DEEP POVERTY IN NEW BRUNSWICK:
A DESCRIPTION AND NATIONAL COMPARISONS

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Deep Poverty in New Brunswick – Executive Summary

The persistence of poverty – especially **deep poverty** – in Canada is an important topic for researchers across various disciplines. Deep poverty refers to those living far below the poverty line, which serves as a particularly important measure for government in regard to planning and population health. However, measures of poverty vary across Canada, and it has been suggested that the choice of poverty line is important for tracking poverty and deep poverty over time.

In New Brunswick, income poverty is measured using a number of key indicators, including the Market Basket Measure and the Low-Income Measure after tax (LIM). Deep poverty is measured as having an income at 50% or less of the Low-Income Measure (LIM) in a given year. The Canadian poverty line is defined by the Market Basket Measure (MBM). By examining levels of poverty according to both measures (LIM *and* MBM), we are able to show the impact the choice of definition can have on poverty outcomes – which, in our comparisons, is quite small.

We use Census data to map out ten-year trends in poverty (2006-2016) with limited success, as consistent deep poverty measures are not available. The choice of poverty line matters in this comparison. Trends based on the LIM (a relative measure of poverty, which grows with increases in median incomes) imply that poverty in New Brunswick increased over the study period in question. However, trends based on the MBM (an absolute measure of poverty, which grows with inflation) imply that poverty has been decreasing. This difference in outcomes is particularly evident for seniors, whose poverty levels have been increasing according to the LIM and decreasing according to the MBM. These findings suggest that using the LIM as a benchmark implies deep poverty in seniors may increase simply due to rising median incomes; this does not necessarily imply a meaningful change in living conditions for the poor. 2016 Census data on immigrant poverty also shows that **poverty among immigrants is approximately double that of non-immigrants**, with the difference between the groups increasing over time.

We find similar correlations between deep poverty and certain variables, regardless of the poverty measure used. Using data from the Canadian Income Survey (CIS) for the years 2012 to 2016, we are able to construct a consistent picture of who is living in deep poverty in New Brunswick. In any given year, there are approximately 100,000 people living below the poverty line in New Brunswick, and approximately 18,000 of them live in deep poverty. Deep poverty is relatively rare for those below the poverty line – affecting close to 1 in 5 people. Over time, the number of people living in deep poverty in New Brunswick has been declining, driven by a notable decrease in 2016. The prevalence of deep poverty is also decreasing from 2012 to 2016, with most people below the poverty line being quite close to the line.

Our findings show that **those in deep poverty are more likely to be single, living alone, middle aged, and on social assistance**. Having children or being over the age of 65 are both protective of deep poverty due to the additional government transfers that target these households. There seems to be no relationship between sex, geographic region, or education and deep poverty. Finally, French and English speakers show a similar poverty prevalence. Overall, it seems that the definition of poverty used (LIM vs. MBM) is not important for studying the correlates of deep poverty, but it is important for estimating the prevalence of deep poverty.

New Brunswick is typical of the Atlantic Region[1] in terms of deep poverty characteristics and trends. The Atlantic region in turn is similar to the rest of Canada. Thus, **New Brunswick's challenges are not unique**. While being on government transfers (e.g., social assistance) and being single are both correlated with deep poverty across the country, this relationship is strongest in the Atlantic provinces, implying a potential avenue for policy intervention.

If social assistance, by design, provides a level of support that pushes singles into deep poverty to preserve work incentives, single social assistance recipients will likely continue to live in deep poverty. **One government solution to deep poverty would be to raise single social assistance payments to a level above 50% of the LIM.** For reference, the 2016 deep poverty threshold is $11,328 for a one person household. Those who work in our sample are rarely in deep poverty; therefore, those who persist in deep poverty are possibly not transitioning off social assistance for systematic reasons, such as disability.

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[1] The Atlantic region consists of New Brunswick, Newfoundland & Labrador, Nova Scotia, and Prince Edward Island

Who is Living in Deep Poverty?

Summary

In this document, we consider both the Low Income Measure (LIM) and the Market Basket Measure (MBM) thresholds of poverty. We also consider **deep poverty** as referring to individuals who have an income at 50% below the respective poverty threshold, or lower. We thus implement two poverty thresholds and two measures of deep poverty throughout this report.

While a substantial number of New Brunswickers live below low-income thresholds, only 1 in 5 low-income families are in deep poverty. The majority of families below the observed low-income thresholds are within approximately 30% of the poverty line during the investigated time period. Those in deep poverty tend to be single, middle-aged, living on social assistance, and are spread throughout the province.

Transfers targeted at specific groups (i.e., child benefits or old age security) appear to move people out of deep poverty, as evidenced by

- The greater likelihood that those above the deep poverty thresholds will report OAS as a main source of income

- The precipitous drop in people age 65 or older in the deep poverty group

- The higher average number of children above the deep poverty threshold

Working also appears to have a protective effect against deep poverty, as wages make up a higher share of income for those above the deep poverty thresholds. Among those above deep poverty thresholds who rely primarily on transfers, wages make up a slightly higher share of income. Employment insurance (EI) benefits make up a slightly larger proportion of total income among those who rely on transfers and are above the deep poverty threshold.

Women make up a higher proportion of low-income respondents than men, and these proportions are similar both above and below deep poverty thresholds.

Over the five years of investigated Canadian Income Survey (CIS) data (2012-2016), deep poverty seems to be improving on net in New Brunswick, in the sense that fewer people are in deep poverty over time and the gap ratio for those in deep poverty decreased. This is driven by a drop below baseline levels in 2016, but no consistent pattern between 2012 and 2016.

Overall: Entire Population

For our analysis, we use CIS data (2012-2016) pooled across all years for New Brunswick. All estimates are weighted where appropriate. We exclude people who reported being a part-time or full-time student. Over the five one-year samples, we have 13,601 unweighted observations.

We report results for both the Low Income Measure (LIM) and the Market Basket Measure (MBM):

- 15.2% of respondents report a total income that puts their family unit **below the LIM**. Our sample represents about 3,301,740 individuals over five years, meaning approximately 502,060 of them are below the LIM, or approximately 100,000 per year (Table 1).

- 12.4% of respondents report a total income that puts their family unit **below the MBM**. That means approximately 410,060 individuals below the MBM are represented, approximately 82,000 per year (Table 1).

These proportions remain approximately steady over the five investigated years of the survey, representing between approximately 80,000 and 110,000 people per year. The LIM includes more individuals each year, with the wide range in the estimated number of individuals due to the two thresholds fluctuating in opposite directions.

Table 1: Proportion of Respondents and Estimated Number of Individuals Below the Low-Income Thresholds, by Year

Proportion of Respondents Below the Low-Income Thresholds, by Year						
	Year					
	2012	**2013**	**2014**	**2015**	**2016**	**Overall**
Proportion below LIM	15.2%	14.4%	14.8%	16.7%	15.0%	**15.2%**
Proportion below MBM	13.7%	12.3%	11.7%	12.5%	12.0%	**12.4%**

Estimated Number of Individuals Below the Low Income Thresholds, by Year					
	Year				
	2012	**2013**	**2014**	**2015**	**2016**
Proportion below LIM	99,660	96,040	97,380	109,470	99,520
Proportion below MBM	90,110	81,620	76,820	81,800	79,730
Difference (LIM-MBM)	**9,550**	**14,420**	**20,560**	**27,670**	**19,790**

Those below the low-income thresholds are assigned a "gap ratio." The gap ratio refers to the size of the difference (called "the gap") between self-reported income and the income threshold, divided by the threshold. In other words, the gap ratio refers to the percentage of the threshold that is not covered by the family's income, or the "depth of their poverty." A gap ratio of 10 means the family misses the threshold by 10% of the threshold's value. A gap ratio of 50 or higher with respect to the LIM meets the New Brunswick definition of "deep poverty."

- The average **gap ratio** for respondents below the **LIM** is 26.88%
  - 17.4% of people below the **LIM** have a **gap ratio higher than 50%**

- The average **gap ratio** for respondents below the **MBM** is 28.04%
  - 18.8% of people below the **MBM** have a **gap ratio higher than 50%**

These numbers represent approximately 87,410 people living in deep poverty according to the LIM and 77,010 people with a gap ratio higher than 50% for the MBM over the five-year period (Table 2).

Yearly estimates are expressed in Table 2. The measures are consistent across years, though we see some fluctuation in the average gap ratios of the MBM. Most people below either threshold do not have a very high gap ratio – a fact not conveyed by the average.

Table 2: Average Gap Ratio, by Year, Percentage, and Number of People with Gap Ratio > 50%					
	Year				
	2012	**2013**	**2014**	**2015**	**2016**
Average gap ratio (LIM)	27.81	26.79	28.73	26.36	24.77
Average gap ratio (MBM)	27.51	28.13	30.18	29.20	25.31
Percentage with gap ratio > 50% (LIM)	18.37%	17.79%	21.24%	18.55%	11.09%
Percentage with gap ratio > 50% (MBM)	20.59%	16.98%	23.08%	17.48%	15.78%
Estimated number with gap ratio > 50% (LIM)	18,300	17,090	20,680	20,300	11,040
Estimated number with gap ratio > 50% (MBM)	18,550	13,860	17,730	14,300	12,580

Below (Figure 1) are the density functions of the gap ratios for individuals below the LIM and the MBM.

Figure 1: Density of Gap Ratio Values, by Measure
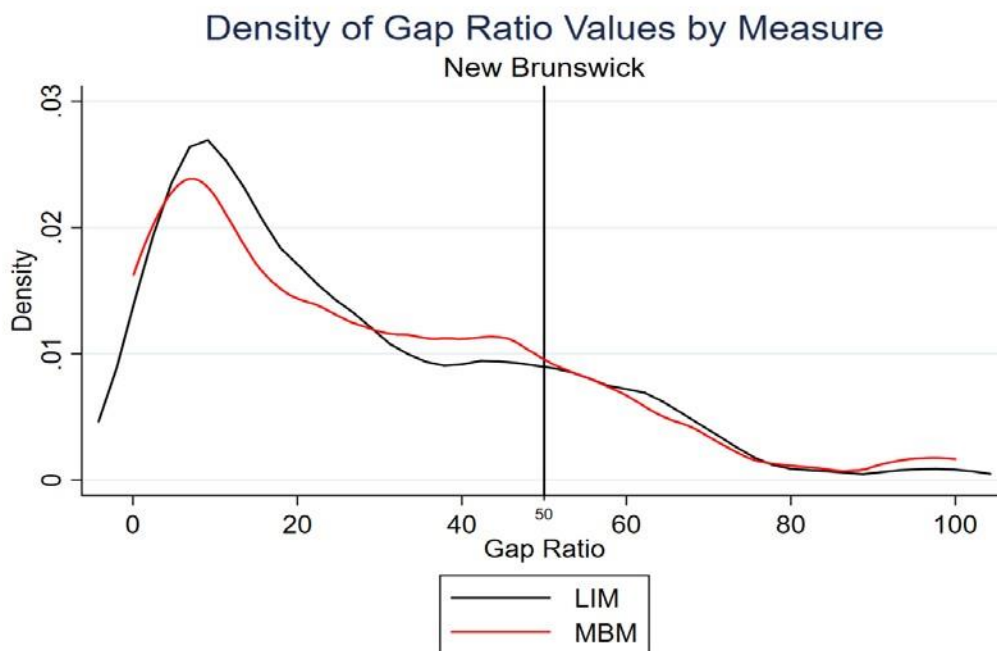
The modal gap ratio for both measures is less than 10%. A small proportion of those below either low-income measure has a gap ratio higher than 50, and the cumulative distribution below (Figure 2) shows that approximately 20% of those below the two thresholds are in deep poverty.

Figure 2: Cumulative Density of Gap Ratio Values, by Measure

Cumulative Density of Gap Ratio Values by Measure
New Brunswick
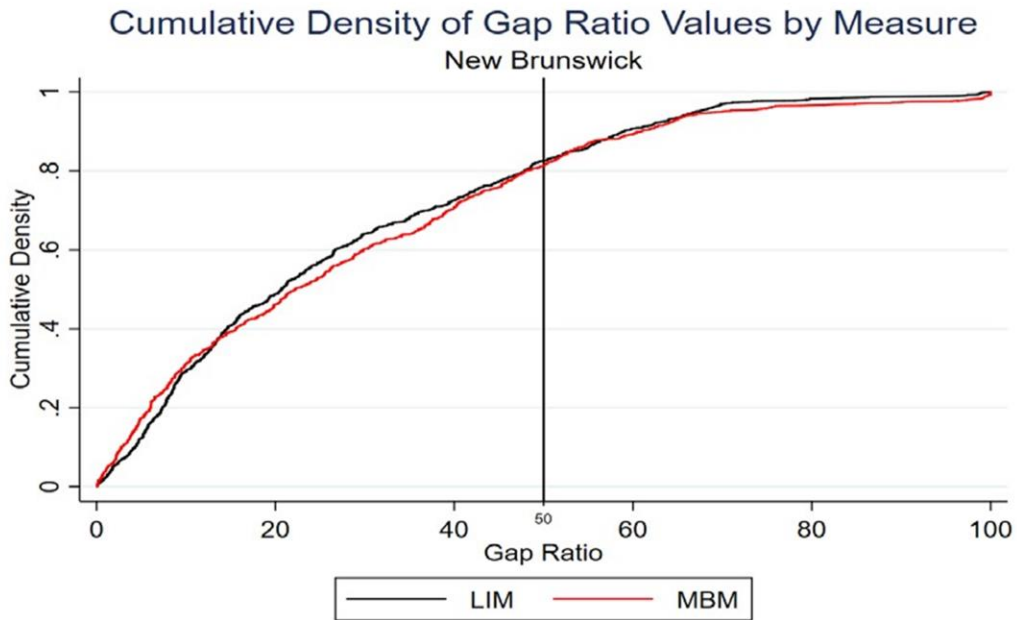
When measured by year, the density of deep poverty appears to have improved. In Figures 3 and 4, the area under the curve to the right of the deep poverty cut-off for the year 2012 is larger than for 2016, and it appears that area has fluctuated but decreased over time.

Figure 3: Density of Gap Ratio for MBM, by Year

Density of Gap Ratio for MBM by Year
New Brunswick
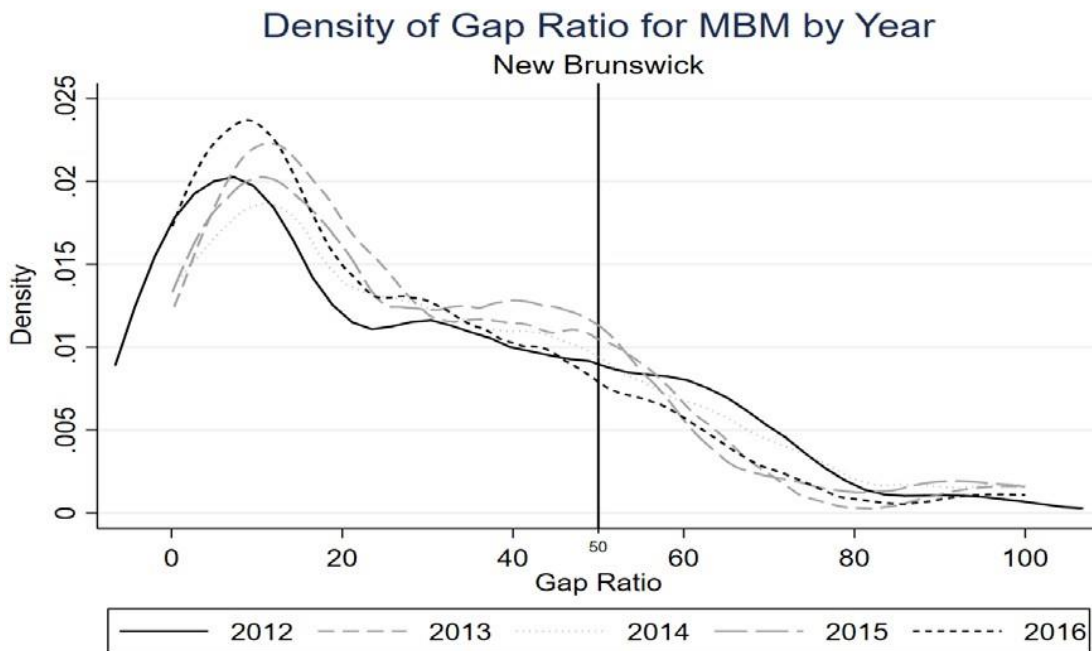
Figure 4: Density of Gap Ratio for LIM, by Year
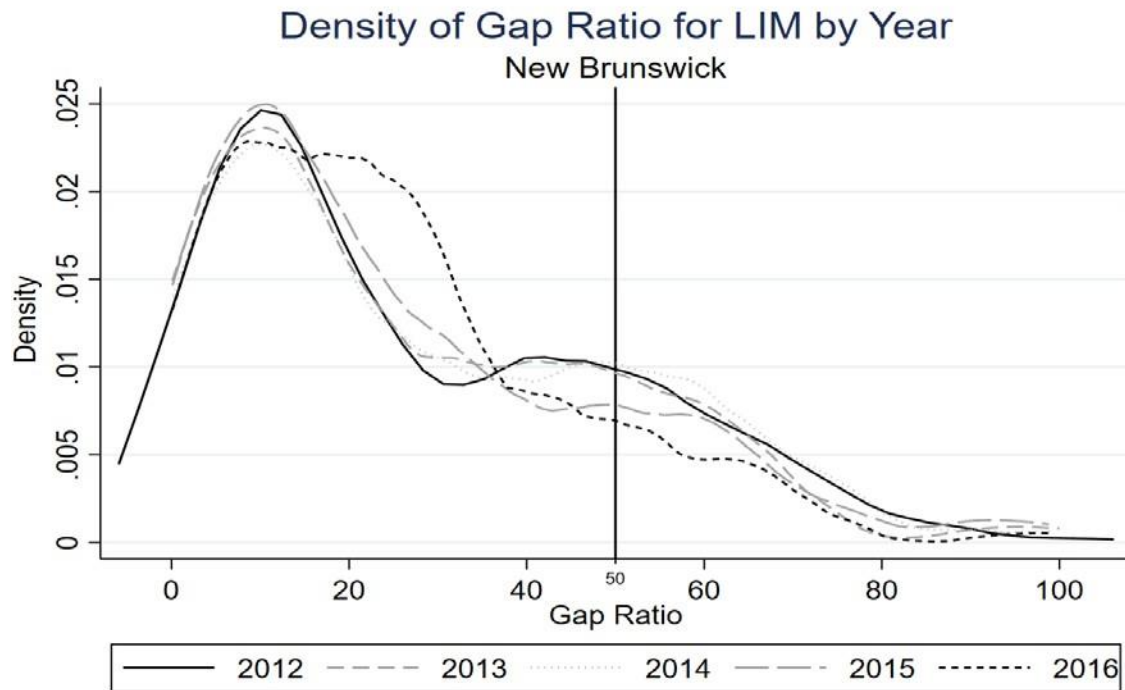
Those in Deep Poverty Versus the Rest of the Low-Income Group[2]

Throughout this section, we consider two groups: those in deep poverty, and those below the relevant threshold but not in deep poverty. These groups are exclusive, but we shorten the labels for brevity. For example, instead of writing "The group below the LIM but not in deep poverty," we simply label the group "Below LIM" in our tables.

Sex

Table 3 shows the proportion of males and females below the two low-income thresholds. There is a similar proportion of males and females with incomes above and below the deep poverty thresholds. Overall, though, females are more highly represented among low-income respondents.

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[2] Because CIS data does not contain information showing variation in immigrant status, we do not consider Immigrant Status in section and instead discuss it in the later section on Census data.

Table 3: Sex of Those Below Low Income Thresholds and in Deep Poverty, LIM and MBM				
	LIM		MBM	
	Below LIM	Deep Poverty	Below MBM	Deep Poverty
Female	55.8%	54.8%	55.1%	53.7%
Male	44.2%	45.2%	44.9%	46.3%

Marital Status

The following figures depict the prevalence of different marital statuses across the different groups. For example, the first bar indicates that approximately 34% of those below the LIM but above the deep poverty threshold are married. Those living in deep poverty are more likely to be single, separated, or divorced compared to those living under the low-income thresholds but not in deep poverty.

Figure 5: Prevalence of Types of Marital Status of Those Below Low-Income Threshold or in Deep Poverty, LIM and MBM
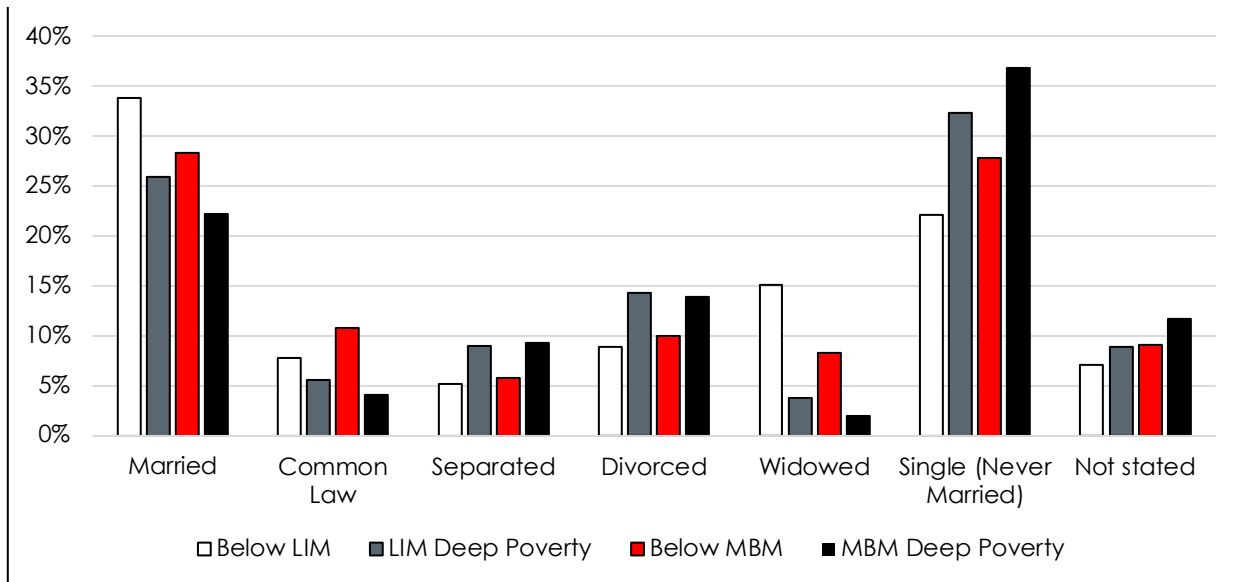
Figure 6: Prevalence of Single vs. Couple Status for Those Below Low-Income Threshold or in Deep Poverty, LIM and MBM
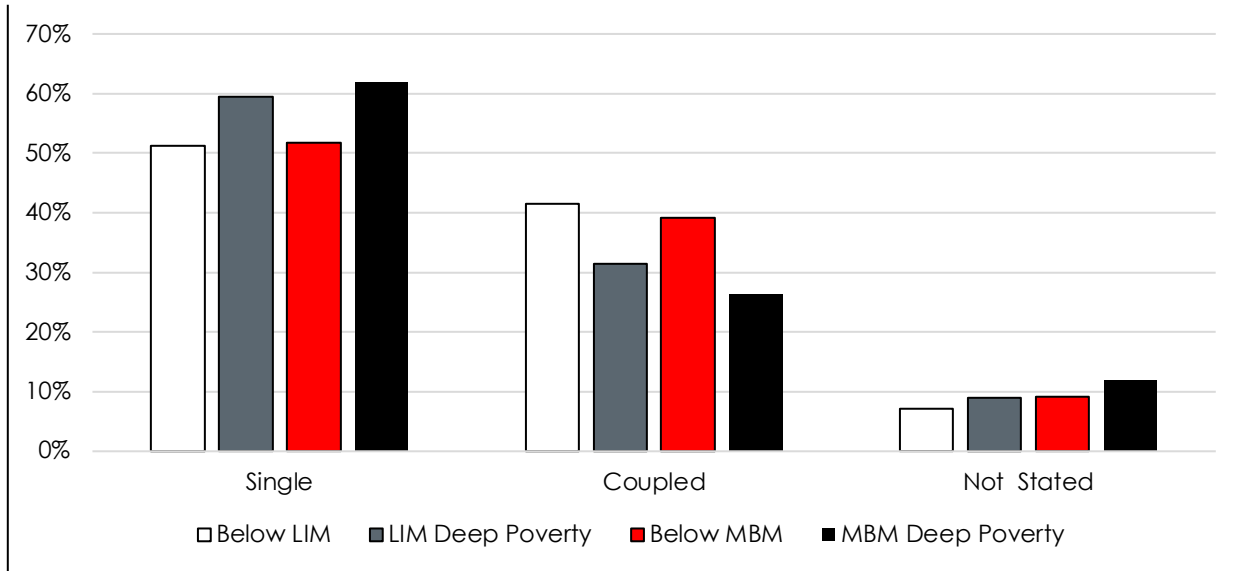
Age

The age distributions of those below the low-income thresholds but not in deep poverty is shown in grey in the charts below. The black bars show the age distribution of those in deep poverty. Under either poverty threshold, children are less likely to be in deep poverty, and those aged 65 or older are far less likely to be in deep poverty. Most people living in deep poverty are aged 45 to 64, and the distributional difference is more obvious in the LIM sample than in the MBM sample.

Figure 7: Age Distribution: Below LIM or Deep Poverty
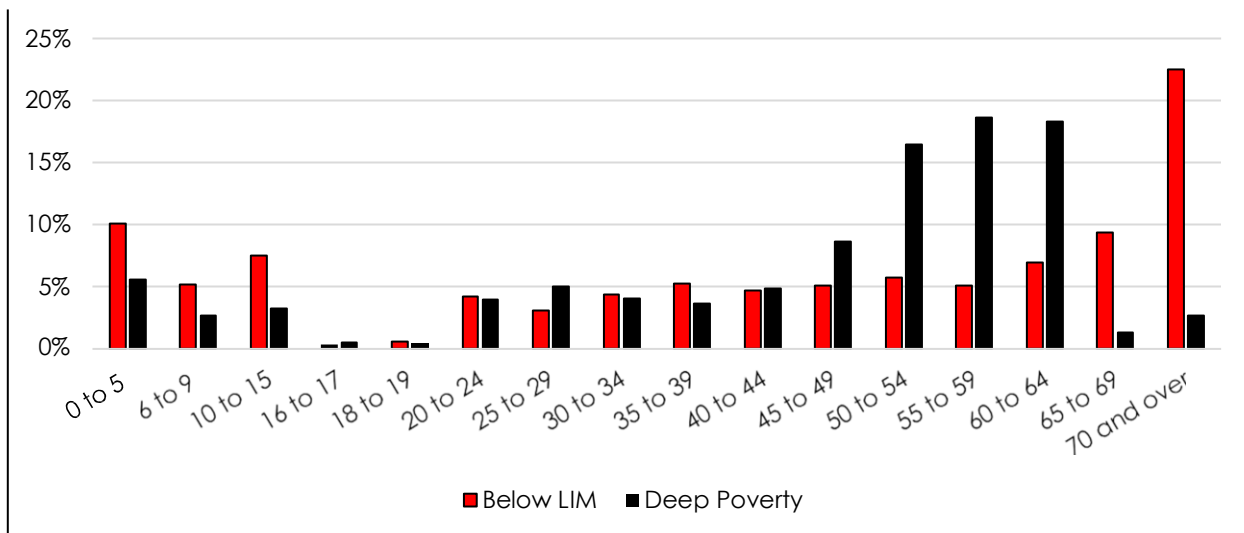
Figure 8: Age Distribution: Below MBM or Deep Poverty
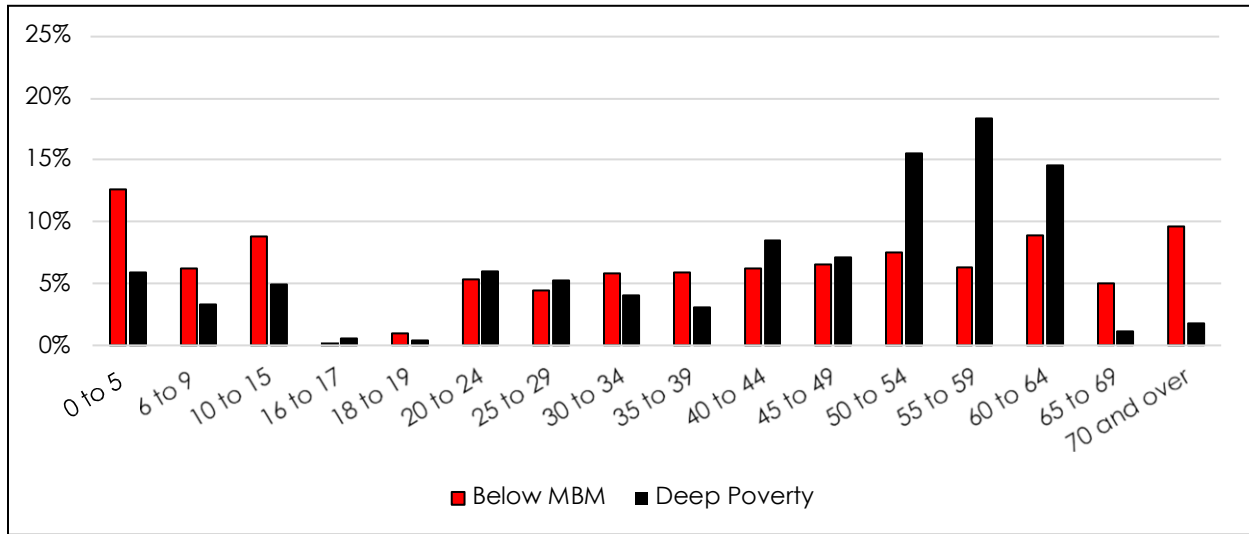
Education

On average, high school completion rates are similar for those above and below the deep poverty threshold for both LIM and MBM poverty metrics.

Table 4: High School Completion of Those Below Low-Income Threshold and in Deep Poverty, LIM and MBM				
	LIM		**MBM**	
	Below LIM	Deep Poverty	Below MBM	Deep Poverty
Incomplete	46.2%	44.0%	36.6%	41.4%
Complete	51.3%	51.1%	59.9%	54.0%
Not Reported	2.5%	4.9%	3.5%	4.7%

Number of Children by Household Structure

A census family consists of a couple or a single adult living with or without children. The economic family – the unit for which the LIM or MBM is often reported – is broader and includes other family members living in the same dwelling. For example, a one-person census family in a one-person economic family is a single person living alone. A one-person census family in a multi-person economic family could be an elderly person living with their grown child's family.

Census family structures show that people in deep poverty are far more likely to be single and living alone. Couples with children are less likely to be in deep poverty. Single mothers are slightly less likely to be in LIM-defined deep poverty and much less likely to be in MBM-defined deep poverty.

Table 5: Family Structure for Those Above and Below the Deep Poverty Threshold				
	LIM		MBM	
	Below LIM	Deep Poverty	Below MBM	Deep Poverty
One person CF* in one-person EF**	29.66%	50.39%	26.82%	54.85%
One person CF* in multi-person EF**	1.94%	1.88%	2.62%	1.17%
Couple, no kids	20.10%	20.98%	14.75%	13.57%
Couple, kids < 24	26.86%	9.47%	29.25%	12.70%
Couple, kids > 25	1.25%	0.82%	0.63%	0.93%
Female lone parent, kid <24	14.91%	13.15%	21.41%	13.01%
Female lone parent, kid>25	3.49%	2.07%	3.15%	1.31%
Male lone parent, kid<24	1.25%	0.66%	1.18%	1.79%
Male lone parent, kid>25	0.52%	0.60%	0.19%	0.68%

CF = Census Family
**EF = Economic Family*

Table 6: Average Number of Children for Selected Census Family Types, Above and Below Deep Poverty Thresholds				
	LIM		MBM	
	Below LIM	Deep Poverty	Below MBM	Deep Poverty
Couple kids < 24	2.64	1.46	2.47	1.68
Female lone parent, kid < 24	2.02	1.78	2.05	1.96
Male lone parent, kid < 24	1.82	1.00[e]	1.76	1.00[e]

[e] *There are so few observations underlying this estimate that it is unlikely to represent the population*

As shown in Table 6, those in deep poverty have fewer children than comparable households above the deep poverty threshold.

Aside: The Concept of "Economic Families"

Poverty measures like the Low Income Measure (LIM) and Market Basket Measure (MBM) are reported for economic families.[3] Generally, households consist of all people living in a dwelling, while economic families are related in some way. Roommates are not in the same economic family unless they are also related. Colloquially, we would not refer to roommates as members of the same "household." This difference is important for reporting low-income numbers, as individuals might "double-up" on accommodation to save

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[3] More information on the concept of the economic family and how it differs from Statistics Canada's definition of a household is available at
http://www23.statcan.gc.ca/imdb/p3Var.pl?Function=DEC&Id=238685.

money, putting them in the same household; however, they would still count as two low-income economic families.

Geographic Sub-Region

Table 7: Geographic Subregion for Those Above and Below Deep Poverty Threshold				
	LIM		MBM	
	Below LIM	Deep Poverty	Below MBM	Deep Poverty
Rural NB	32.97%	25.42%	29.16%	22.73%
Fredericton & Towns < 100k	35.13%	43.69%	43.12%	50.33%
Saint John & Moncton	31.90%	30.89%	27.71%	26.94%

Our data only contains the geographic regions reported in Table 7. The way in which the publicly available CIS data is categorized – i.e., into three geographic regions – means that we cannot disaggregate Fredericton from towns like Miramichi, Bathurst, or Campbellton. New Brunswickers in deep poverty are more likely to live in Fredericton and other towns with fewer than 100,000 people.

Income-Related Variables

Major Source of Income

The following table shows the major source of income reported within each group.

Table 8: Major Source of Income for Those Above and Below Deep Poverty Threshold				
	LIM		MBM	
	Below LIM	Deep Poverty	Below MBM	Deep Poverty
Wages	26.81%	9.83%	36.43%	11.72%
Self-employed	3.57%	3.95%	4.52%	5.33%
Government Transfers	67.23%	82.90%	56.78%	79.08%
Investment Income	0.38%	1.52%	0.47%	1.72%
Private Retirement Pensions	1.24%	0.14%	1.16%	0.00%
Other	0.77%	1.66%	0.64%	2.14%

Approximately 41% of those below the MBM but above deep poverty report wages or self-employment as their main source of income. The proportion in MBM deep poverty reporting the same income source is approximately 17%. Approximately 80% of those in deep poverty report government transfers as their main source of income.

Those above deep poverty thresholds are more likely to be earning wages, whereas those below deep poverty thresholds are more likely to be living on government transfers. However, in all investigated low-income groups, government transfers are the major source of income.

Average after-tax income for those reporting transfers as their main source of income is $25,630 for economic families **below the LIM** (median = $23,810) and $10,100 for economic families in **LIM deep poverty** (median = $9,775). Economic families **below the MBM** receive $22,750 on average (median = $21,320), with those in **MBM deep poverty** receiving $8,960 (median = $8,500). Economic family sizes are smaller for those in deep poverty, and the average economic family size above the deep poverty thresholads (LIM = 2.4; MBM=2.5) is higher than that below the deep poverty thresholds (LIM & MBM = 1.7).

Transfers Received

The following graphs are comprised of economic families for whom government sources are the main source of income. For those above and below either threshold (LIM or MBM, we compare the average amount of money received from each source to the average after-tax income. These proportions show the importance of the different transfers to those above and below the deep poverty threshold.

Figure 9: Share of Total Income, by Source, for Those Above and Below LIM Deep Poverty Threshold
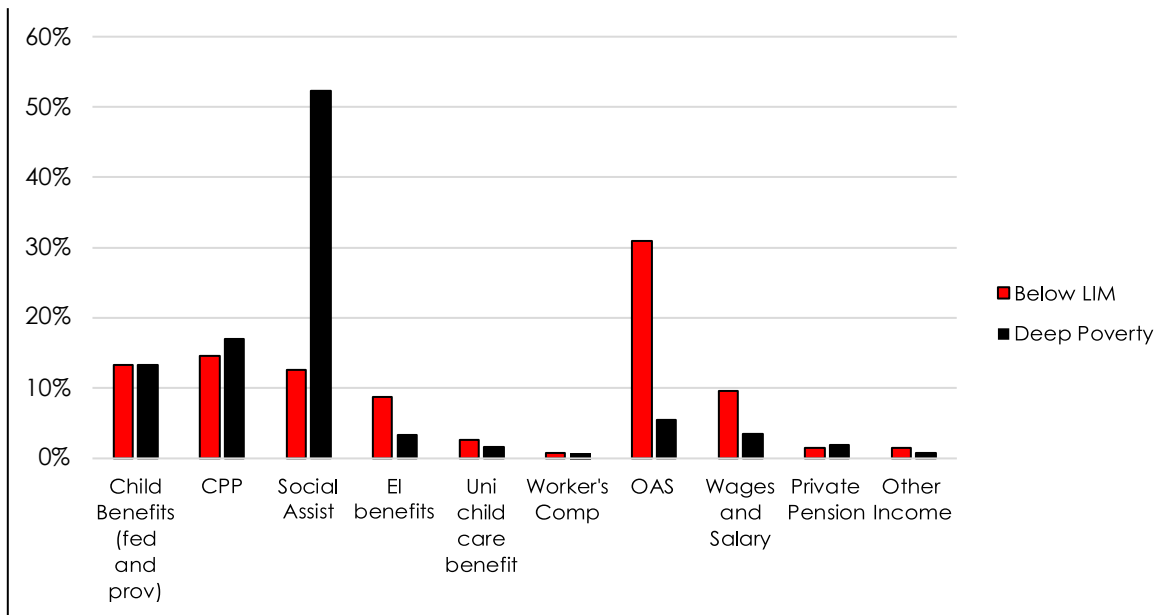
Figure 10: Share of Total Income, by Source, for Those Above and Below MBM Deep Poverty Threshold, MBM
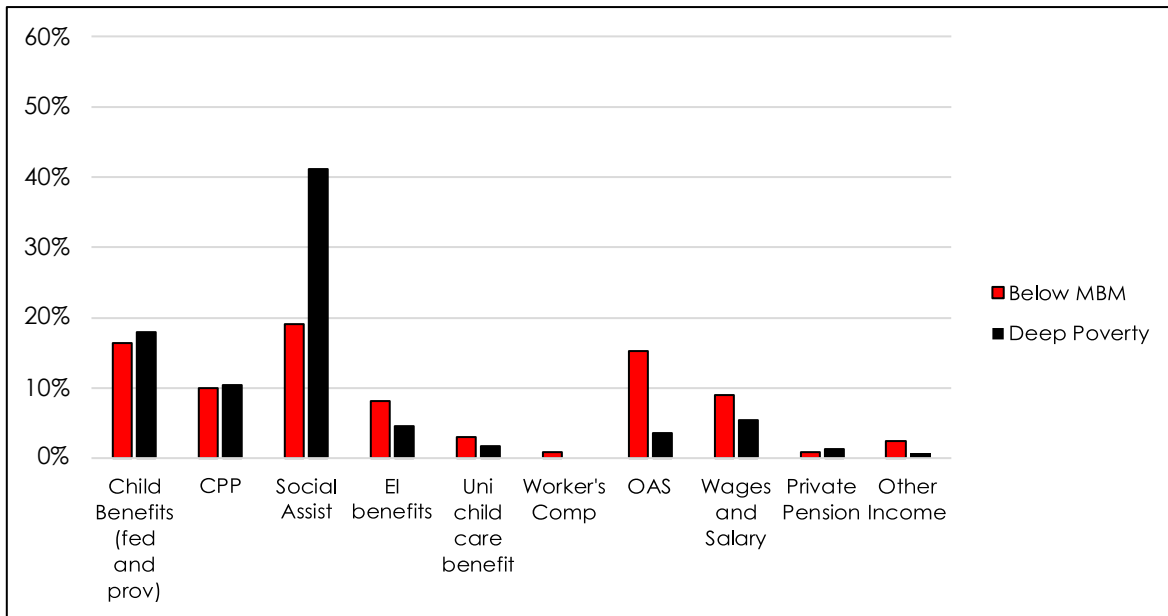
Those below the deep poverty threshold who report receiving government transfers as their main source of income are primarily receiving social assistance. Groups above the deep poverty threshold are receiving child benefits, CPP, social assistance, OAS, and wages in approximately equal shares. The age distributions for those above and below deep poverty suggest that OAS is more important for those above the deep poverty threshold.

Comparison of Those in Deep Poverty to Those Across Income Distributions

Summary

The models below show trends similar to the above summary statistics while outlining the most important covariates with deep poverty – mainly, earning income from a source other than wages (especially government transfers), being single, and being in Fredericton or other New Brunswick towns with less than 100,000 people. These variables are all associated with deep poverty. Having children is negatively associated with deep poverty, and being older than 65 is protective of deep poverty. Education (as measured by high school completion) seems to have no relationship with deep poverty, as does being a single parent.

We also model factors associated with being below the poverty line compared to the rest of the income distribution. Non-wage income sources are associated with low-income status, as is being single or female. Some variables differ in their relationship with poverty depending on the measure used, but overall findings are consistent with the previous summary statistics.

There is a strong correlation between government transfers and living in deep poverty. Comparatively, other demographic variables are fairly weak correlates. If social assistance provides a level of support that pushes singles into deep poverty to preserve work incentives, single social assistance recipients may persist in deep poverty. One government solution to deep poverty would be to raise single social assistance payments to a level above 50% of the LIM. For reference, the 2016 deep poverty threshold is $11,328 for a one-person household.

Deep Poverty vs. Below the Poverty Line

Certain characteristics are prevalent among those in deep poverty. However, to identify factors that are more characteristic of those in deep poverty than those below the poverty line, a model is needed. Table 9 shows logistic regression models for those below the poverty line and reports odds ratios. A value above 1 means the variable is positively associated with being in deep poverty, and a value below 1 means there is a negative association. Using the MBM measure, being single is an independent indicator of deep poverty. In both LIM and MBM models, being 65 or older is associated with a large decrease in the likelihood of being in deep poverty, which is consistent with qualifying for OAS. Having children in the home makes a household less likely to be in deep poverty. Regionally, deep poverty seems to be more of an issue in Fredericton and other small towns compared to rural areas; however, the geographic organization of the data does not let us identify which places show the highest correlation with deep poverty. For instance, the data treats Saint John and Moncton as homogenous, which might not be the case.

This information supports the notion that people on government transfers, single individuals, and those below retirement age are most likely to be in deep poverty. The base group for income source in the following tables is wages; and the base groups for demographics are married people, females, individuals aged 35-39, those who have not completed high school, and individuals living in a rural area.

VARIABLES	LIM Deep Poverty	MBM Deep Poverty
Table 9: Logistic Regression of Deep Poverty (1) vs. Below Poverty Line (0), odds ratios reported.		
Main Income Source		
Self-employed	2.64*	3.19*
	(1.13)	(1.27)
Transfers	6.41*	5.55*
	(1.70)	(1.44)
Other[†]	3.72*	5.22*
	(1.67)	(2.30)
Demographics		
Single	1.42	2.22*
	(0.31)	(0.60)
Male	0.94	0.89
	(0.14)	(0.14)
Children < 24	0.21*	0.58
	(0.08)	(0.23)
Interaction: Single & Children < 24	1.20	0.39*
	(0.43)	(0.16)
Age 0 to 5	0.87	1.02
	(0.44)	(0.59)
Age 6 to 9	0.79	1.35
	(0.44)	(0.84)
Age 10 to 15	0.69	1.30
	(0.38)	(0.77)
Age 16 to 17	1.26	2.75
	(1.28)	(3.28)
Age 18 to 19	1.33	1.38
	(1.23)	(1.32)
Age 20 to 24	1.17	1.97
	(0.68)	(1.14)
Age 25 to 29	2.14	1.73
	(1.12)	(1.04)
Age 30 to 34	1.34	1.35
	(0.70)	(0.78)
Age 40 to 44	1.29	2.53
	(0.65)	(1.31)
Age 45 to 49	1.31	1.13
	(0.59)	(0.58)
Age 50 to 54	1.90	1.97
	(0.86)	(0.99)
Age 55 to 59	1.97	2.33
	(0.87)	(1.12)
Age 60 to 64	1.15	1.16
	(0.52)	(0.57)
Age 65 to 69	0.05*	0.12*
	(0.03)	(0.09)
Age 70+	0.04*	0.08*
	(0.02)	(0.05)
Completed High School	1.04	1.02
	(0.05)	(0.06)

Fredericton & Towns < 100k	1.51*	1.59*
	(0.26)	(0.29)
Saint John & Moncton	1.34	1.17
	(0.26	(0.26)
Constant	0.07*	0.04*
	(0.03)	(0.02)
Observations	**2,098**	**1,642**

Robust SE in parentheses
*p < 0.05
† "Other" includes the previously idenfitied categories "investment income," "private retirement pensions," and other forms of income that do not fall into any of the previous categories like severance pay or scholarships, which together make up approximately 0.7% of the sample (see Table 8).
Odds ratios indicate the likelihood that a variable is associated with deep poverty. A value above 1 means the variable is positively associated with being in deep poverty, and a value below 1 means there is a negative association. For example, a person with transfers as their main source of income is 6.41 times more likely to be in LIM deep poverty than someone earning wages.

Other Points on the Income Distribution

Comparisons of those in deep poverty to those below the poverty line focus only on those with low income. To determine if any factors are meaningfully associated with poverty, we need to compare those below the poverty line to those on other parts of the income distribution. Figure 11 shows the income distribution for economic families both above and below the LIM.

Figure 11: Two After-Tax Income Distributions, LIM

Two after tax income distributions
Above and below poverty line, all economic families

Legend:
— Income distribution, above poverty line
— Income distribution, below poverty line
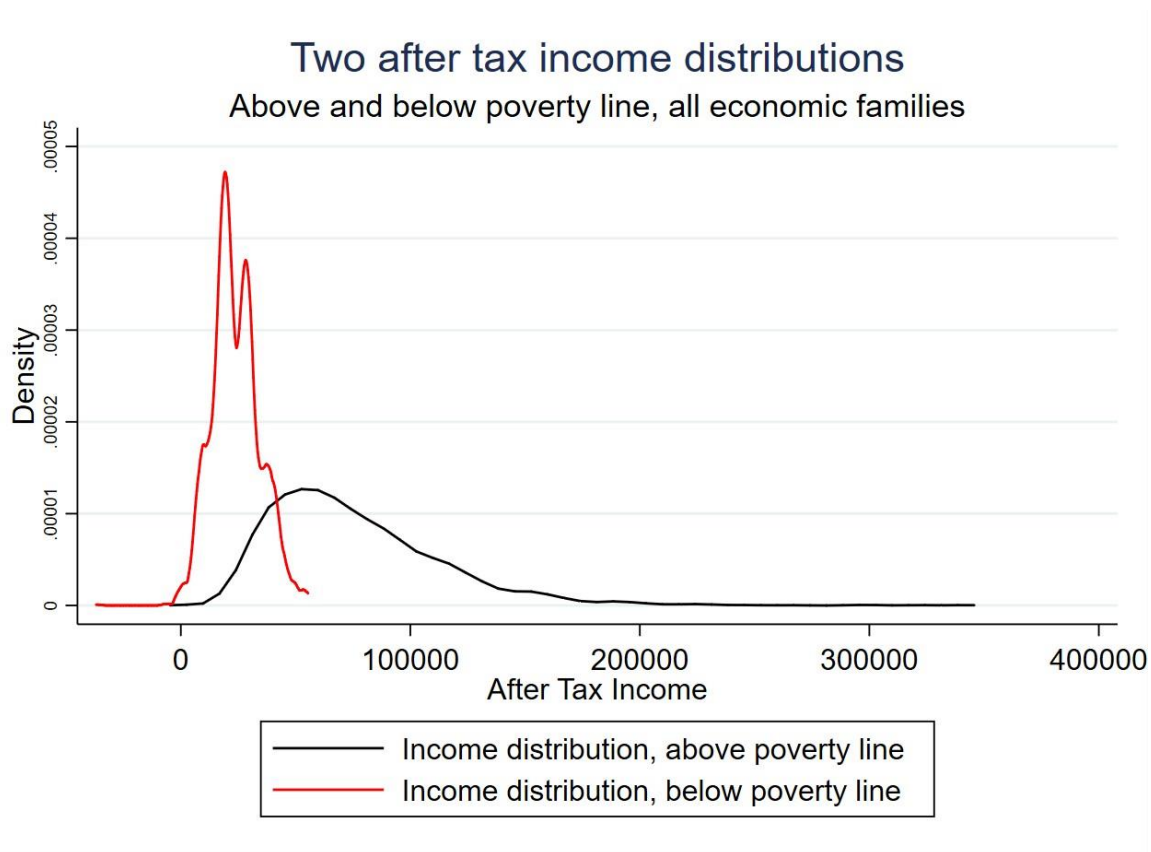
Those below the poverty line are clustered around lower-income values, but some very high income values are included in our sample. To make a meaningful comparison between those above and below the LIM, we restrict our analysis to those with economic family incomes below $120,000 – or, about 90% of our sample.

Table 10 below shows the association between covariates and being below either poverty line (LIM or MBM). For both poverty lines, having a main source of income other than wages is positively associated with low-income status, as is being single. Being male is negatively associated with being below either poverty line. In these models, the choice of poverty line matters for some variables. Having children in the economic family is associated with being below the LIM but not the MBM. Being over the age of 65 is negatively associated with having low income. Further, living in Fredericton or other New Brunswick towns with less than 100,000 people is positively associated with being below the MBM but not the LIM. Meanwhile, living in Saint John and Moncton is negatively associated with MBM poverty but not with LIM poverty.

Table 10: Logistic Regression of Below Poverty Line (1) vs. Above (0), odds ratios reported		
VARIABLES	**Below LIM**	**Below MBM**
Main Income Source		
Self-employed	4.81*	4.74*
	(0.76)	(0.76)
Transfers	21.85*	14.72*
	(1.89)	(1.27)
Other†	1.23	1.17
	(0.21)	(0.21)
Demographics		
Single	3.45*	4.08*
	(0.29)	(0.42)
Male	0.86*	0.85*
	(0.06)	(0.06)
Children <24	1.32*	1.26
	(0.15)	(0.17)
Interaction: Single & Children < 24	0.56*	0.74*
	(0.08)	(0.11)
Age 0 to 5	1.62	1.76*
	(0.42)	(0.47)
Age 6 to 9	1.20	1.21
	(0.32)	(0.34)
Age 10 to 15	1.15	1.14
	(0.30)	(0.31)
Age 16 to 17	1.50	0.82
	(1.01)	(0.58)
Age 18 to 19	1.62	3.01*
	(1.06)	(1.67)
Age 20 to 24	1.77*	2.28*
	(0.46)	(0.59)
Age 25 to 29	0.60*	0.82
	(0.15)	(0.19)
Age 30 to 34	0.81	1.02
	(0.18)	(0.23)
Age 40 to 44	0.67	1.04
	(0.14)	(0.22)
Age 45 to 49	0.75	0.87
	(0.15)	(0.18)
Age 50 to 54	0.66*	0.81
	(0.13)	(0.16)
Age 55 to 59	0.66*	0.81
	(0.13)	(0.17)
Age 60 to 64	0.61*	0.75
	(0.12)	(0.16)
Age 65 to 69	0.29*	0.15*
	(0.06)	(0.03)

Age 70+	0.27*	0.10*
	(0.05)	(0.02)
Completed High School	1.02	1.05
	(0.04)	(0.04)
Fredericton & Towns < 100k	0.82*	1.35*
	(0.06)	(0.11)
Saint John & Moncton	0.87	0.82
	(0.07)	(0.08)
Constant	0.06*	0.04*
	(0.01)	(0.01)
Observations	**12,279**	**12,279**

Robust SE in parentheses
*p < 0.05
† "Other" includes the previously idenfitied categories "investment income," "private retirement pensions," and other forms of income that do not fall into any of the previous categories like severance pay or scholarships, which together make up approximately 0.7% of the sample (see Table 8).
Odds ratios indicate the likelihood that a variable is associated with being below the poverty line. A value above 1 means the variable is positively associated with being in deep poverty, and a value below 1 means there is a negative association. For example, a person with transfers as their main source of income is 21.85 times more likely to be below the LIM than someone earning wages.

Comparison of Poverty & Deep Poverty in New Brunswick to the Rest of the Atlantic Region[4] & Canada

Summary

Deep poverty in the rest of the Atlantic region is similar to that in New Brunswick in terms of prevalence and correlation with potentially important variables. Deep poverty in the Atlantic region is also similar to Canada as a whole with a few exceptions. Namely, reporting transfers as the main source of income is more likely to be associated with deep poverty in New Brunswick or the Atlantic provinces, as is being single. The stronger correlation of transfers with deep poverty in New Brunswick and the Atlantic provinces overall suggests that transfers in these regions might be less generous than in the rest of Canada.

The most important finding from the models below is that the relationship between poverty and its covariates in the rest of the Atlantic region and across Canada is similar to that in New Brunswick. Transfers were a correlate of being in deep poverty, but that association was stronger in New Brunswick and the Atlantic provinces than in the rest of Canada. Interestingly, the association between receiving transfers and being in the Atlantic provinces or New Brunswick was *weaker* than that of the rest of Canada. Being single correlates with deep poverty and being below the poverty line in most models.

The income distributions for New Brunswick and the Atlantic regions look very similar. Overall, it seems that the definition of poverty used (LIM vs. MBM) is not important for studying the correlates of deep poverty, but it is important for estimating the prevalence of deep poverty.

Being in Deep Poverty vs. Being Below the Poverty Line Across the Country

The prevalence of poverty is slightly higher in the Atlantic provinces than in the rest of the country. However, whether measured with the LIM or MBM, poverty in New Brunswick is similar to that in the other Atlantic provinces. When comparing those in **deep poverty** to those below the poverty line, New Brunswick has a similar prevalence to the rest of the Atlantic provinces for the LIM but a higher value for the MBM. The national proportion of those in deep poverty is higher than that of New Brunswick for both measures.

Table 11: Below Poverty Line and Deep Poverty Across Canada			
	New Brunswick	**Other Atlantic Provinces**	**Canada (excluding NB)**
Proportion below LIM	15.2%	14.8%	12.9%
Proportion below MBM	12.4%	12.2%	10.7%
Deep Poverty LIM	17.4%	17.4%	18.3%
Deep Poverty MBM	18.8%	17.5%	20.9%

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[4] The Atlantic Region consists of the provinces of New Brunswick, Newfoundland & Labrador, Nova Scotia, and Prince Edward Island.

The regression models below show the association between covariates and demonstrate whether an individual below the poverty line is in deep poverty, as well as whether an individual is below the poverty line at all. The models provided consist of individuals in New Brunswick, individuals in the rest of the Atlantic provinces (Newfoundland, Prince Edward Island, and Nova Scotia), and individuals in the rest of Canada (including the Atlantic provinces except NB). These models are identical to those previously reported except for the exclusion of the geographic variables in New Brunswick.

The estimated coefficients from the models below are qualitatively similar to previously reported models, and the trends in direction, magnitude, and significance are similar across all regions. Receiving transfers and being single are important correlates of low income or being in deep poverty. Qualifying for OAS payments is highly protective of low income or deep poverty. New Brunswick is not significantly different in terms of the model coefficients, which implies that national-level studies could apply to New Brunswick and the Atlantic provinces. For instance, the strategy of estimating cost of living by comparing social assistance payments to affordable housing by family type gives an idea of the adequacy of social assistance payments.[5]

Income Distributions

The income distributions below the different low-income thresholds in New Brunswick and in the rest of the Atlantic provinces are similar. That is, most individuals are very close to the threshold (within 20%). The LIM distributions are nearly identical, but according to the MBM distributions, the rest of the Atlantic provinces have more people closer to the threshold than New Brunswick. Both income distributions suggest the same thing: that most people are quite close to the poverty threshold, and this does not significantly change based on choice of threshold measure.

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[5] For more information, see Kneebone, R., and Wilkins, M. (2019). Measuring and responding to income poverty. *SPP Research Paper 12*(3). https://www.policyschool.ca/w p-content/uploads/2019/02/Income-Poverty-Kneebone_-Wilkins.pdf

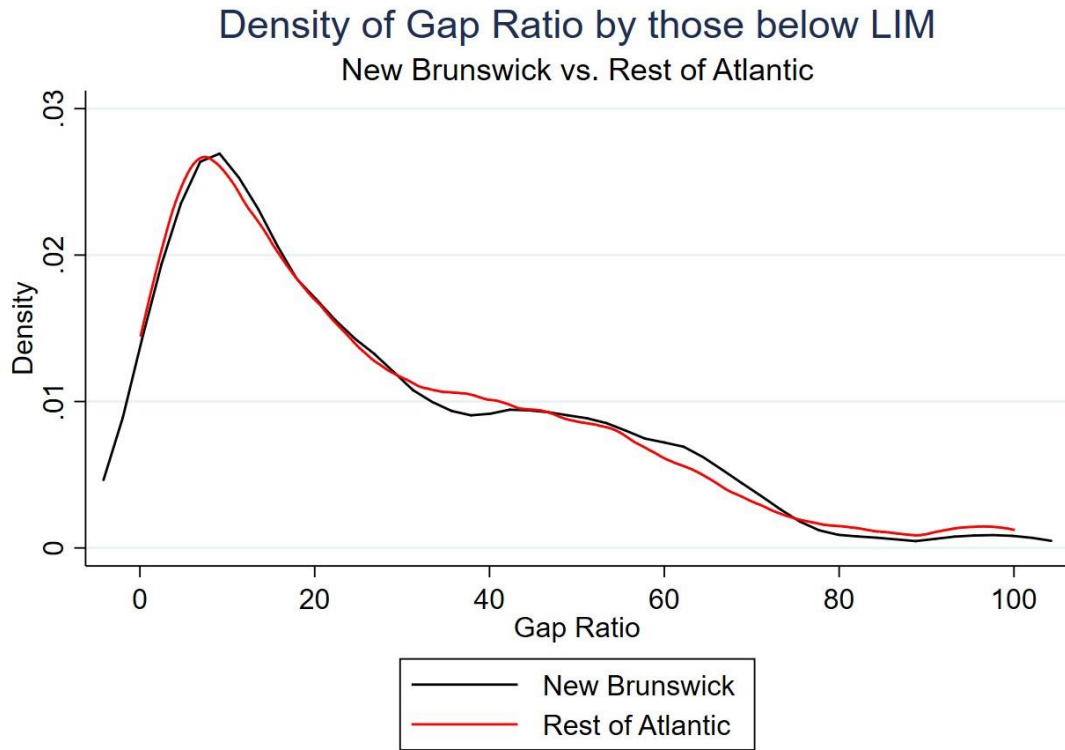**Figure 12: Density of Gap Ratio, by Those Below LIM**
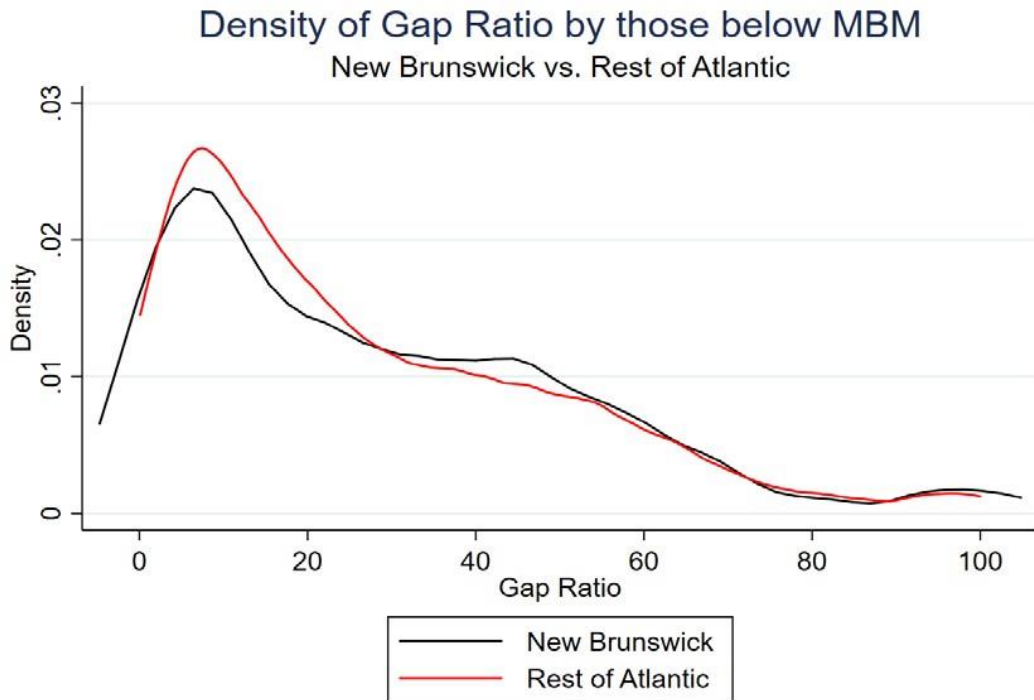

Density of Gap Ratio by those below LIM
New Brunswick vs. Rest of Atlantic

Figure 13: Density of Gap Ratio, By Those Below MBM

Density of Gap Ratio by those below MBM
New Brunswick vs. Rest of Atlantic

VARIABLES	LIM			MBM		
	NB	Atlantic	Canada	NB	Atlantic	Canada
Table 12: Odds Ratios from Logistic Regression of Deep Poverty (1) vs. Below the Poverty Line (0)						
Self-employed	2.53*	2.15*	2.50*	2.38*	1.20	2.14*
	(1.07)	(0.70)	(0.26)	(0.96)	(0.39)	(0.23)
Transfers	6.36*	7.58*	3.62*	3.97*	2.84*	2.09*
	(1.71)	(1.47)	(0.29)	(1.10)	(0.52)	(0.17)
Other†	3.90*	3.10*	4.91*	4.12*	3.27*	4.71*
	(1.74)	(1.12)	(0.60)	(1.89)	(1.22)	(0.64)
Single	1.46	1.52*	1.20*	2.11*	1.54*	0.98
	(0.31)	(0.20)	(0.09)	(0.55)	(0.24)	(0.08)
Male	0.94	0.98	1.09	0.89	1.03	1.11
	(0.14)	(0.10)	(0.05)	(0.15)	(0.12)	(0.06)
Children <24	0.21*	0.41*	0.44*	0.59	0.44*	0.41*
	(0.08)	(0.08)	(0.04)	(0.23)	(0.10)	(0.04)
Interaction: Single & Children <24	1.18	0.80	1.00	0.42*	0.77	1.22
	(0.40)	(0.16)	(0.10)	(0.17)	(0.18)	(0.14)
Age 0 to 5	0.92	1.36	0.55*	1.31	1.59	0.62*
	(0.46)	(0.48)	(0.09)	(0.77)	(0.59)	(0.11)
Age 6 to 9	0.84	1.52	0.63*	1.34	1.50	0.69
	(0.45)	(0.56)	(0.11)	(0.86)	(0.59)	(0.13)
Age 10 to 15	0.71	1.32	0.71*	1.31	1.48	0.70
	(0.39)	(0.48)	(0.12)	(0.81)	(0.56)	(0.13)
Age 16 to 17	1.38	0.73	1.50	3.40	0.20	1.34
	(1.39)	(0.75)	(0.71)	(3.92)	(0.22)	(0.69)
Age 18 to 19	1.22	0.35	1.27	1.48	0.94	1.33
	(1.09)	(0.28)	(0.40)	(1.42)	(0.74)	(0.47)
Age 20 to 24	1.20	1.43	1.17	1.85	1.15	1.58*
	(0.70)	(0.52)	(0.20)	(1.16)	(0.42)	(0.28)
Age 25 to 29	2.26	1.05	0.88	2.69	1.16	0.98
	(1.19)	(0.39)	(0.14)	(1.66)	(0.41)	(0.16)
Age 30 to 34	1.38	2.50*	0.83	1.40	1.49	1.05
	(0.71)	(0.81)	(0.12)	(0.83)	(0.50)	(0.16)
Age 40 to 44	1.38	1.11	1.10	2.83	0.95	1.17
	(0.69)	(0.36)	(0.15)	(1.53)	(0.32)	(0.18)
Age 45 to 49	1.33	1.72	1.11	1.38	0.97	0.93
	(0.60)	(0.51)	(0.15)	(0.70)	(0.29)	(0.14)
Age 50 to 54	1.91	1.54	1.05	2.17	1.02	1.02
	(0.87)	(0.44)	(0.14)	(1.11)	(0.30)	(0.14)
Age 55 to 59	1.94	1.58	1.01	2.56	1.08	0.90
	(0.86)	(0.45)	(0.13)	(1.25)	(0.31)	(0.13)
Age 60 to 64	1.13	1.02	0.82	1.34	0.78	0.70*
	(0.51)	(0.29)	(0.11)	(0.66)	(0.23)	(0.10)
Age 65 to 69	0.05*	0.09*	0.13*	0.16*	0.11*	0.26*
	(0.03)	(0.03)	(0.02)	(0.12)	(0.05)	(0.05)
Age 70+	0.04*	0.03*	0.06*	0.11*	0.06*	0.18*
	(0.02)	(0.01)	(0.01)	(0.07)	(0.03)	(0.03)
Completed High School	1.04	0.99	1.06*	1.01	0.93	1.05*
	(0.05)	(0.04)	(0.02)	(0.05)	(0.04)	(0.02)

Constant	0.08*	0.06*	0.13*	0.06*	0.14*	0.22*
	(0.04)	(0.02)	(0.02)	(0.04)	(0.04)	(0.03)
Observations	**2,098**	**4,614**	**30,126**	**1,428**	**3,178**	**20,176**

Robust SE in parentheses
* p<0.05
† "Other" includes the previously idenfitied categories "investment income," "private retirement pensions," and other forms of income that do not fall into any of the previous categories like severance pay or scholarships, which together make up approximately 0.7% of the sample (see Table 8).
Odds ratios indicate the likelihood that a variable is associated with being in deep poverty. A value above 1 means the variable is positively associated with being in deep poverty, and a value below 1 means there is a negative association. For example, a person with transfers as their main source of income in New Brunswick is 6.36 times more likely to be in deep poverty measured by the LIM than someone earning wages.

Table 13: Odds Ratios from Logistic Regression of Below the Poverty Line (1) vs. Above (0)						
	LIM			**MBM**		
VARIABLES	NB	Atlantic	Canada	NB	Atlantic	Canada
Self-employed	4.88*	4.83*	7.71	4.87*	5.83*	8.20*
	(0.77)	(0.55)	(0.33)	(0.77)	(0.69)	(0.38)
Transfers	21.95*	23.47*	34.40*	14.78*	19.93*	27.81*
	(1.90)	(1.40)	(1.05)	(1.26)	(1.24)	(0.89)
Other†	1.22	1.02	2.54	1.20	1.08	2.47*
	(0.21)	(0.12)	(0.13)	(0.21)	(0.14)	(0.14)
Single	3.41*	2.84*	2.72	4.06*	4.53*	3.21*
	(0.28)	(0.16)	(0.09)	(0.41)	(0.30)	(0.13)
Male	0.86*	0.92	0.94	0.85*	0.96	0.98
	(0.06)	(0.04)	(0.02)	(0.06)	(0.05)	(0.03)
Children <24	1.32*	1.13	1.51	1.25	1.10	1.11*
	(0.15)	(0.08)	(0.06)	(0.17)	(0.09)	(0.05)
Interaction: Single & Children <24	0.57*	0.85	0.51	0.75	0.75*	0.53*
	(0.08)	(0.09)	(0.03)	(0.11)	(0.08)	(0.03)
Age 0 to 5	1.62	1.98*	1.34	1.84*	1.43	0.99
	(0.41)	(0.41)	(0.14)	(0.49)	(0.33)	(0.10)
Age 6 to 9	1.20	2.45*	1.45	1.25	1.38	0.99
	(0.32)	(0.53)	(0.16)	(0.35)	(0.33)	(0.10)
Age 10 to 15	1.16	1.99*	1.37	1.17	1.25	0.95
	(0.30)	(0.42)	(0.15)	(0.31)	(0.29)	(0.10)
Age 16 to 17	1.46	1.26	0.74	0.79	0.37	0.80
	(0.98)	(0.59)	(0.22)	(0.59)	(0.29)	(0.24)
Age 18 to 19	1.67	1.68	1.86	2.80	1.69	2.19*
	(1.09)	(0.59)	(0.36)	(1.58)	(0.57)	(0.41)
Age 20 to 24	1.78*	1.20	1.23	2.23*	1.38	1.61*
	(0.46)	(0.23)	(0.11)	(0.57)	(0.26)	(0.14)
Age 25 to 29	0.59*	0.76	0.91	0.82	0.97	1.16*
	(0.15)	(0.13)	(0.07)	(0.19)	(0.15)	(0.09)

Age 30 to 34	0.81	1.12	0.98	1.03	1.04	0.99
	(0.18)	(0.18)	(0.07)	(0.23)	(0.16)	(0.07)
Age 40 to 44	0.67	0.87	1.08	1.03	0.70*	1.10
	(0.14)	(0.13)	(0.08)	(0.22)	(0.11)	(0.08)
Age 45 to 49	0.76	0.92	1.02	0.87	0.68*	0.94
	(0.15)	(0.14)	(0.07)	(0.18)	(0.10)	(0.07)
Age 50 to 54	0.67*	0.87	1.12	0.83	0.71*	0.95
	(0.13)	(0.12)	(0.08)	(0.17)	(0.10)	(0.06)
Age 55 to 59	0.67*	0.78	1.08	0.82	0.65*	0.87
	(0.13)	(0.11)	(0.07)	(0.17)	(0.09)	(0.06)
Age 60 to 64	0.62*	0.75*	0.81	0.77	0.53*	0.59*
	(0.12)	(0.11)	(0.06)	(0.16)	(0.08)	(0.04)
Age 65 to 69	0.30*	0.31*	0.22	0.15*	0.12*	0.10*
	(0.06)	(0.04)	(0.02)	(0.03)	(0.02)	(0.01)
Age 70+	0.27*	0.32*	0.17	0.10*	0.07*	0.05*
	(0.05)	(0.04)	(0.01)	(0.02)	(0.01)	(0.00)
Completed High School	1.01	0.93*	1.00	1.04	1.00	1.05*
	(0.04)	(0.03)	(0.02)	(0.04)	(0.03)	(0.02)
Constant	0.05*	0.05*	0.03	0.04*	0.04*	0.03*
	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.00)
Observations	**12,279**	**27,221**	**203,329**	**12,279**	**27,221**	**203,329**

Robust SE in parentheses
* p<0.05
"Other" includes the previously idenfitied categories "investment income," "private retirement pensions," and other forms of income that do not fall into any of the previous categories like severance pay or scholarships, which together make up approximately 0.7% of the sample (see Table 8).
Odds ratios indicate the likelihood that a variable is associated with being below the poverty line. A value above 1 means the variable is positively associated with being in deep poverty, and a value below 1 means there is a negative association. For example, a person in New Brunsiwck with transfers as their main source of income is 21.95 times more likely to be below the LIM than someone earning wages.

Comparison of Poverty in New Brunswick to Poverty in the Atlantic Region and Canada, 2006 & 2016, Using Census and Socioeconomic Time Series Data

Summary

In this report, we rely on two data sources: Statistics Canada's Census of Population public use microdata file and Statistics Canada's publicly available Socioeconomic Time Series Data tables. There is no deep poverty information available over time in Census microdata; however, the average gap ratio is available through Statistics Canada. All reported numbers are for New Brunswick unless otherwise stated.

According to the LIM measure, the prevalence of low income increased slightly from 2006 to 2016, whereas the MBM measure shows a steady decrease in poverty over the same period. The difference between LIM and MBM outcomes is most obvious for seniors. Being older than 65 years of age is associated with a higher prevalence of low income according to the LIM. This is a consistent, cross-Canada phenomenon that has to do with increases in the LIM (a measure based on median income) versus increases in OAS pensions (indexed to inflation). Since the LIM increases faster than fixed OAS payments, LIM poverty among the elderly increased over time. Meanwhile, MBM poverty in seniors is falling.

Using 2016 Census microdata, we find the prevalence of low income among immigrants is approximately double that of non-immigrants. Single persons are more likely to have a low-income status than married persons by any observed metric (which is consistent with findings based on CIS data). The differences between these groups (immigrants/non-immigrants, single/married) seem to be increasing over time by a small degree. On average, French and English speakers are equally likely to live in poverty.

New Brunswick Similar to the Rest of the Atlantic, Poorer than the Canadian Average

LIM and MBM levels of poverty in New Brunswick are similar to those of the Atlantic provinces as a whole, and their associated gap ratios are also quite similar. In fact, both LIM poverty and gap ratios are as similar at the end of the ten-year study period as they were at the beginning. MBM poverty in New Brunswick decreased over time, while the associated gap ratios increased before dropping in 2016. Long-term LIM trends match the short-term trends, showing fluctuation around a prevalence of approximately 15%. Canada has a higher gap ratio, meaning that the average low-income person in Canada is worse off than the average low-income person in New Brunswick.

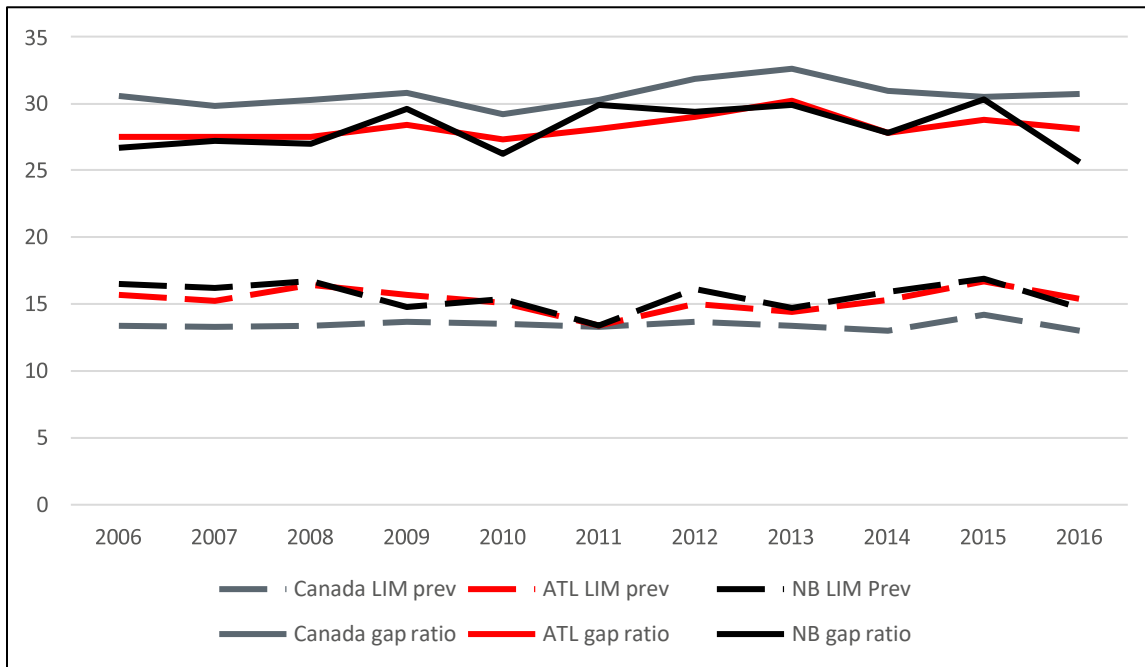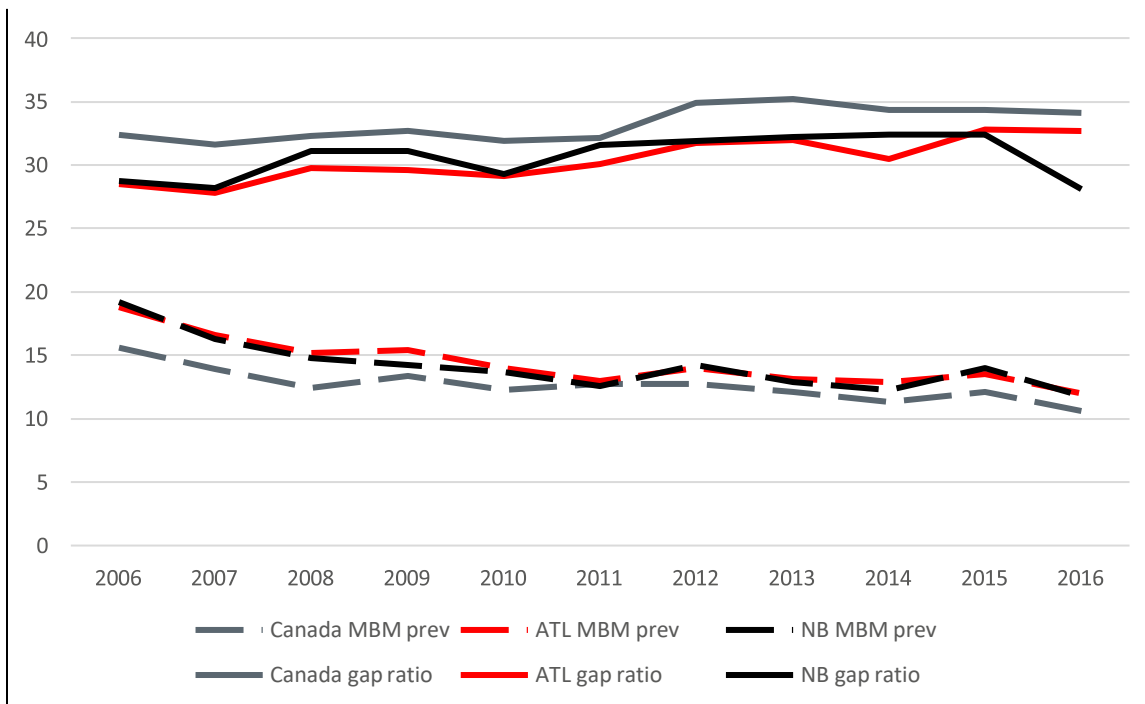**Figure 14: LIM Prevalence and Gap Ratio (all values in %)**

Figure 15: MBM Prevalence and Gap Ratio (all values in %)

Directly comparing the LIM and MBM for New Brunswick shows that the interpretation of poverty trends over time changes depending on the metric chosen. The MBM (Canada's official poverty line) shows a decrease in poverty, while the LIM shows poverty remaining steady.

This difference in interpretation is particularly stark for those aged 65 and older.

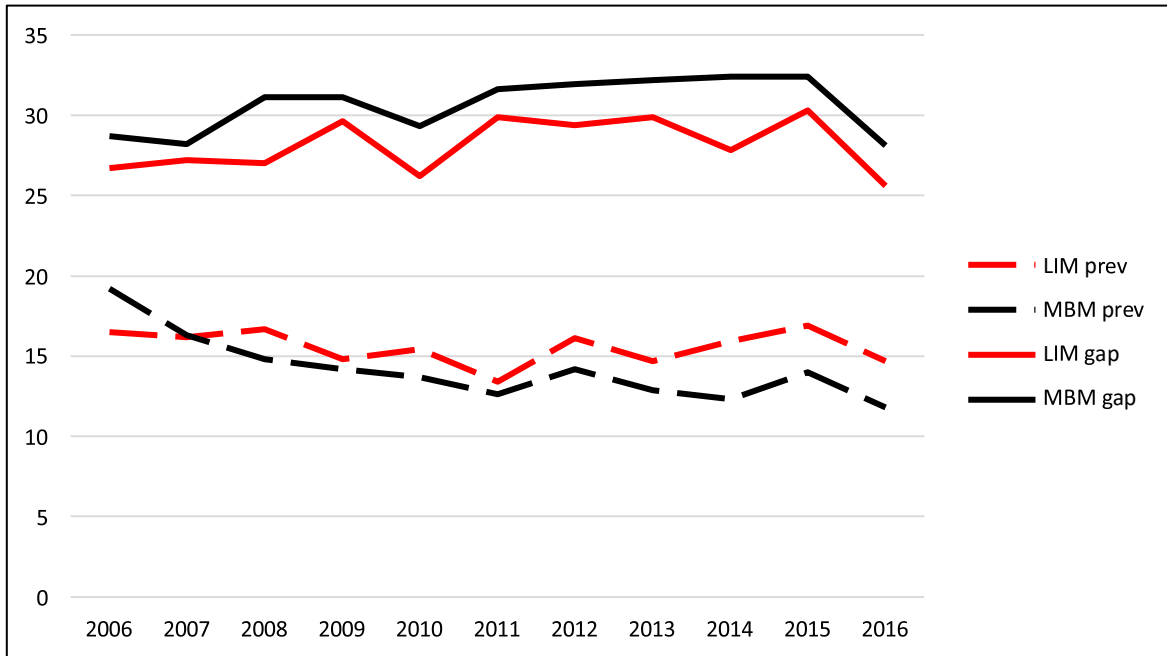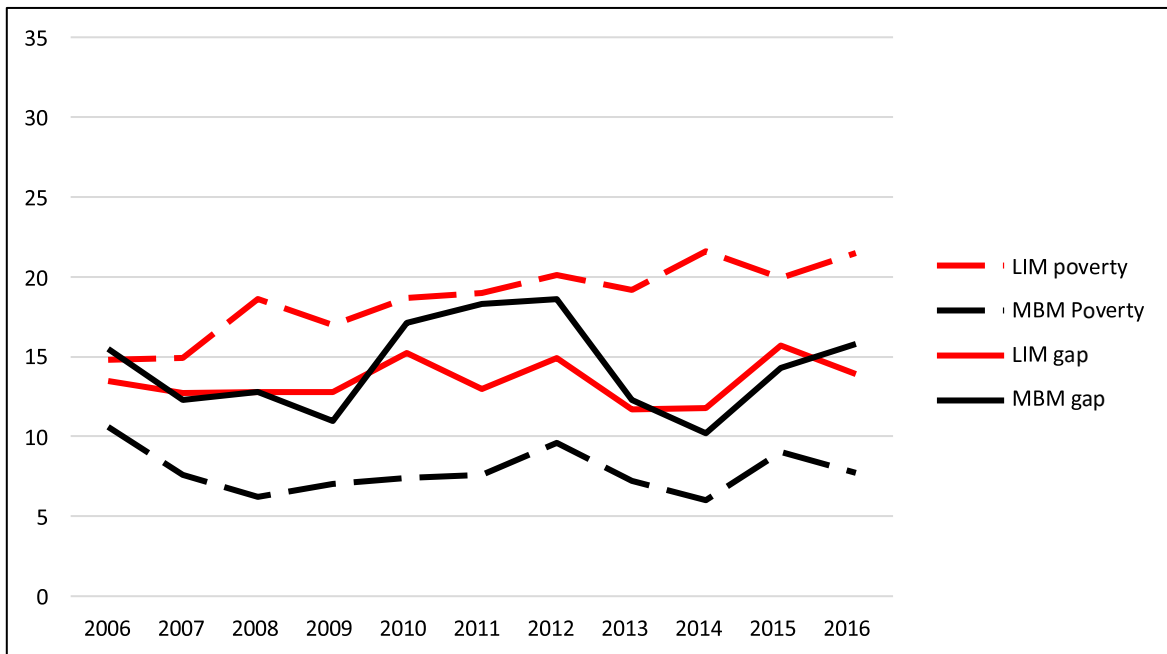**Figure 16: MBM & LIM Poverty Prevalence and Gap Ratio (all values in %)**

Figure 17: MBM & LIM Poverty Prevalence and Gap Ratio, Over 65 Years Old (all values in %)

Age as an Example of the Challenge to Cross-Time Poverty Comparisons

In Figure 18, the difference in trends across age groups is important to note, as it shows the particular weakness of using the LIM as a measure of low income over time – that is, anyone on a fixed income designed to increase according to inflation will appear to be getting poorer despite their real income not changing over time. However, because we manually calculated the LIM and MBM poverty thresholds for 2006 Census data, the comparison between years might not be illustrative.

The low income cut off (LICO) is reported in both the 2006 and 2016 Censuses; therefore, because the LIM and MBM are missing from 2006 Census microdata, we report the LICO for comparison to the MBM and LIM. The LICO is a complicated measure of poverty: the assumption is that families below the LICO spend a larger share of their income on necessities than the average family of similar size and location. The average proportion of income spent on necessities is calculated for all similar families, after which 0.2 is added to determine what proportion is deemed "much higher" than average. Then, the income pertaining to that higher proportion is estimated from a model.

Figure 18: Proportion Below Poverty Line, by age, 2006 & 2016
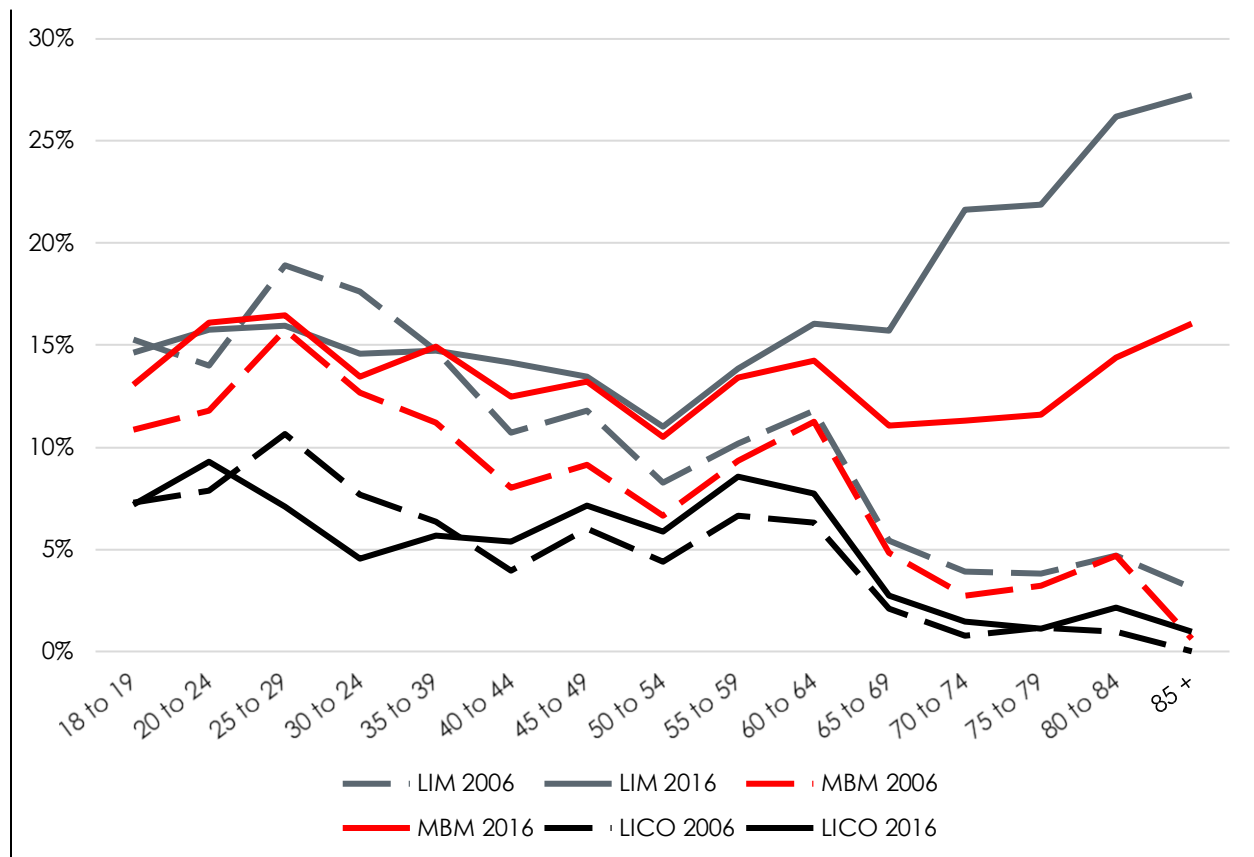
OAS payments are indexed to inflation, meaning that the MBM threshold (also indexed to inflation) increases at the same rate as OAS payments. The 2016 drop in MBM poverty prevalence is not as high as the 2006 drop.

The following graph (Figure 19) shows the change in the LIM threshold and maximum OAS payments for singles with no income over time.[6] The separation of the two lines means that increases in LIM poverty for seniors over time are inescapable by design, as the LIM is based on the median income, which increases faster than inflation. If these trends continue, deep poverty as measured by a LIM gap ratio of 50% will increase among seniors in future.
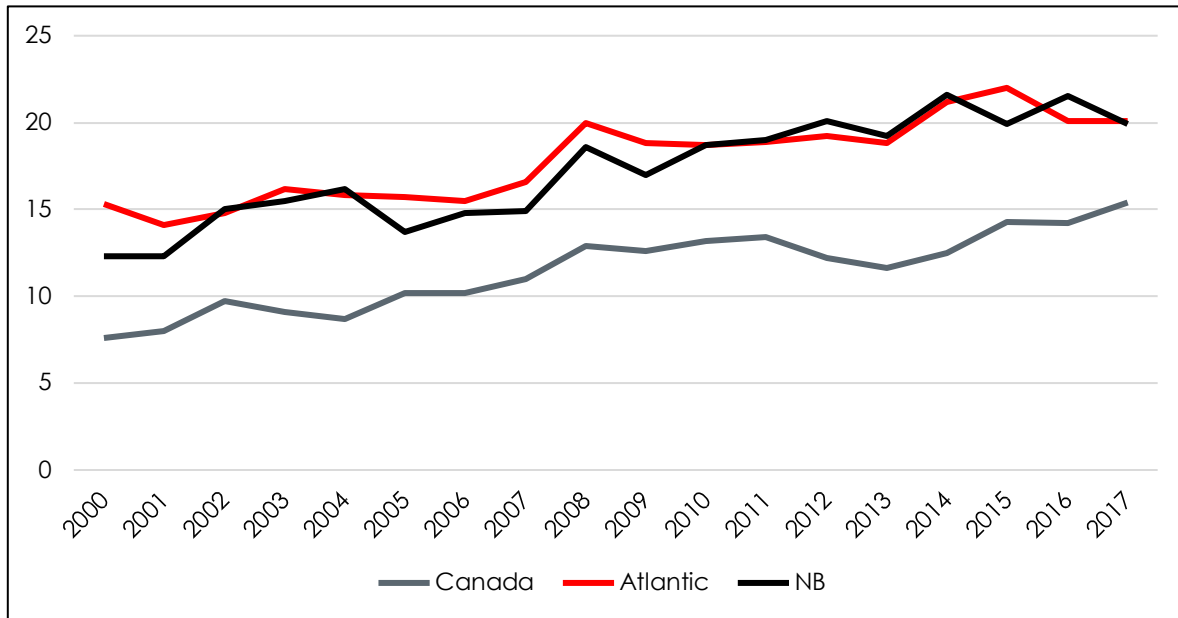
Figure 19: LIM Threshold Over Time and Max Yearly OAS, Nominal Dollars
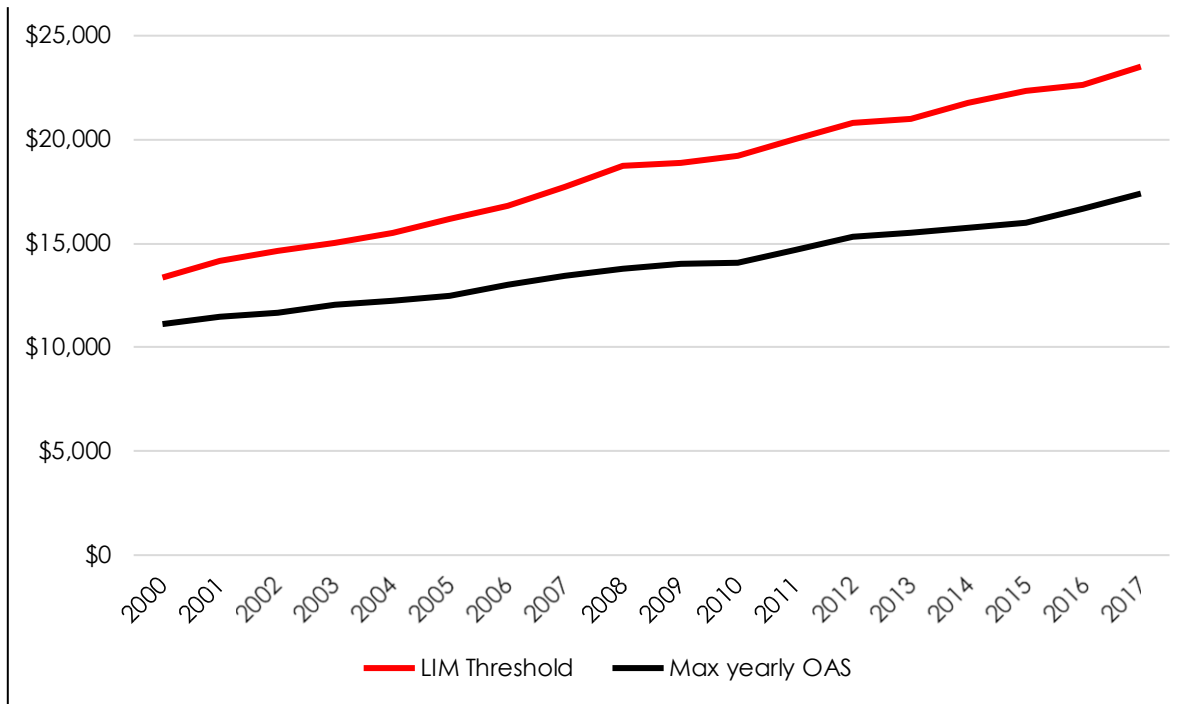
The proportion of people over the age of 65 living below the LIM in New Brunswick has increased over time, along with the rest of the Atlantic provinces. According to Statistics Canada data, this proportion is higher than the Canadian average.

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[6] The LIM threshold is taken from Statistics Canada [https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1110023201]. OAS payments are taken from the Government of Canada [https://www .canada.ca/en/services/benefits/publicpensions/cpp/old-age - security/payments.html].

Figure 20: Percentage of People Over Age 65 who are Below LIM, Over Time

Statistics Canada data also shows that the MBM (Canada's official poverty line) trends downward for seniors over time.

Figure 21: MBM Poverty for General Population and Seniors, Over Time
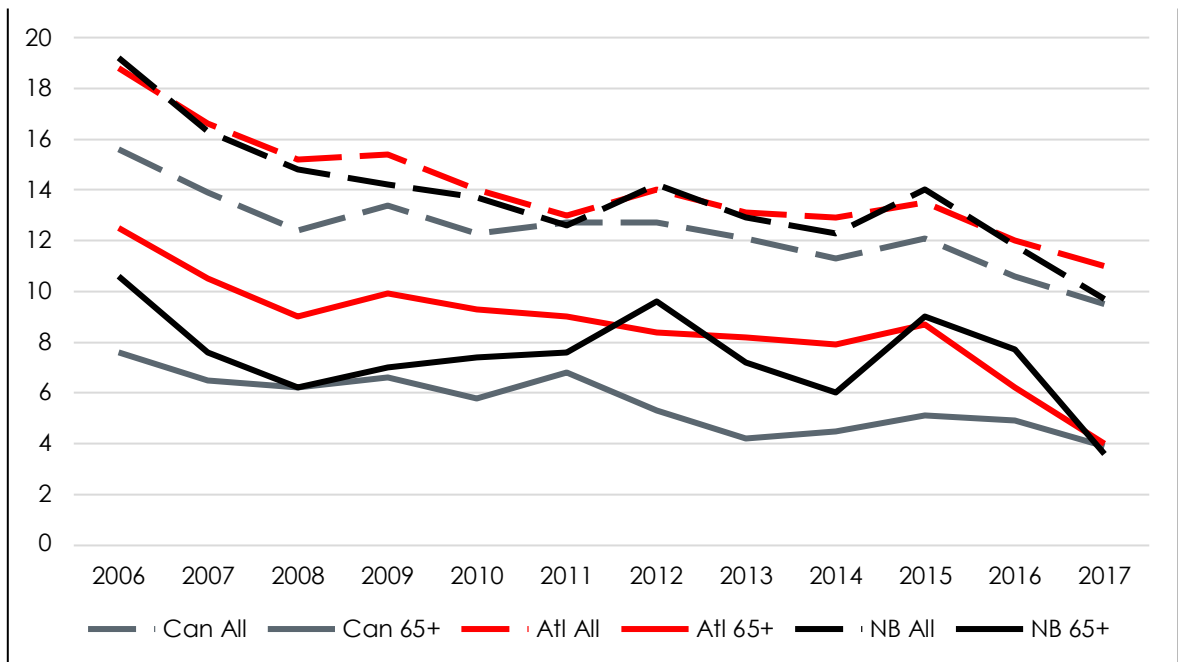
Meanwhile, the median income in Canada trends upward over time, suggesting that changes in the prevalence of LIM poverty over time should be interpreted partially as a function of economic growth.

Figure 22: Median Income Over Time, by Region and Age Groups
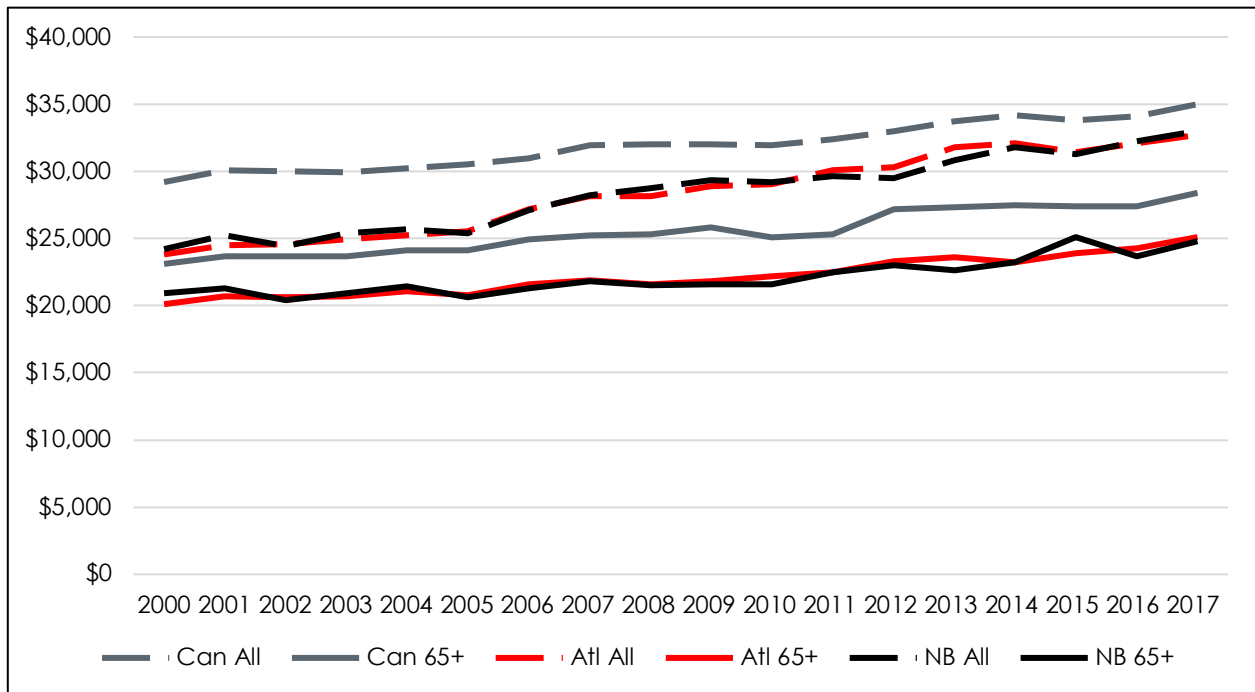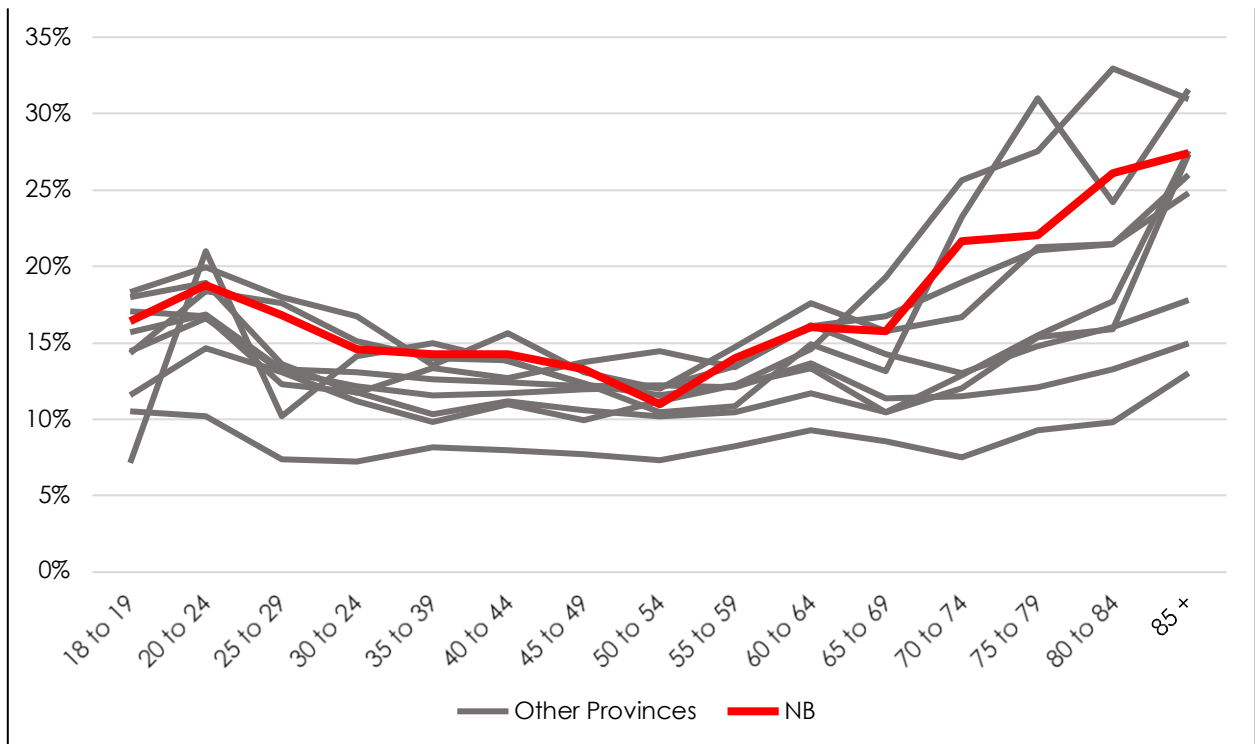

Figure 23: Proportion Below LIM, by Province, 2016 Census Data

In fact, Census data shows that LIM-defined poverty increases in most provinces for individuals aged 65 and older. Thus, it is not clear whether se niors' poverty in New Brunswick as measured by the LIM is indicative of increased hardship, especially when compared with the MBM. By using the LIM as the yardstick for deep poverty, New Brunswick will observe increases in deep poverty among seniors by design, even if real standards of living among OAS recipients remain the same in the face of increasing median incomes.

The Prevalence of Low Income in 2006 & 2016

Above, we calculated poverty statuses manually to compare trends across age groups within surveys. We do not report 2006 microdata-based poverty measures below, as these cannot be compared across surveys.

The small decrease in poverty exhibited in earlier graphs matches that of the LICO metric in the microdata.

Table 14: Prevalence of Low Income, by Threshold, Over Time, New Brunswick		
	Census Year 2006	**Census Year 2016**
LIM Poor	--	17.0%
MBM Poor	--	14.7%
LICO Poor	6.8%	6.2%

Although excluded from the CIS, immigrant status is available in Census data, which shows that immigrants in New Brunswick have a higher likelihood of reporting low income than non-immigrants. According to the LICO, this difference between immigrants and non-immigrants has been increasing over time.

Table 15: Prevalence of Low Income, by Threshold and Immigrant Status, New Brunswick				
	Census Year 2006		**Census Year 2016**	
	Non-Immigrants	Immigrants	Non-Immigrants	Immigrants
LIM Poor	--	--	16.7%	23.7%
MBM Poor	--	--	14.4%	21.9%
LICO Poor	6.6%	11.5%	5.8%	12.8%

Single individuals are more likely than married persons to report low income across any metric. As shown by the LICO, that difference has grown slightly over time.

Table 16: Prevalence of Low Income, by Threshold and Marital Status, New Brunswick				
	Census Year 2006		**Census Year 2016**	
	Single	Married	Single	Married
LIM Poor	--	--	25.0%	9.9%
MBM Poor	--	--	23.0%	7.3%
LICO Poor	9.8%	3.8%	10.2%	2.6%

Finally, the prevalence of and change in low -income status by mother tongue seems relatively even among English and French speakers.

	Census Year 2006		Census Year 2016	
Table 17: Prevalence of Low Income, by Threshold and Mother Tongue				
	French	English	French	English
LIM Poor	--	--	17.5%	16.7%
MBM Poor	--	--	14.8%	14.6%
LICO Poor	7.1%	6.7%	5.4%	6.6%