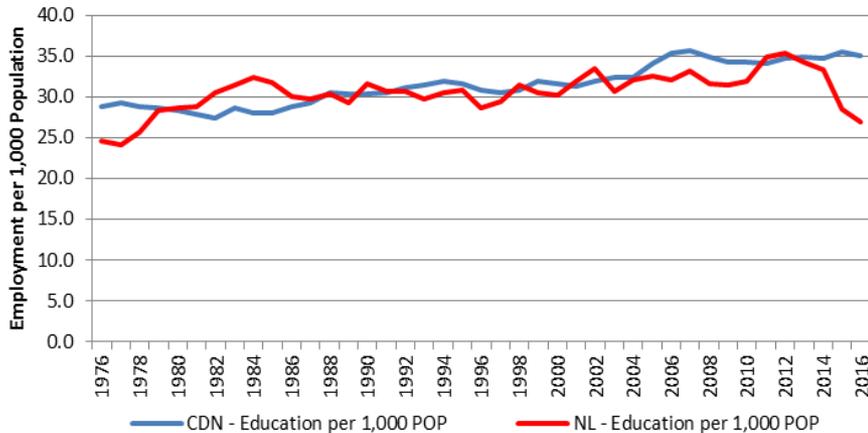
Data Source: Author's calculations based on Stats Canada CANSIM Tables 2820008 and 510001

Comparison of Employment in Public Administration per 1,000
Population - 1976 to 2016 - NL and CDN



Data Source: Author's calculations based on Stats Canada CANSIM Tables 2820008 and 510001

Comparison Employment in the Education Sector per 1,000 Population
- 1976 to 2016 - NL and CDN

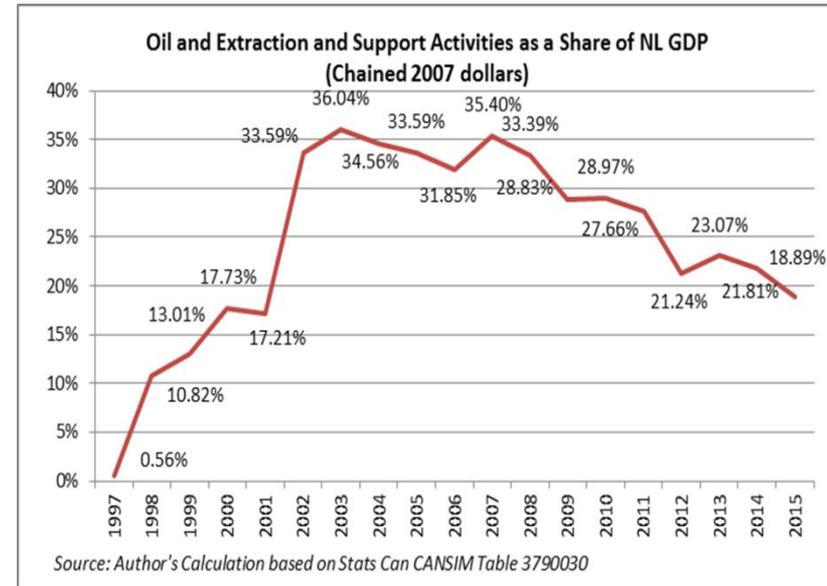
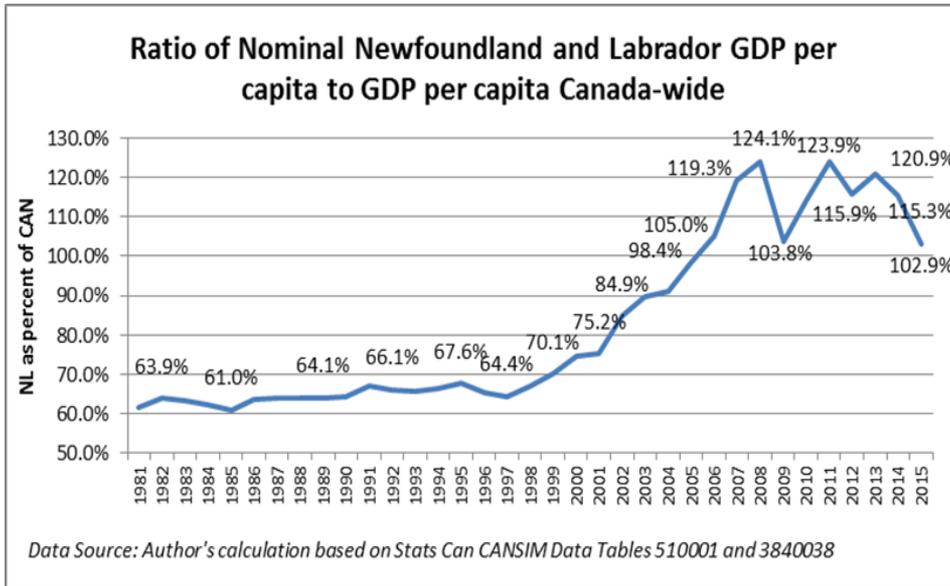


Data Source: Author's calculations based on Stats Canada CANSIM Tables 2820008 and 510001

Public sector employment does not deviate from the rest of the country as some people might think

If you are lowering expenditures, you have to reduce employees and this will have implications for reduced government services and will have adjustment costs throughout the rest of the economy

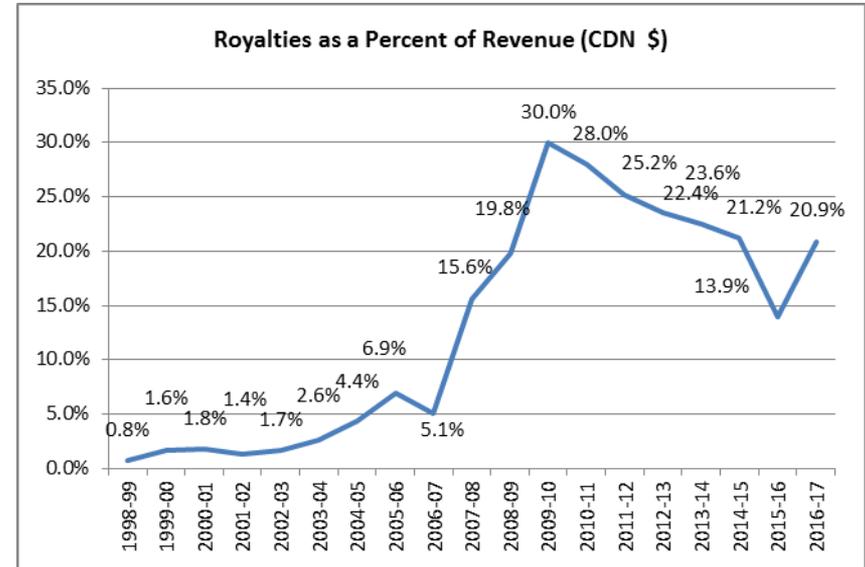
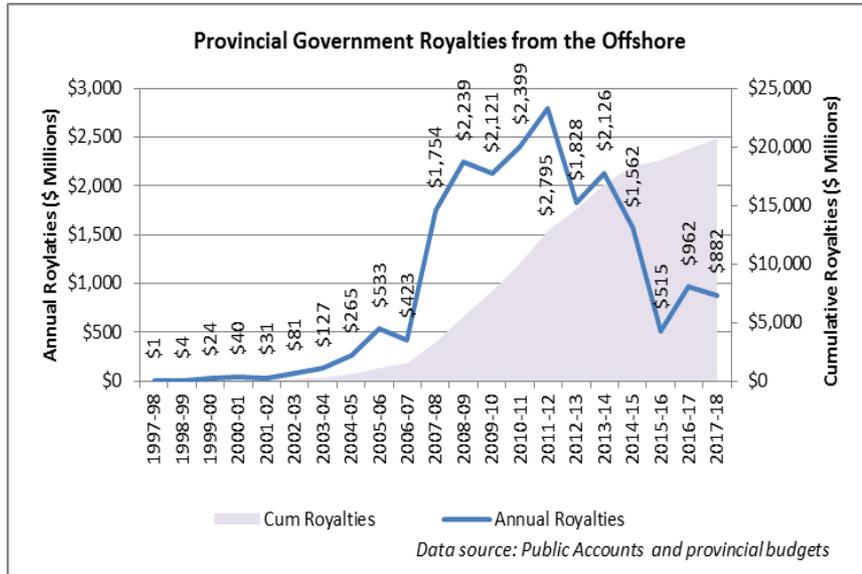
NL GDP Per Capita Relative to Canada



While the exploitation of oil meant that NL's economic activity relative to that for Canada has been improving since 1997, in recent years the downturn in prices has had a significant impact upon NL GDP per capita, both in absolute terms and relative to that for the country as a whole

As share of NL economy oil has fallen by approximately half of what it was at peak

Oil and Government Revenue

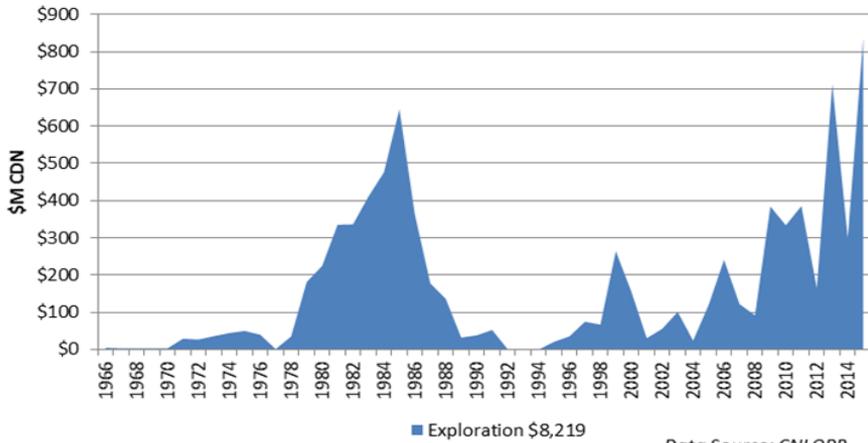


Oil royalties have fallen from \$2.8 B at peak to just above \$500 M in 2015-16. This fall of \$2.3 B with no change in expenditure explains the deficits that we have been running recently

In fact, if it wasn't for the unexpected increase in the price of oil and extra production, the deficit would have been another \$350 higher

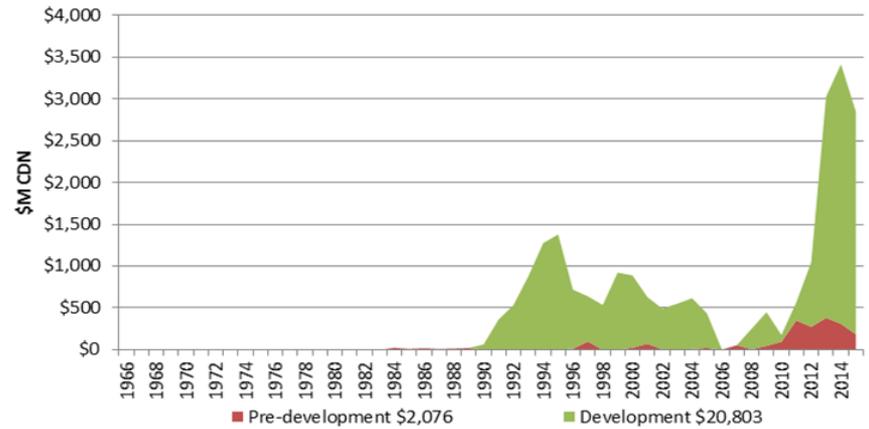
Investments in the Offshore

Exploration Investment Activity in NL Offshore



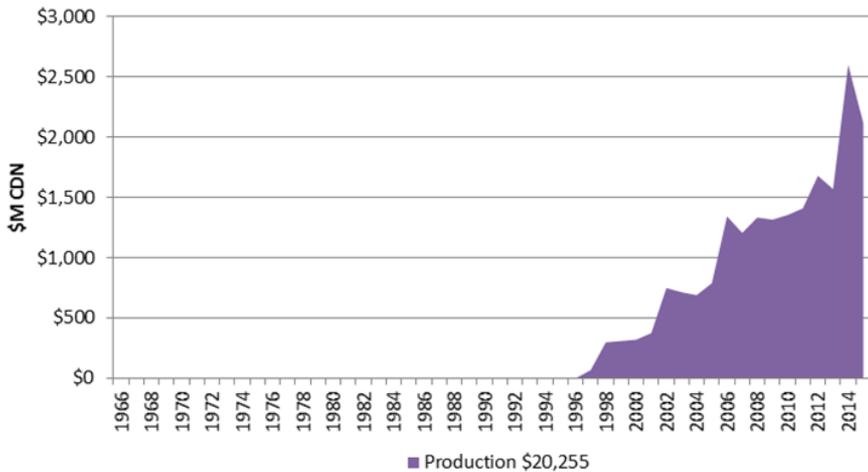
Data Source: CNLOPB

Development & Pre-Development Investment in NL Offshore



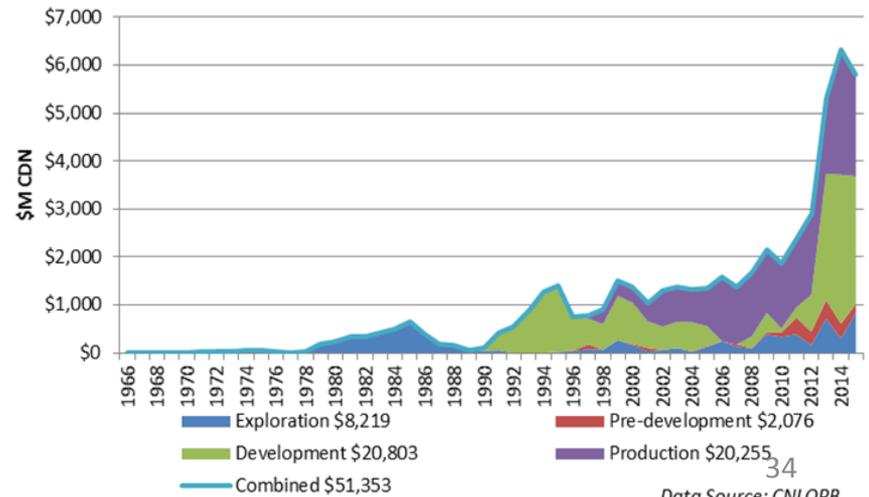
Data Source: CNLOPB

Production Expenditure in NL Offshore



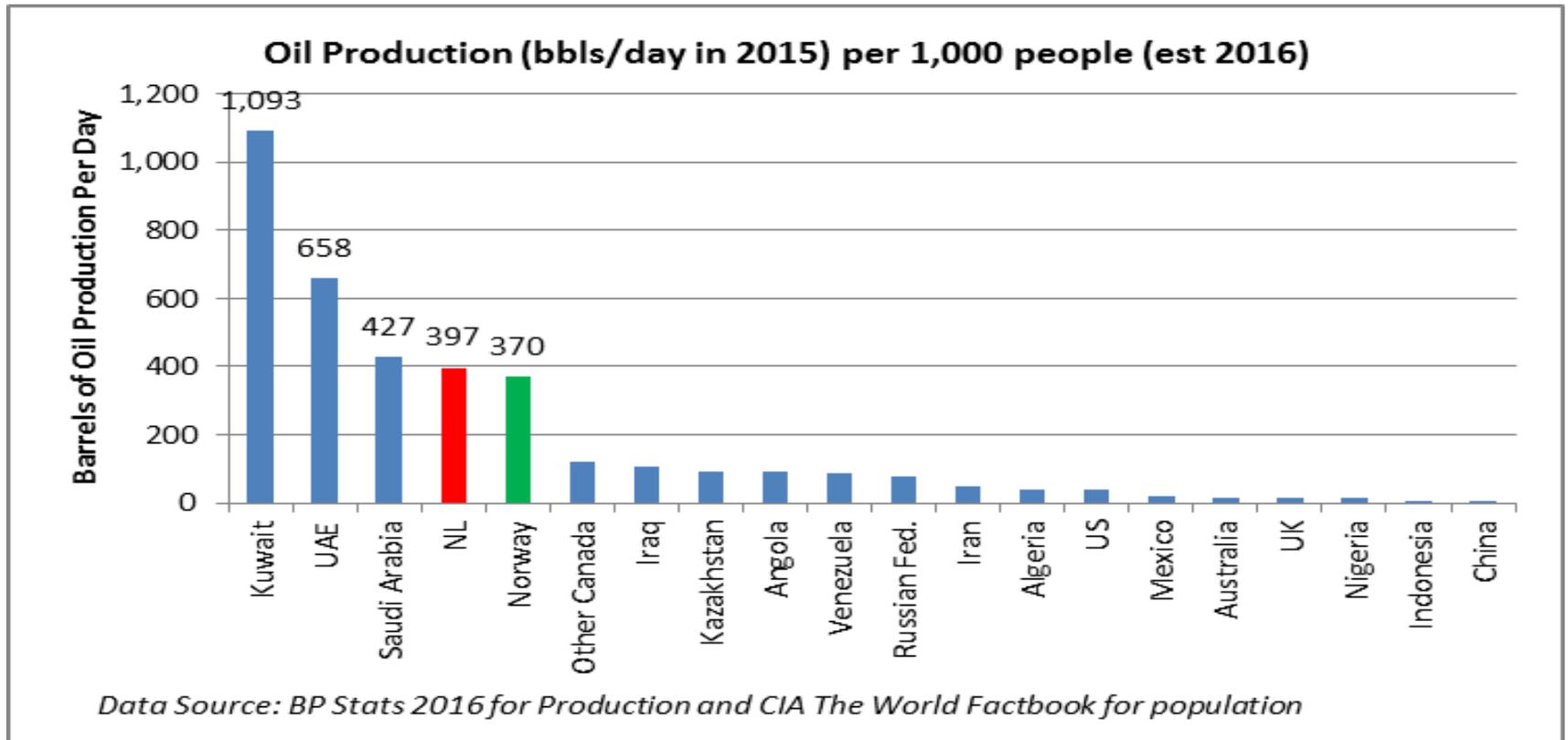
Data Source: CNLOPB

Investment in NL Offshore



Data Source: CNLOPB

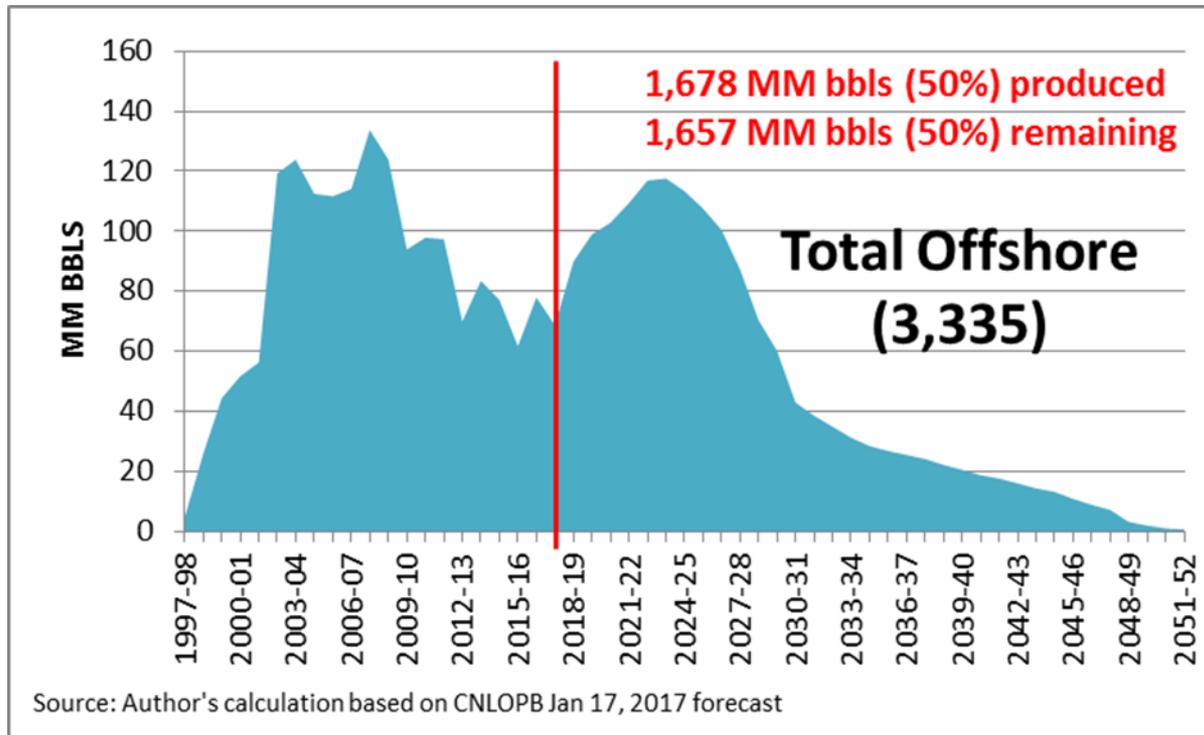
Relative Importance of Oil to NL



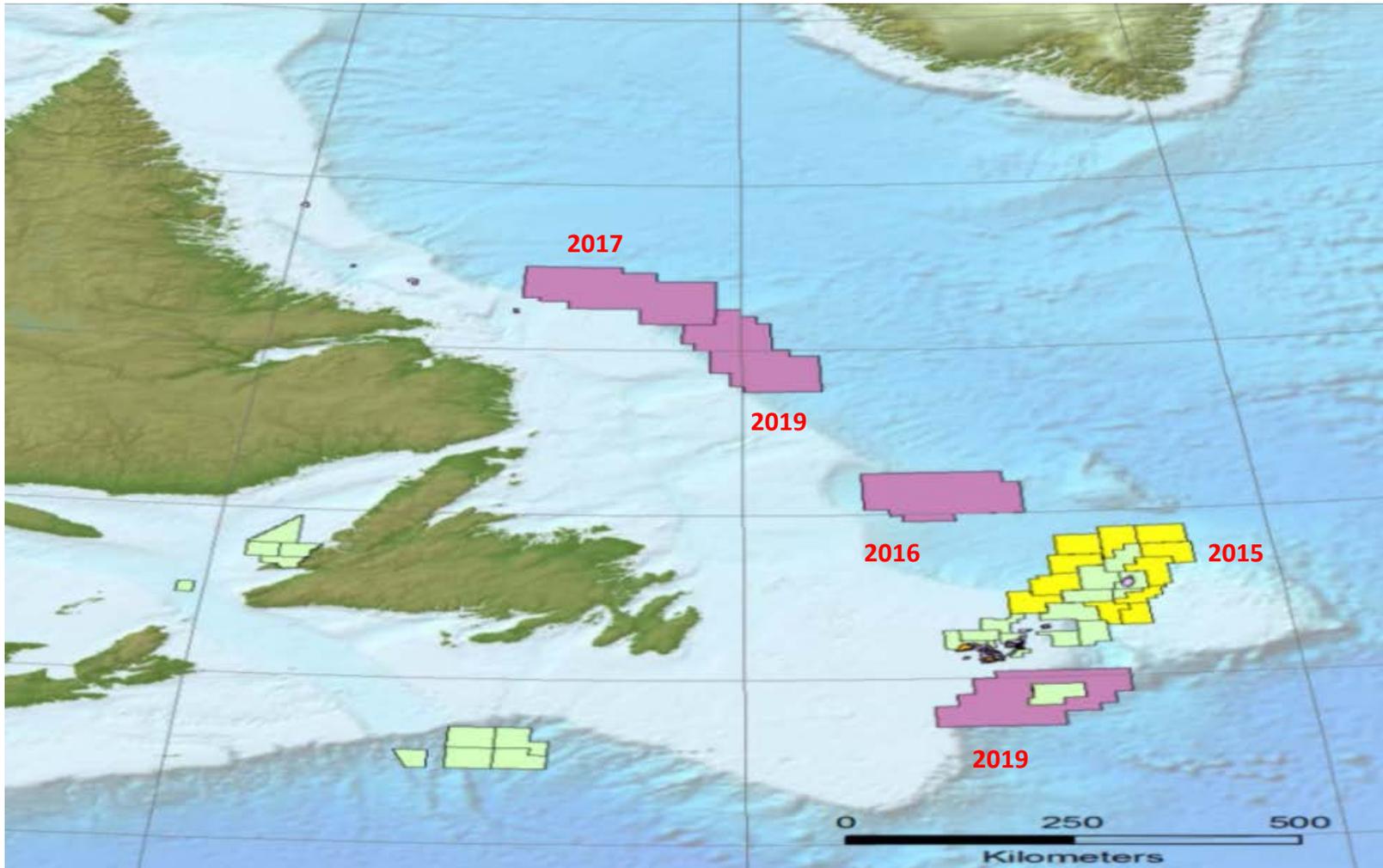
NL has plenty of resources relative to size of our population, it is not about lacking revenue capacity

NL, even now has one of the highest per capita revenues in the country, but our per capita is even higher

Half of Existing Projects Produced



Oil and Gas – Future Promise

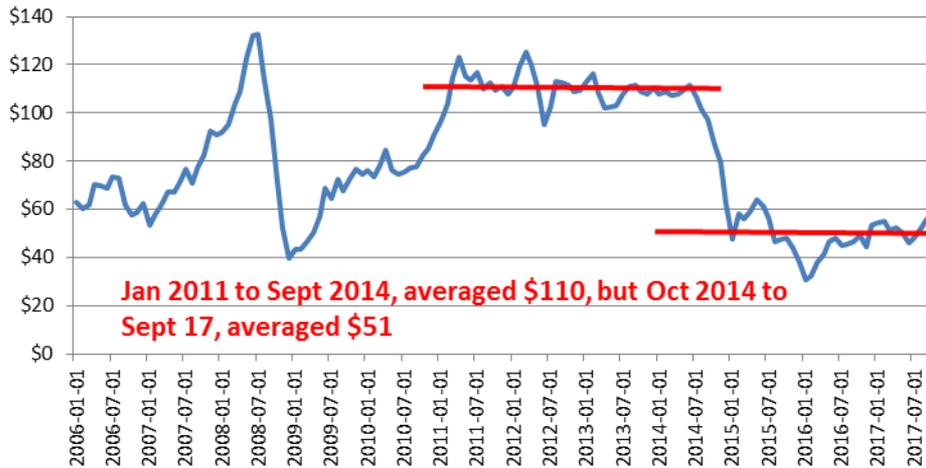


While potential developments and announced developments such as the White Rose WHP are indeed good news and will create some short term economic stimulus, but NL is a long ways away from any significant contribution to the current fiscal situation faced by the province

In 2016, land sales for identified 25 B bbls & 21 TCF resulted in \$768 M in bids. In 2015, land sales for identified 12 B bbls & 113 TCF resulted in \$1.2 B in bids

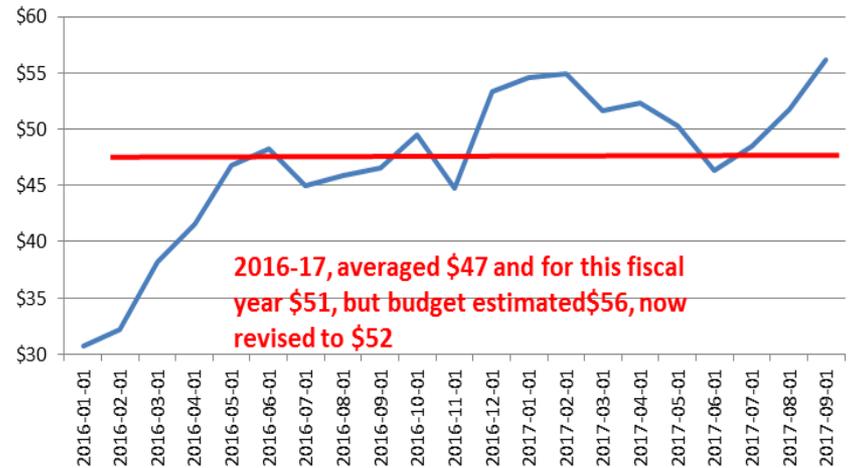
Oil Prices

Price of Brent Crude Oil (Monthly)



Data Source: FRED data base - Fed Reserve of St. Louis

Price of Brent Crude Oil (Monthly)



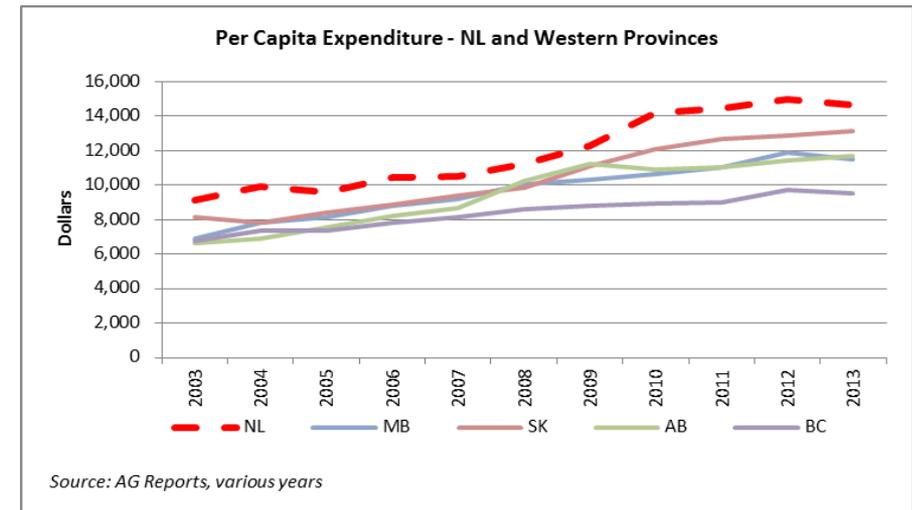
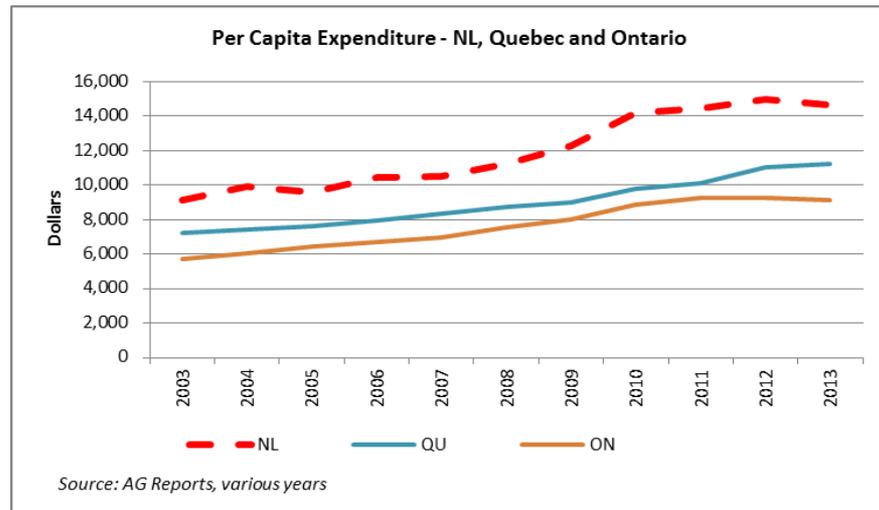
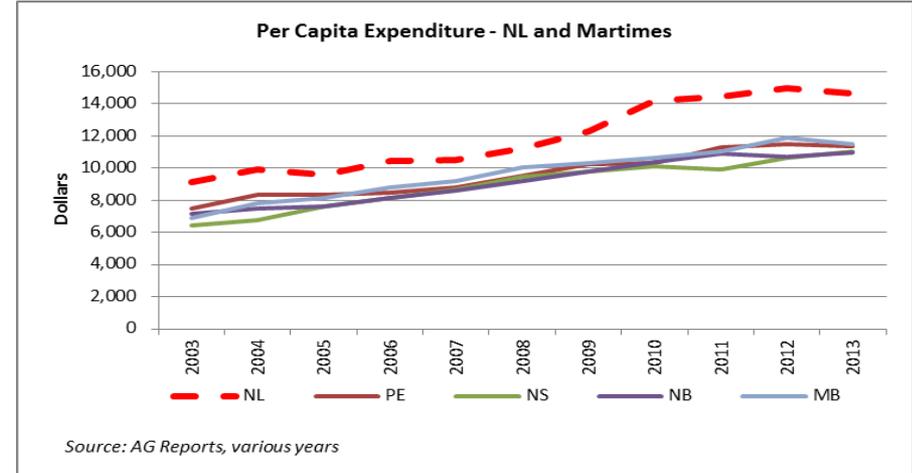
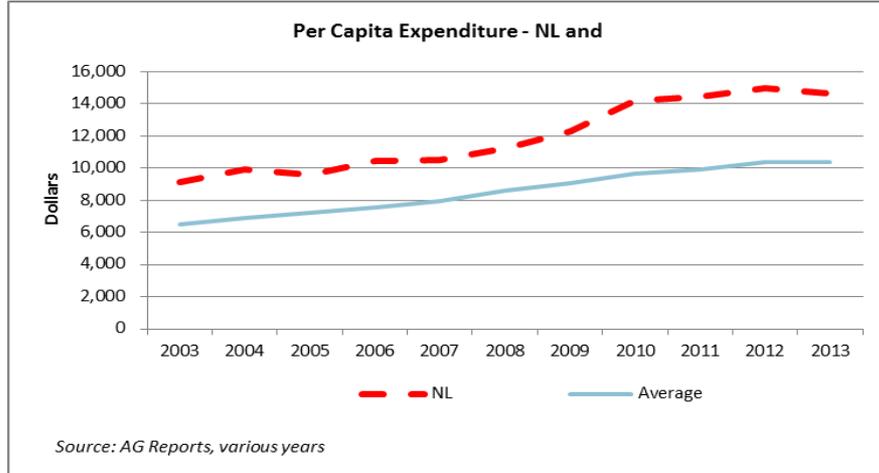
Data Source: FRED data base - Fed Reserve of St. Louis

The change in oil prices go a long way to explaining the current fiscal situation

Notice that oil prices currently are averaging \$5 less than predicted in 2017 budget and \$1.00 below the later revision

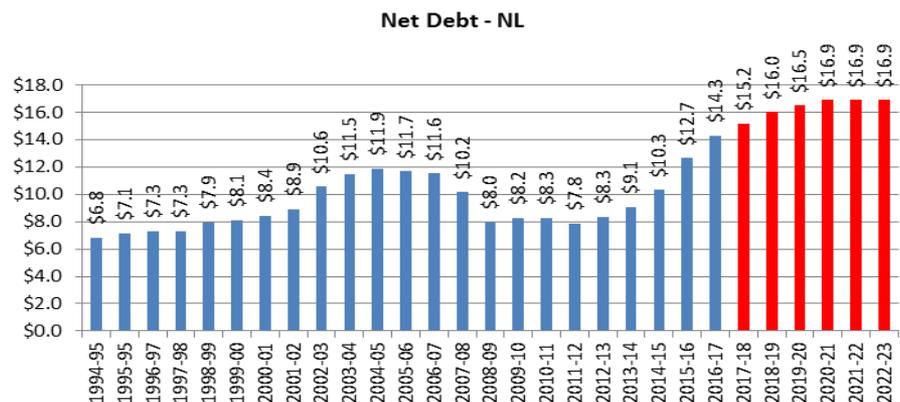
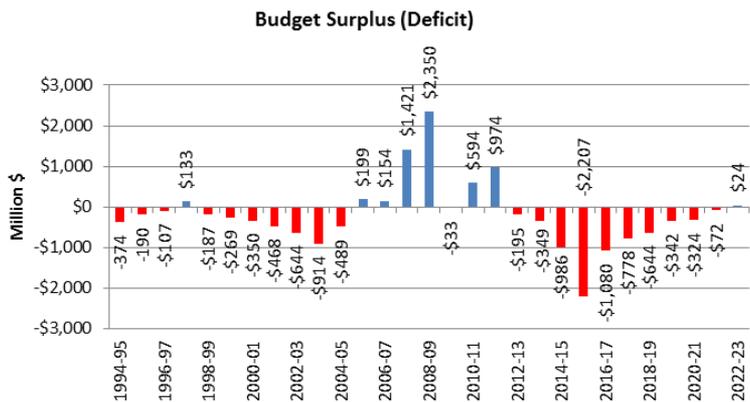
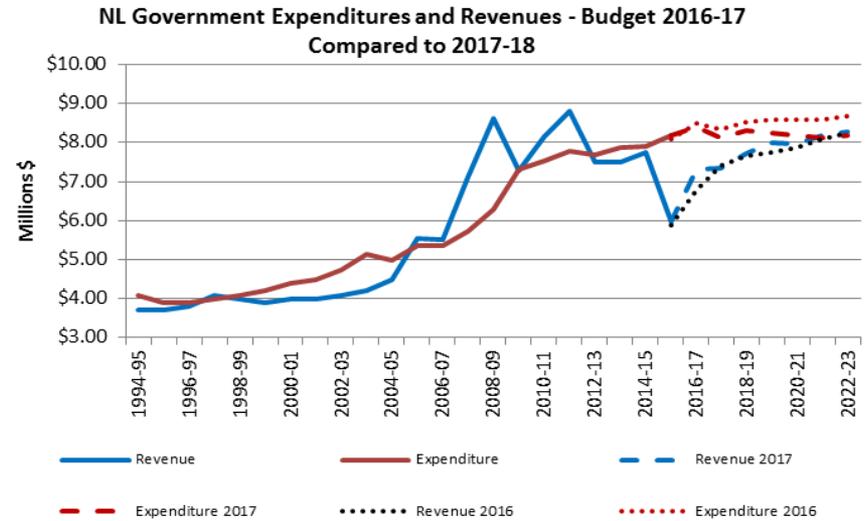
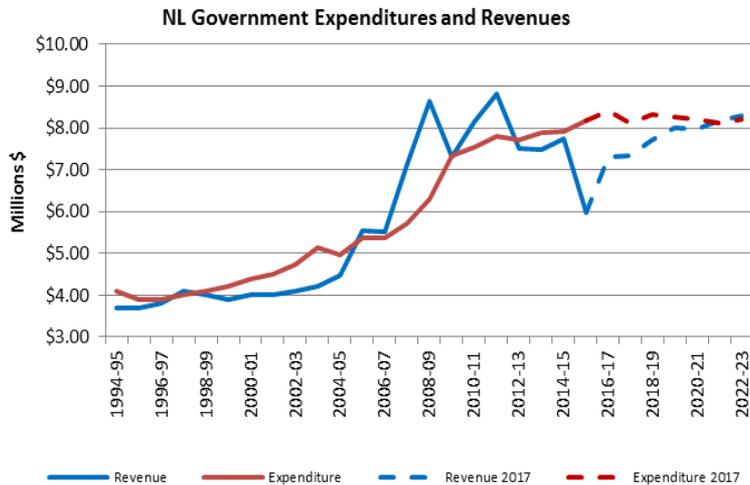
Prices appear to be on the way up

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)**

Expected Fiscal Position – Based on Budget 2017-18



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

Source: AG report, provincial budgets and public accounts, various years

If everything goes to plan, the government predicts we will be back to balance in 2022-23. Still will have a debt of nearly \$17 B and it will require a hefty increase in revenues

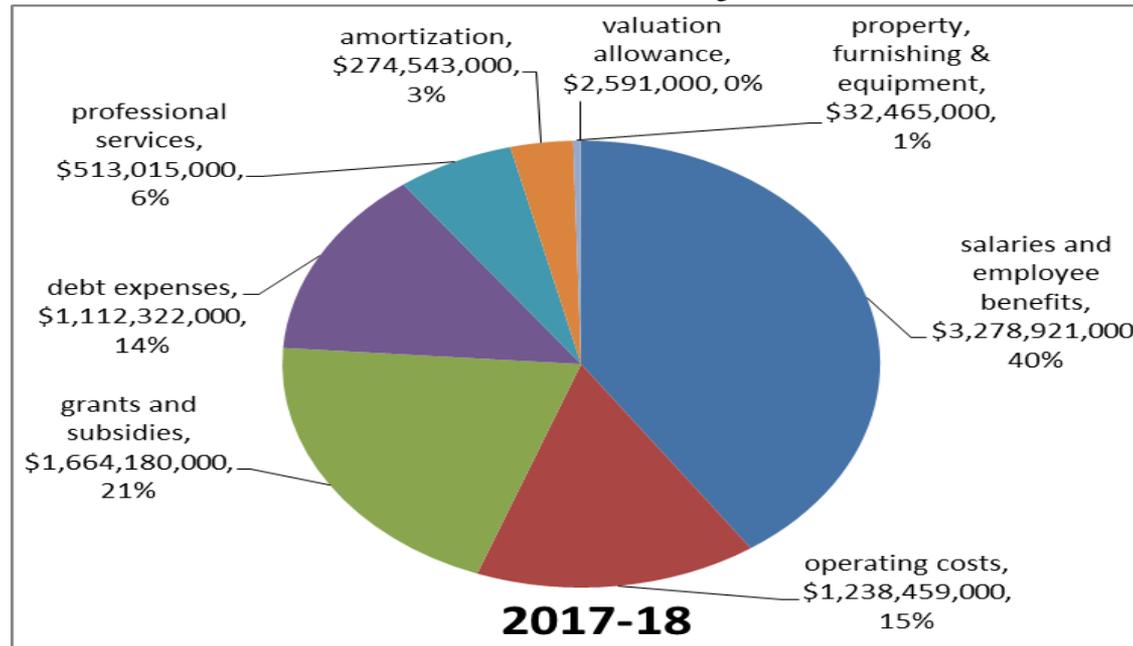
Parliamentary Budget Office (2017)

- October 5th Fiscal Sustainability Report 2017 of the Parliamentary budget office indicated that current fiscal policy in NL is not sustainable over the long term.
- PBO estimates that permanent tax increases or spending reductions amounting to 6.5 per cent of provincial GDP (\$2.0 billion in current dollars) would be required to achieve fiscal sustainability.
- This is equivalent to a permanent 26 per cent increase in the tax burden (including federal transfers) or a 21 per cent reduction in program spending.
- Health care spending is the key fiscal pressure, increasing by 6.9 percentage points of GDP over 2020 to 2091.
- PBO projects NL's population to decline continuously over the next 75 years and its senior dependency ratio to rise to levels well above all other provinces and territories.

Fraser' Institute (2017)

- There's been a massive expenditure problem when it comes to the recent budgetary woes of Newfoundland and Labrador.
- The resource boom was used to fuel an increase in spending that was not prudent given the boom/bust pattern of a resource economy.
- Perhaps a more prudent strategy would have been to continue growing expenditures at historical rates and putting away the additional revenues into a sovereign wealth fund to deal with the proverbial rainy day.

Expenditure Cuts – Probably Mean Less People

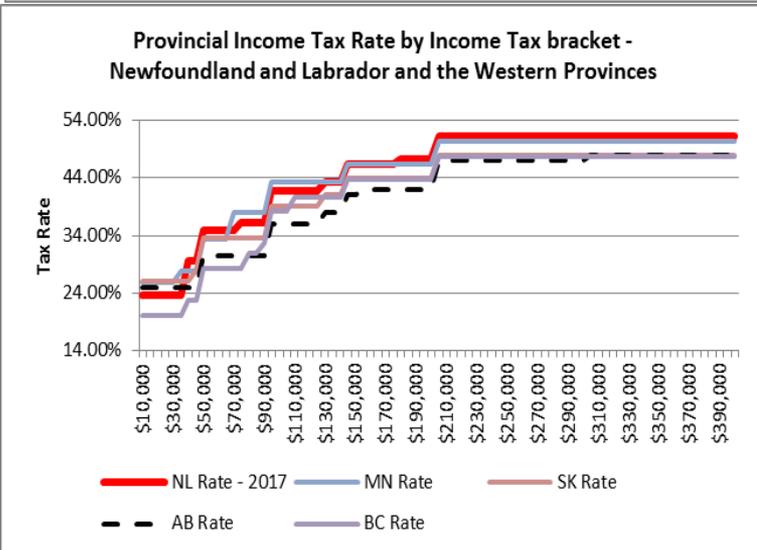
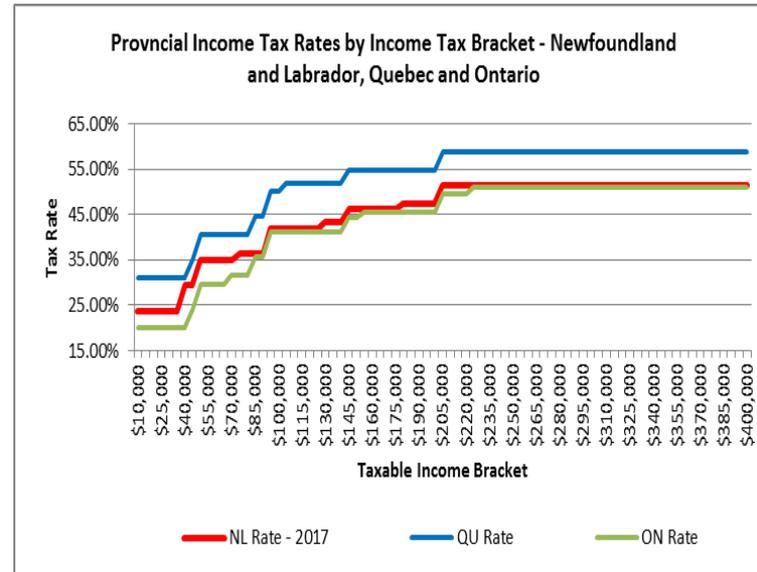
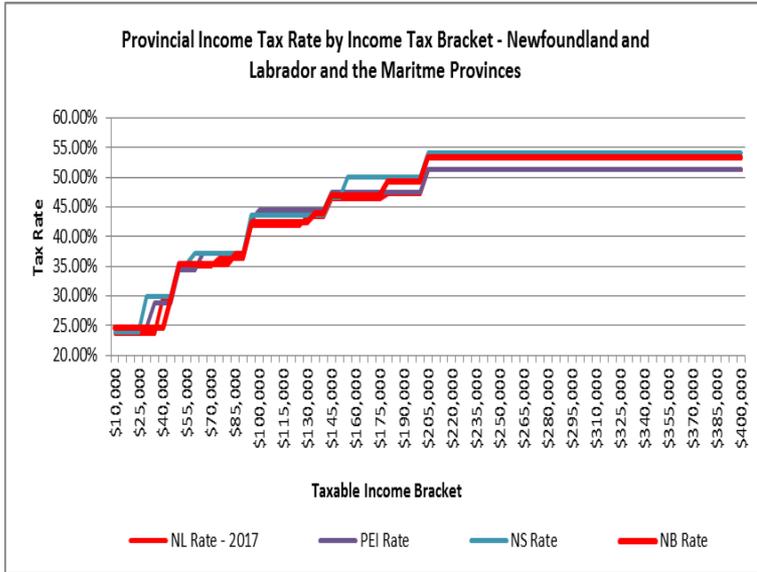


Over \$400 M in reduction in salaries and employee benefit in Budget 2017 had to do with an accounting adjustment for prior unrecognized experience losses (gains) - Teachers Pensions Plan in budget 2016-17 because of change in governance structure of the Teacher's Pension Plan

Need to be careful with how this is interpreted. It is not repeatable and does not get at the fundamental expenditure problem

\$2 B reduction in expenditure would imply \$800 M less in wages and benefits expenditure and require 13,000 to 14,000 fewer people at approximately \$60,000 per person

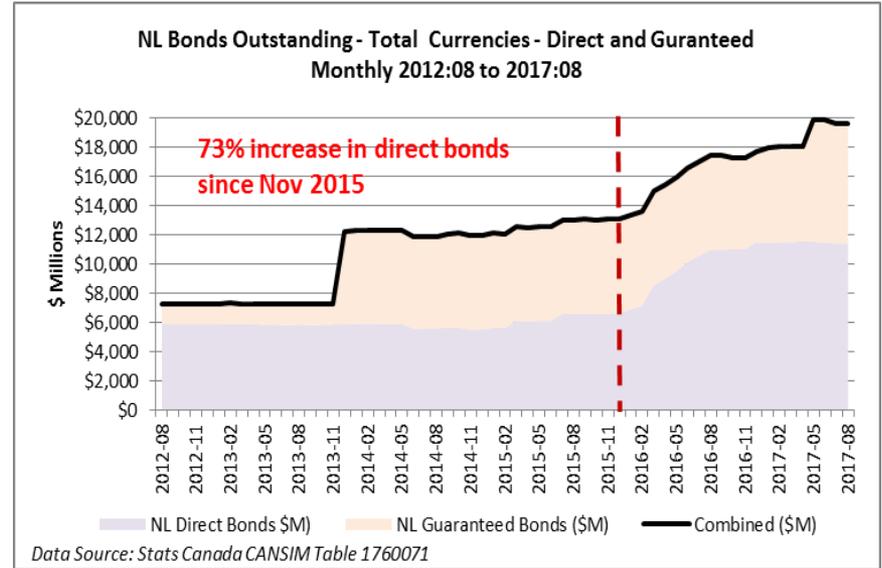
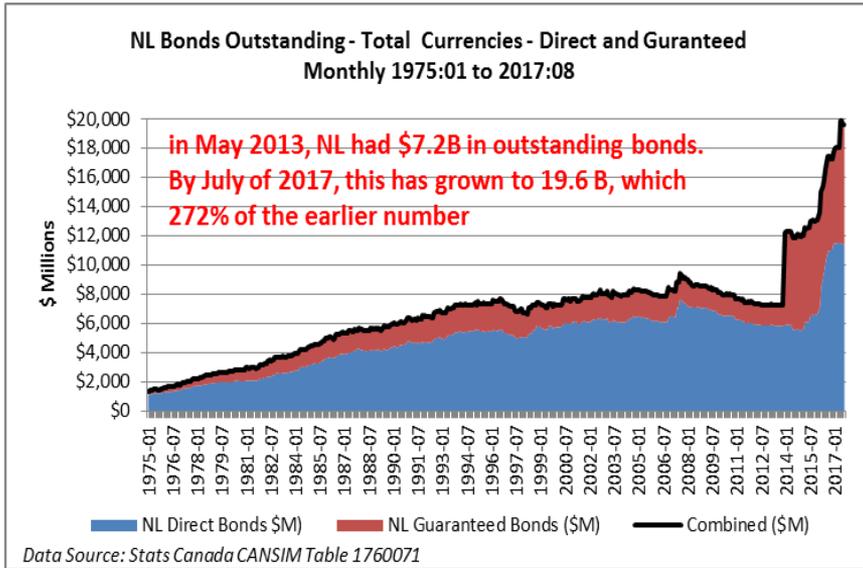
PIT Rates



NL rates are on par with the Maritimes and ON, below QU and above those out west for higher income categories

It is not clear how much further you can go with this

Outstanding Bonds - NL



NL has engaged in a substantial borrowing program, primarily driven by investment requirements for Muskrat Falls and the running of larger fiscal deficits by the provincial government

Atlantic Provinces are Already Challenged in terms of Borrowing

| Long Term Debt Credit Rating Systems | | | | |
|---|---------|---------------------|-------------|-------|
| Investment Quality | Moody's | Standard and Poor's | DBRS | Fitch |
| Highest Quality | Aaa | AAA | AAA | AAA |
| Substantial Payment Capacity | Aa1 | AA+ | AA(High) | AA+ |
| | Aa2 | AA | AA(Middle) | AA |
| | Aa3 | AA- | AA(Low) | AA- |
| High Payment Capacity | A1 | A+ | A(High) | A+ |
| | A2 | A | A(Middle) | A |
| | A3 | A- | A(Low) | A- |
| Adequate Payment Capacity | Baa1 | BBB+ | BBB(High) | BBB+ |
| | Baa2 | BBB | BBB(Middle) | BBB |
| | Baa3 | BBB- | BBB(Low) | BBB- |
| Non-investment grade: BB, B, CCC, CC and C categories | | | | |
| In Default | C | D | D | D |

| Canadian Provincial Ratings, December 31 st , 2016 | | | |
|---|----------|-----------------------|-----------------------|
| | DBRS | S&P | Moody's |
| British Columbia | AA(high) | AAA | Aaa |
| Alberta | AA(high) | AA (negative) | Aa1 (negative) |
| Saskatchewan | AA | AA+ (negative) | Aaa |
| Manitoba | A(high) | AA- (negative) | Aa2 |
| Ontario | AA(low) | A+ | Aa2 |
| Quebec | A(high) | A+(positive) | Aa2 |
| New Brunswick | A(high) | A+ | Aa2 |
| Nova Scotia | A(high) | A+ | Aa2 |
| Prince Edward Island | A(low) | A | Aa2 |
| Newfoundland & Labrador | A(low) | A (negative) | Aa3 (negative) |

Muskrat Falls – Time for Answers

Former Muskrat Falls engineer calls for forensic audit to examine 'absurdly low' cost estimates CBC website -May 10, 2017 6:00 AM NT

The engineer — whose identity CBC News has agreed to protect, because he is not authorized to speak publicly about his work on the project — believes that **"the purpose of this estimate was not to generate an estimate for project implementation, but secure project sanction."**

If there is any truth to this assertion, then it does call for some kind of independent inquiry. This statement implies a deliberate act that goes beyond inexperience or lack of competence and there is no obvious motive for such an act and an act that would be uncovered with time as real costs were incurred

These types of allegations have been hanging over the province for a long time.

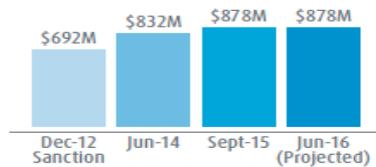
James Macleod of the Telegram Sept. 8, 2017 (Updated Sept 30, 2017) reported that embedded contractors billed 4.6 M hours of work on the Muskrat Falls project, billing from \$90 to \$250 per hour.

And, Mr. Macleod reported that in 2015, that person invoiced for 3,167 hours of work on the project (normally full-time equivalent employees would be billing 2,000 hours per year

Muskrat Falls

MUSKRAT FALLS PROJECT UPDATE

LABRADOR TRANSMISSION ASSETS (LTA)

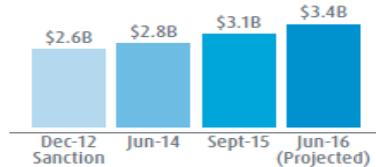


- Clearing and access 100% complete
- 100% of towers installed and wire stringing completed

PROJECTED IN-SERVICE DATE
Sanction: Q2 2017 June 2016: Q2 2018



LABRADOR-ISLAND LINK (LIL)



- Clearing and access 75% complete
- Switchyards and synchronous condensers 36% complete
- Strait of Belle Isle (SOBI) completion by end of 2016

PROJECTED IN-SERVICE DATE
Sanction: Q2 2017 June 2016: Q2 2018



MUSKRAT FALLS GENERATION (MF)

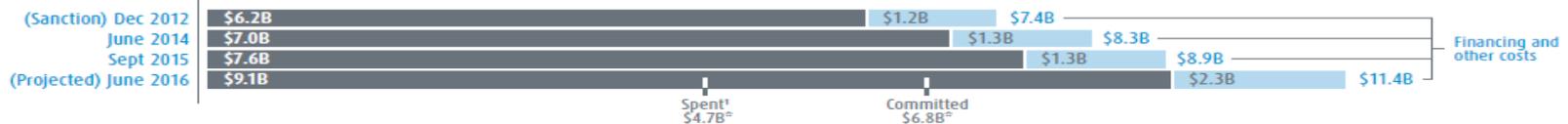


- Primary spillway structure complete
- North Spur 44% complete
- River diversion scheduled in summer 2016

PROJECTED IN-SERVICE DATE
First Power Sanction: Q4 2017 June 2016: Q3 2019
Full Power Sanction: Q2 2018 June 2016: Q2 2020



PROJECT COSTS



¹Spent reflects incurred cost for the period

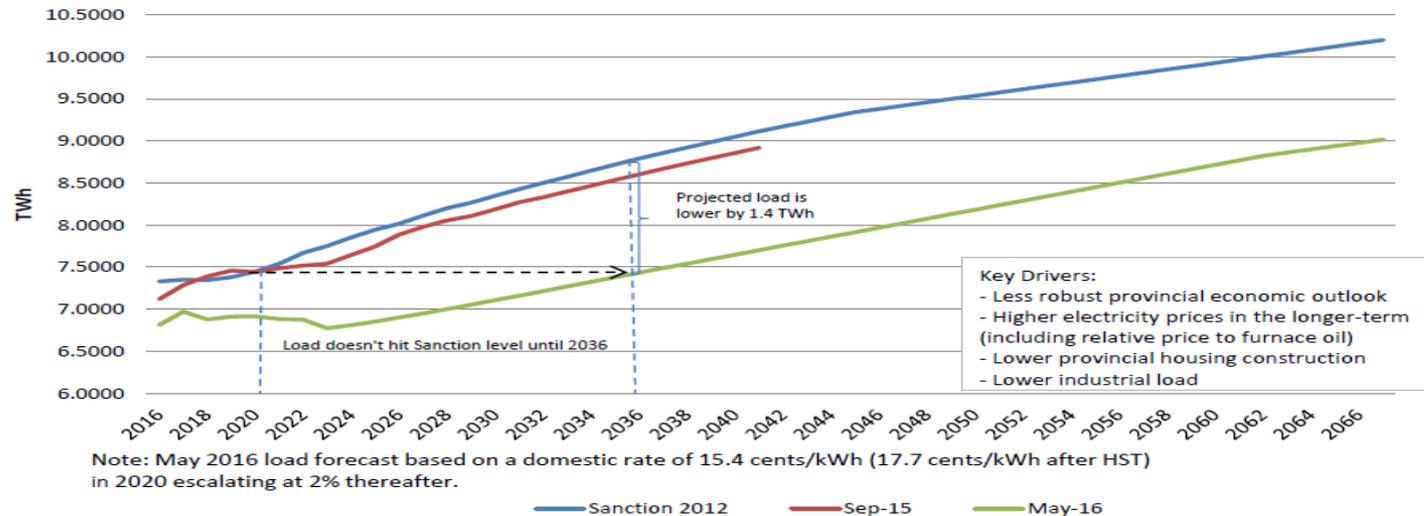
²As of May 2016

The June 2017 estimates from Nalcor put these costs at \$12.7 B

Substantial changes in costs which really requires some kind of explanation

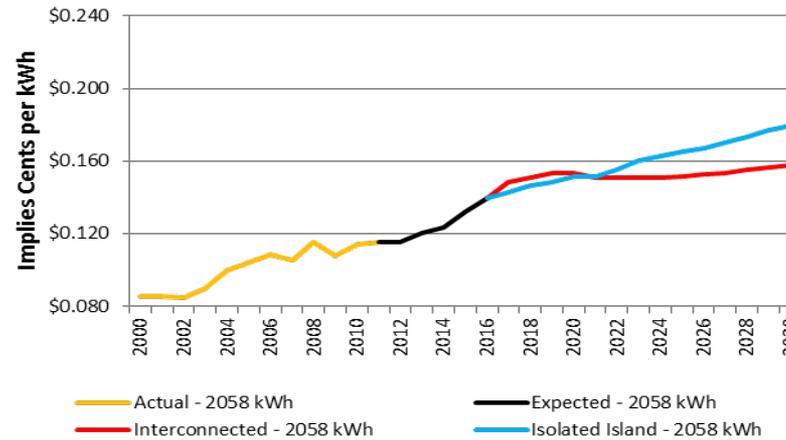
Change in Demand

NL Hydro Island Interconnected Sales



Significant Change in demand within six months and not explained. Had this been known at sanction, there probably would not have been a project

Electricity Price Expectations at Sanction



At sanction, it was expected to be about a 2 cent/Kwh in favour of Muskrat Falls by 2030

With the lower price of oil that now prevails, one would expect to pivot the blue line (the isolated island option) downward, the higher capital and operating costs now assumed for Muskrat Falls would push the red line (the interconnected option) upward

If the capital costs for the isolated island option would have increased over the original estimate, which is likely, then the blue line would also have to be pushed up.

How much these lines would change and where they would likely end up, will require an engineering analysis to answer and no such analysis is not available publicly

The lower electricity demand would push both curves up, with the red line being pushed up more.

It is not unreasonable to speculate that the relative position of these curves could have changed, at least in the medium term, against the Muskrat Falls option

Thank you

Any Questions Please