CONSTRUCTING PROFILES OF LOW-SKILLED WORKERS IN NEW BRUNSWICK

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Constructing profiles of low-skilled workers in New Brunswick

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Overview and Key Findings

This report constructs statistical descriptions, or profiles, of low-skilled workers in New Brunswick using three different definitions for low skill:

- Lack of high school certificate or its equivalent
- National Occupational Classification (NOC) Skill Level D
- Annual earnings, based on employment income, in the lowest income quintile

Each definition captures different dimensions of what might constitute a low-skilled worker. For instance, an individual with less than a high school education will likely have little formal education or training. An individual in a NOC D job may or may not be highly skilled but is in a job with low skill requirements. And finally, an individual with low earnings is in a position in which the combination of the individual's skills and the requirements of the job determine a relatively low level of compensation.

While we refer to individuals in any of these three categories as "low-skilled" throughout this report, it should be noted that none of these definitions are a perfect measure of the value of an individual's skills in the New Brunswick labour market, and the definitions do not necessarily mean these individuals have low skill levels.

Analysis in this report uses data from the 1996, 2001, 2006, and 2016 cycles of the Canadian Census and the 2011 National Household Survey housed at the Statistics Canada New Brunswick Research Data Centre. Our sample of interest includes adults aged 20-64 who resided in New Brunswick as of one of the Census years noted above.

Key findings for New Brunswick are as follows:

Incidence of Low Skill: NB Adults Aged 20-64 in 2016

Low Skill Definition	Number of Individuals	% of Total Number of Individuals[1]
Less than high school certificate or its equivalent	58,125	13.2%
National Occupational Classification[2] Skill Level D	49,450	11.2%
Annual earnings less than lowest income quintile cut-off ($12,798)[3]	71,040	16.1%

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[1] The sample includes 441,370 individuals between the ages 20 and 64 inclusive.

[2] Occupations are classified by four skill levels (A, B, C, and D) and one skill type (0 [Zero]). Skill Level A occupations usually require university education. Skill Level B occupations usually require college education, specialized training, or apprenticeship training. Skill Level C occupations usually require secondary school and/or occupation specific training. Skill Level D refers to occupations in which on-the-job training is usually provided or in which there are no formal educational requirements. Skill Type 0 refers to management occupations.

[3] The lowest income quintile cut-off for a given year is computed based on the income distribution of those individuals who have positive employment earnings in the given year and is the income level for the lowest income quintile in the range.

- The proportion of individuals with less than a high school certificate or its equivalent across age group, sex, industry, work status, immigrant status, ethnicity, and region of residence generally trended downward between 1996 and 2016. Meanwhile, the proportion of individuals classified as low-skilled according to the other two definitions remained consistent.

- At the time of the Census, low-skilled individuals across most definitions of low skill were more likely to be males, working part-time, non-immigrants, and people living in rural areas.

Median Annual Earnings of Low-Skilled Workers in NB in 2016

Sample	Median Annual Earnings
All individuals[4]	$33,490
Less than high school certificate or its equivalent	$21,550
National Occupational Classification Skill Level D	$18,505
Annual earnings less than lowest income quintile cut-off ($12,798)	$6,820

Note: These results are not adjusted for inflation.

- The annual earnings of low-skilled workers (by all three definitions) have grown. However, the gap between low-skilled individuals and the population of all individuals in the 20-64-year-old age bracket has increased.

- Among low-skilled workers, certain groups are more vulnerable than others. For instance, 20–24-year-old workers, females, and part-time workers earn substantially less than their counterparts based on most definitions of low skill.

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[4] This refers to all 441,370 individuals in the 20–64-year-old age group.

Introduction

The objective of this report is to construct profiles of low-skilled workers in New Brunswick (NB) using different definitions of low skill and to evaluate how these profiles have evolved over time. Profiles include age group, sex, ethnicity, immigration status, employment status, industry, region of residence, and income.

Having a clear definition of who the "low-skilled" workers in NB are and how the profiles of these individuals have evolved over time is relevant for policy in several ways. For instance, low-income status might indicate limited adaptability of the workforce to labour shocks, with implications for both individuals/families and the broader economy. Meanwhile, low skill status may be a useful indicator for more targeted education and training programs.

Constructing profiles of low-skilled workers allows us to identify if these potentially vulnerable groups are taking advantage of existing public programs such as training and skills development programs administered by the Department of Post-Secondary Education, Training and Labour (PETL). Further, this information will enable the Government of New Brunswick (GNB) to examine the impact of existing programs aimed at these individuals and evaluate how such programs can be improved to better serve these groups.

Three definitions of low skill are used in this report:

- Lack of high school certificate or its equivalent
- National Occupational Classification (NOC) Skill Level D[5]
- Low income based on annual employment income

Data from the 1996, 2001, 2006, and 2016 Census files and the 2011 National Household Survey (NHS) have been used to conduct this analysis.

Data and Definitions

The results of this report are based on the master data files of the 1996, 2001, 2006, and 2016 cycles of the Canadian Census and the 2011 National Household Survey (NHS) available in the Statistics Canada Research Data Centre (RDC) in Fredericton, NB.

The Census files and the NHS include almost all individuals normally resident in Canada as of the Census date: Canadian citizens, landed immigrants, refugees, and persons with a non-permanent residence who hold a work or student permit. Excluded from the Census are Canadian citizens living temporarily in other countries; full-time members of the Canadian Forces stationed outside Canada; persons living in institutional collective dwellings such as hospitals, nursing homes, and penitentiaries; and persons living in non-institutional collective dwellings such as work camps, hotels, motels, and student residences.

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[5] In the context of NOC, occupations are classified by four skill levels and one skill type: Skill Levels A, B, C, and D and Skill Type 0 (Zero). Skill Level A occupations usually require university education; Skill Level B occupations usually require college education, specialized training, or apprenticeship training; Skill Level C occupations usually require secondary school and/or occupation specific training; and Skill Level D refers to occupations in which on-the-job training is usually provided or in which there are no formal educational requirements. Skill Type 0 refers to management occupations.

This report focuses on individuals of regular working age (20-64). Annual employment income has been used to represent annual earnings.

Definitions of "Low-Skilled Workers"

Less than a High School Certificate or its Equivalent

The first definition of "low-skilled" is based on the highest level of education completed and specifies low-skilled individuals as having less than a high school certificate or its equivalent.

When calculating the proportion of workers who are low-skilled, the numerator is the number of individuals aged 20-64 with less than a high school certificate or its equivalent, while the denominator includes all individuals between the ages 20 and 64 inclusive. One limitation of this definition is that it is based on formal educational credentials only and does not reflect skills developed through experience and informal training.

National Occupation Classification (NOC) Skill Level D

NOC is a classification system of all occupations in the Canadian labour market. In the NOC system, there are four skill levels which are based on the amount and type of education and training required to perform an occupation's duties.[6] This report defines those who fall under NOC Skill Level D as "low-skilled." An occupation falls under Skill Level D if there are no formal job requirements to perform the duties. This definition is based on the job of the individual, not the characteristics or education of the individual.

When calculating proportions of low-skilled workers, the numerator contains individuals aged 20-64 with a NOC Skill Level D classification, and the denominator contains individuals aged 20-64 who have any NOC classification based on their current or most recent job. The sample and denominator do not include individuals who do not have a NOC code and therefore would not have worked during the reference year. NOC codes assigned to an individual are based on the occupation held during the reference week of a Census year. If an individual did not work during that week but had worked at some time since January 1 of the prior year, their NOC code will relate to their longest-held job during that period of time

One limitation to this definition is that an individual could be highly educated or highly skilled in a trade but still considered low-skilled if employed in a NOC Skill Level D occupation. These individuals could be in such an occupation due to a variety of reasons, including a shortage of employment opportunities in their area of expertise.

Annual Earnings in the Lowest Income Quintile, Based on Cut-Off for Annual Employment Income

By this definition, individuals are considered "low-skilled" if they fall below the lowest income quintile cut-off. The lowest income quintile cut-off is computed based on those individuals who earned positive earnings during the Census year. As such, individuals with zero earnings who did not work for any pay during the year are excluded. "Earnings" refers to all income received as wages, salaries, and commission from paid employment, as well as net self-employment income from farm or non-farm unincorporated business and/or professional practice during the reference period.

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[6] In the context of NOC, occupations are classified by four skill levels and one skill type: Skill Levels A, B, C, and D and Skill Type 0 (Zero). Skill Level A occupations usually require university education. Skill Level B occupations usually require college education, specialized training, or apprenticeship training. Skill Level C occupations usually require secondary school and/or occupation specific training. Skill Level D refers to occupations in which on-the-job training is usually provided or in which there are no formal educational requirements. Skill Type 0 refers to management occupations.

One issue arising from this definition is its treatment of individuals with zero earned income. Zero earned income indicates a withdrawal from the paid labour market and can arise for a variety of reasons unrelated to skill levels, such as pursuing education or taking a parental leave. As such, these individuals are included in the denominator of adults aged 20-64 but are not considered low-skilled in the calculation of income quintiles or in the number of people who fall below the low-income threshold. In a related vein, a limitation of this measure is that individuals with low (though positive) earned income are not necessarily low-skilled, as low income in a period can arise from factors other than the return on an individual's skill.

To define low-income status, we used the low-income quintile cut-offs across the Atlantic Provinces for 2016. These were computed to be

- $12,798 for New Brunswick
- $12,344 for Newfoundland
- $12,662 for Nova Scotia
- $12,488 for Prince Edward Island

The nominal dollar amount cut-offs for NB in the examined Census years are
- $11,958 in 2011
- $ 9,079 in 2006
- $ 8,000 in 2011
- $ 6,000 in 1996

Census income data is based on the income earned in the previous calendar year (e.g., income data from the 2016 Census is based on income earned in the 2015 calendar year).

Table 1: Incidence of Low Skill: NB Adults Aged 20-64 in 2016

Low Skill Definition	Number of Individuals	% of Total Number of Individuals[7]
Less than high school or its equivalent (1st definition)	58,125	13.2%
NOC Skill Level D (2nd definition)	49,450	11.2%
Annual earnings[8] less than low quintile cut-off (3rd definition)	71,040	16.1%

Table 1 shows the number of individuals in NB in 2016 classified as "low-skilled" by the three different measures of low skill. There are 58,125 individuals with less than a high school certificate or its equivalent. There are 49,450 individuals who are classified under NOC Skill Level D. And there are 71,040 individuals who earn less than the lowest income quintile cut-off $12,798.

The first part of the report will present descriptive statistics about the proportions of these individuals classified as low-skilled by different profile categories and will show their evolution over the years. The second part of the report will focus on income-related statistics.

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[7] There are 441,370 individuals between ages 20 and 64 inclusive.
[8] Annual earnings are based on employment income.

Proportion of Individuals Classified as "Low-Skilled" by Category

Figure 1: Proportion of "Low-Skilled" Individuals in the Atlantic Provinces in 2016 (all definitions)
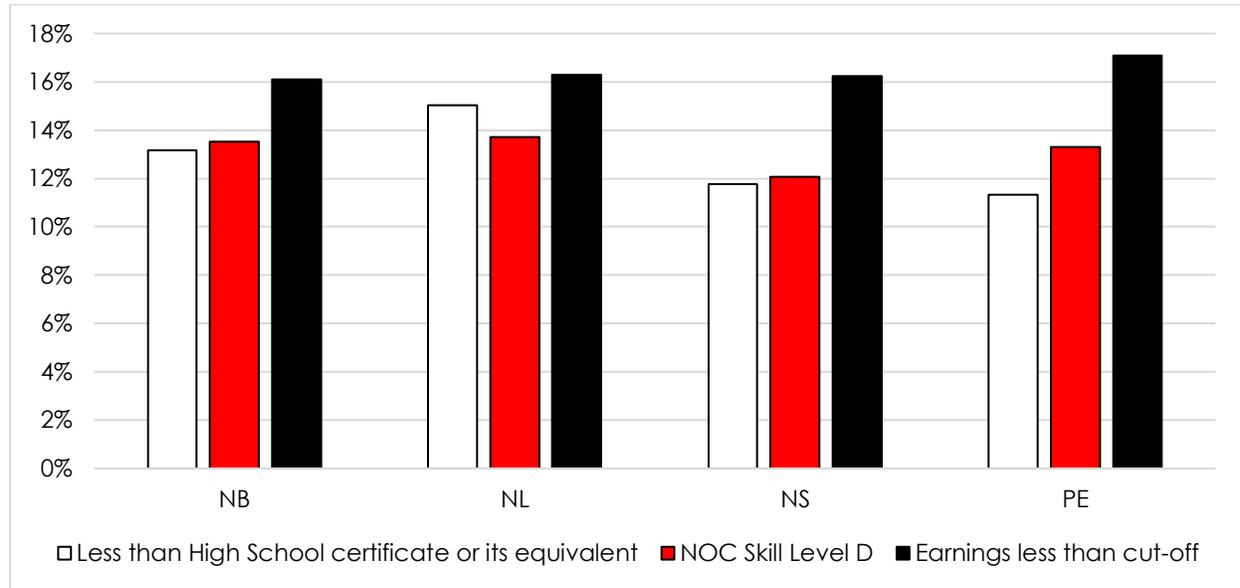
Figure 1 shows the proportion of individuals in NB classified as "low-skilled" by the three definitions of low skill for 2016, with results for the other Atlantic Provinces included for comparison. For NB, this proportion is 13.2% by the first definition, 13.5% by the second definition[9,10] and 16.1% by the third definition.[11]

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[9] The proportion of individuals defined as "low-skilled" based on NOC Skill Level criteria does not include individuals who do not have any skill level classification based the NOC system in the numerator or the denominator. This definition is based on the skill level of an occupation and not the skill level of an individual. As different definitions are based on different concepts of low skill, they are not defined over the same population.

[10] There are 365,640 individuals with a NOC skill level classification from a total of 441,370 individuals between the ages of 20 and 64 inclusive in 2016 in NB.

[11] Even though the lowest income cut-off is different across provinces for 2016, the difference in proportions of individuals who are "low-skilled" based on the lowest income quintile definition is driven by individuals with zero earnings who have not worked for any pay, as they are still part of the denominator.

Figure 2: Proportion of "Low-Skilled" Individuals in 2016 by CMA/CA (all definitions)

Legend: ■ Earnings less than cut-off ■ NOC Skill Level D □ Less than High School certificate or its equivalent

EDMUNDSTON
- 15.2%
- 14.7%
- 14.5%

CAMPBELLTON
- 16.5
- 18.7
- 19.5%

MIRAMICHI
- 17.0%
- 14.9%
- 9.9%

BATHURST
- 16.6%
- 15.0%
- 18.3%

FREDERICTON
- 15.7%
- 10.3%
- 6.9%

SAINT JOHN
- 14.5%
- 11.4%
- 9.1%

MONCTON
- 15.2%
- 11.0%
- 9.1%
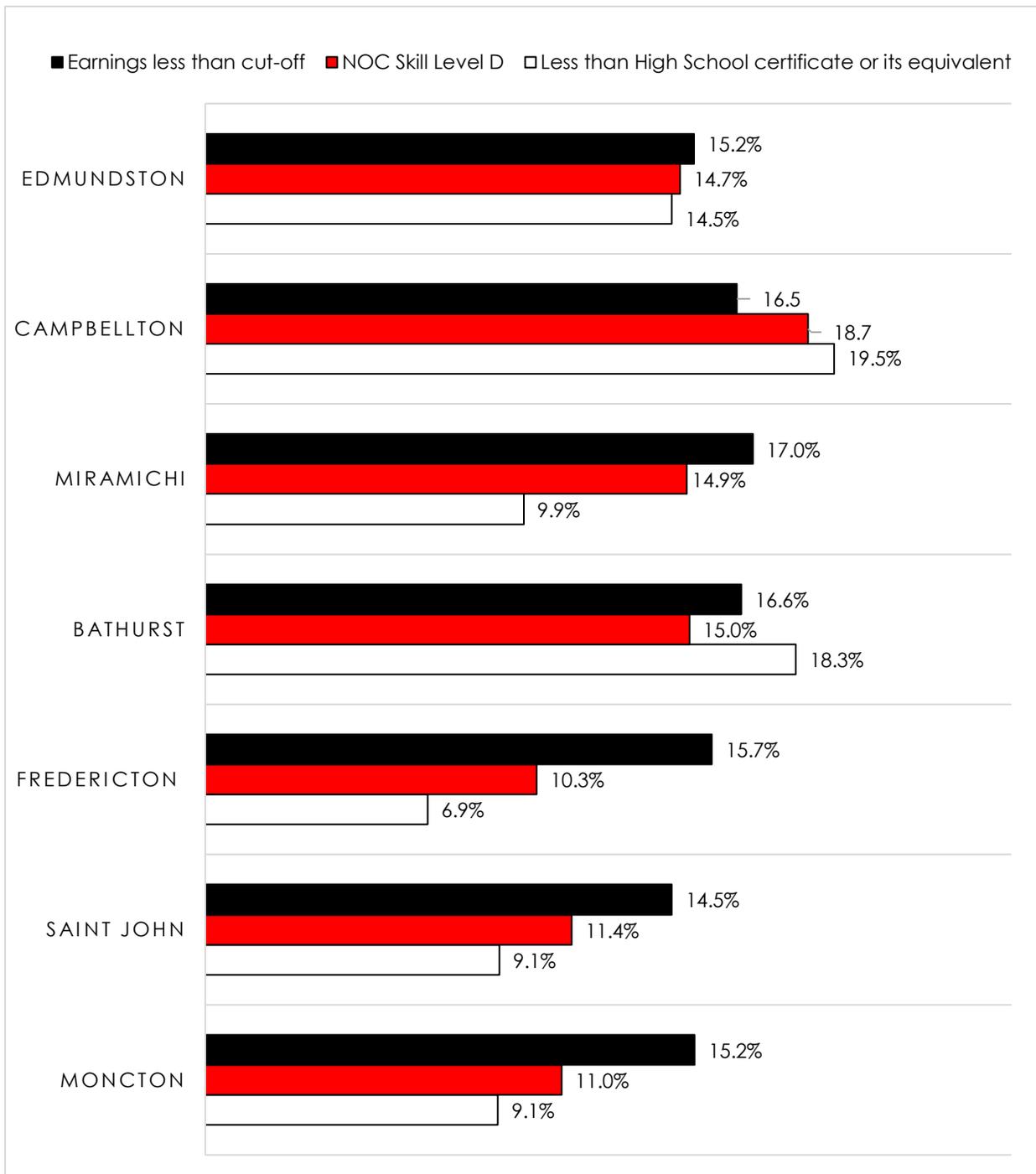
Figure 2 shows the proportion of individuals considered "low-skilled" in the Census agglomerations (CAs) and Census Metropolitan Areas (CMAs) of NB in 2016 based on the three definitions. Based on the first definition, the proportion is highest for Campbellton, with 19.5% of individuals deemed low-skilled, and lowest for Fredericton, with 6.9% of individuals being low-skilled. The second definition also suggests the proportion is highest for Campbellton (18.7%) and

lowest for Fredericton (10.3%). Based on all three definitions, the proportions of low-skilled workers are lowest in the three main NB cities (Moncton, Fredericton, and Saint John).

Figure 3: Proportion of "Low-Skilled" Individuals in NB Since 1996 (all definitions)
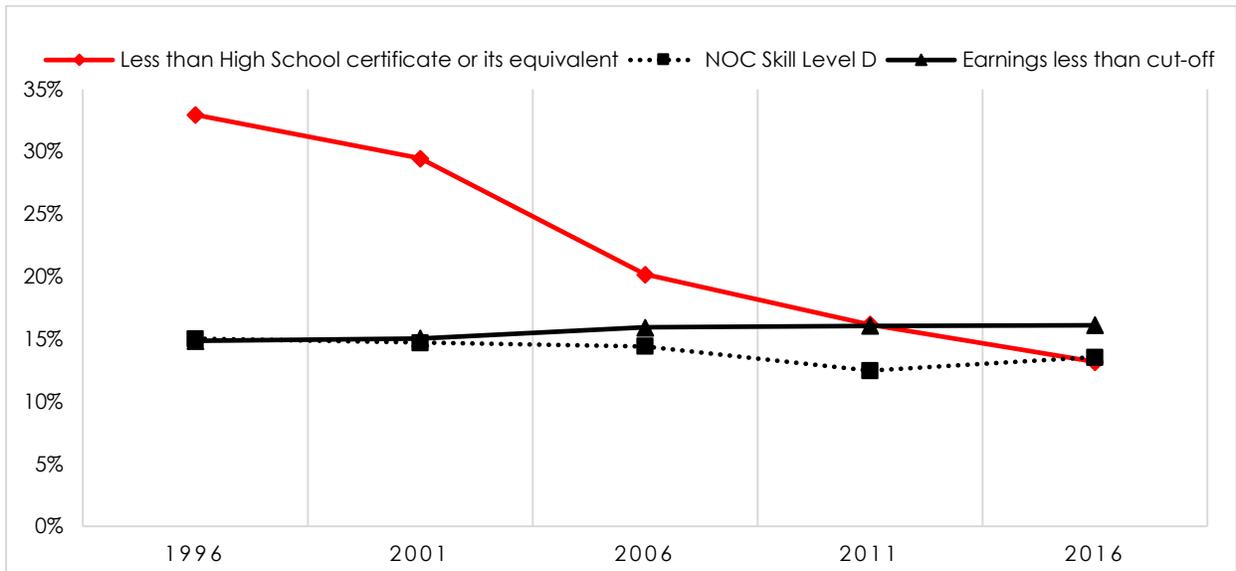
Figure 3 shows how the proportion of low-skilled individuals in NB has evolved over time based on the separate measures of low skill. According to the first definition (high school or less), the proportion of individuals considered low-skilled has been trending downward since 1996. There was not much variation in the proportion according to the other definitions. As a result, the gap between the first and remaining definitions of low skill has diminished over time. For instance, in 1996, the proportion of low-skilled individuals was 32.9% and 14.8% according to the first and third definitions, respectively, indicating around an 18-percentage point difference. However, this difference trended downward to around 3 percentage points in 2016.

Figure 4: Proportion of Individuals in NB with Less than High School or Equivalent Since 1996 by Sex

Figure 4 shows the proportion of individuals in NB with less than a high school certificate or its equivalent since 1996, stratified by sex. For both males and females, this proportion has trended downward.

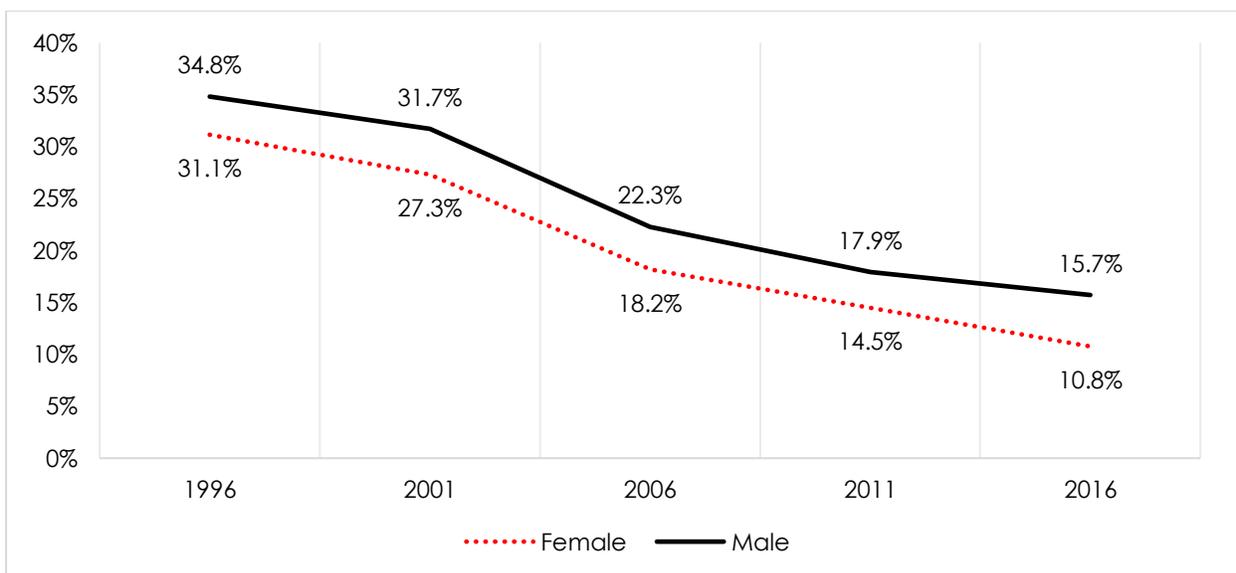In 2016, the proportion was 15.7% for males and 10.8% for females. This gap between males and females has been fairly constant at around 4 percentage points since 1996, indicating that the proportion of males considered low-skilled is higher than the proportion of females, according to the first definition.

Table 2: Proportion of "Low-Skilled" Individuals in NB by Sex in 2016 (all definitions)

Sex	Less than High School Certificate	NOC Skill Level D	Earnings Less than Cut-Off
Female	10.8%	12.8%	18.6%
Male	15.7%	14.3%	13.5%

Figure 5: Proportion of Individuals in NB with Less than High School or Equivalent Since 1996 by Age Group

Figure 5 shows the evolving proportion of individuals in NB with less than a high school certificate or its equivalent since 1996, stratified by age group. For all age groups, the proportion of low-skilled individuals has been generally trending downwards since 1996.

The proportion of low-skilled individuals in the 20-24 age group was 19.7% in 1996 and about 6.3% in 2016, which represents a 13.4 percentage point decline. The decline was about 15 percentage points for 25–34-year-olds and about 20 percentage points for the 35-44 age group. The largest drop in proportions was for those in the 55-64 age bracket, with a decline from 56.4% in 1996 to 21.7% in 2016.

Table 3: Proportion of "Low-Skilled" Individuals in NB by Age Group in 2016 (all definitions)

Age Group	Less than High School Certificate	NOC Skill Level D	Earnings Less than Cut-Off
20 to 24 years	6.3%	23.4%	41.5%
25 to 34 years	7.9%	11.4%	16.2%
35 to 44 years	8.5%	9.6%	11.2%
45 to 54 years	14.3%	12.8%	11.0%
55 to 64 years	21.7%	15.9%	15.8%

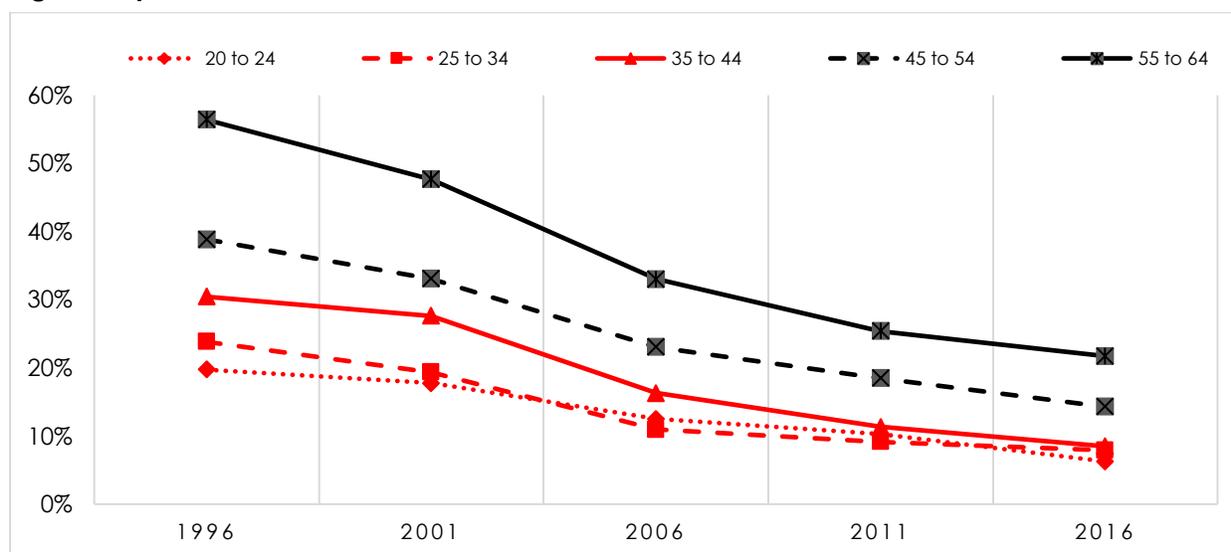**Figure 6: Proportion of Individuals in NB with Less than High School or Equivalent Since 2001 by Industry**
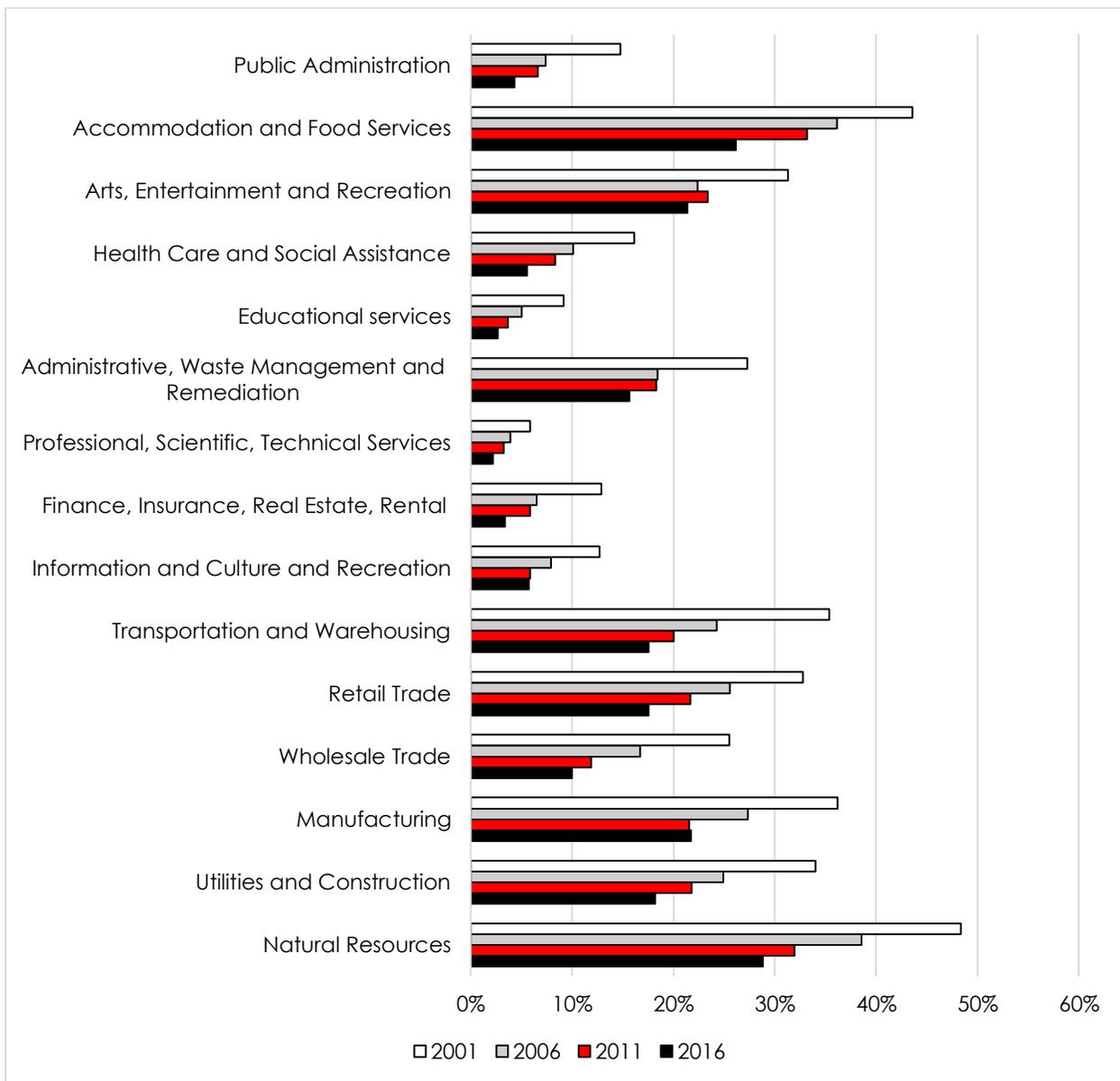
Figure 6 shows the proportion of individuals in NB with less than a high school certificate or its equivalent since 2001, stratified by industry. As of 2016, the proportion of low-skilled individuals in the Manufacturing and Natural Resources industry is more than 20 percent. Meanwhile, low-skilled workers make up less than 5 percent in the Finance, Insurance, Real Estate and Rental industry, as well as in the Professional, Scientific and Technical Services industry; Information and Cultural Industries; Public Administration; Educational Services; and Health Care and Social Assistance. Generally, for all industries, the proportion of low-skilled workers has been trending downward since 2001.

Table 4: Proportion of "Low-Skilled" Individuals in NB by Industry in 2016 (all definitions)

Industry	Less than High School Certificate	NOC Skill Level D	Earnings Less than Cut-Off
Natural Resources	25.3%	11.2%	18.5%
Utilities and Construction	16.8%	16.8%	12.9%
Manufacturing	20.4%	24.8%	14.8%
Wholesale Trade	8.6%	8.2%	7.5%
Retail Trade	10.7%	23.6%	21.8%
Transportation and Warehousing	15.7%	3.7%	10.6%
Information and Cultural Industries	2.6%	1.4%	11.4%
Finance, Insurance, Real Estate, Rental and Leasing	2.5%	4.3%	9.6%
Professional, Scientific, Technical Services	1.6%	1.7%	14.0%
Management of Companies and Enterprises	8.9%	7.9%	26.9%
Administrative and Support, Waste Management and Remediation Services	13.3%	29.8%	24.4%
Educational Services	1.8%	5.8%	14.0%
Health Care and Social Assistance	4.7%	6.4%	14.2%
Arts, Entertainment and Recreation	10.3%	20.0%	35.4%
Accommodation and Food Services	15.8%	33.3%	35.3%
Public Administration	3.0%	5.3%	8.1%

Figure 7: Proportion of Individuals in NB with Less than High School or Equivalent Since 1996 by Work Status
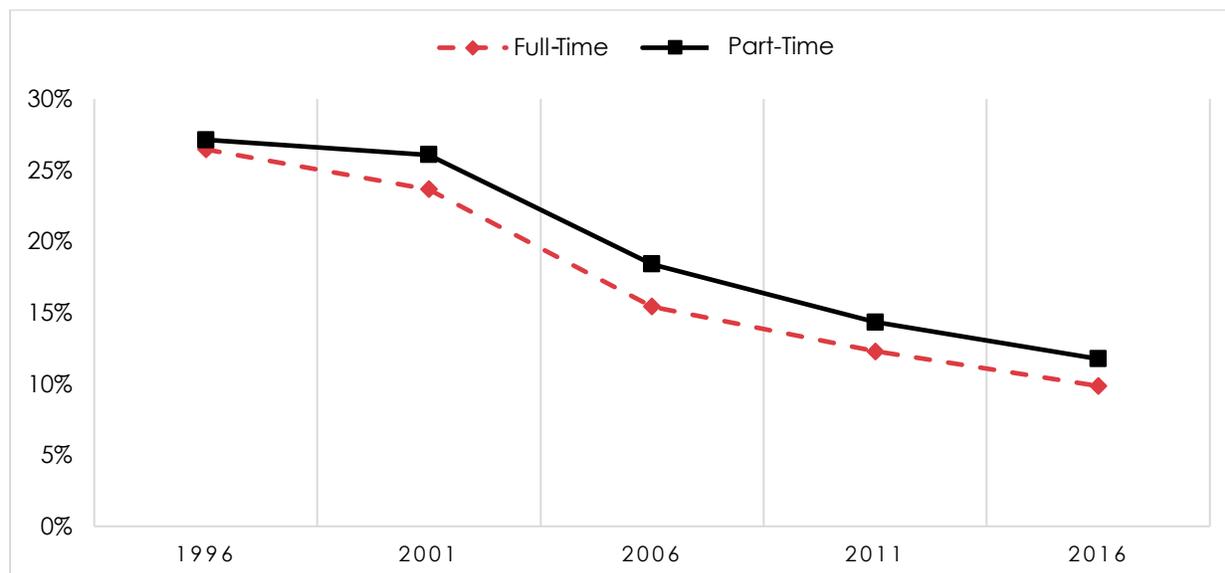

Figure 7 shows the proportion of individuals in NB with less than a high school certificate or its equivalent since 1996, stratified by work status. In 2016, this proportion was 9.8% for those who worked full-time[12] and 11.7% for those who worked part-time. The average gap between the proportion of low-skilled individuals in each work status category has been about 2% from 1996 to 2016.

Table 5: Proportion of "Low-Skilled" Individuals in NB by Work Status in 2016 (all definitions)

Work Status	Less than High School Certificate	NOC Skill Level D	Earnings Less than Cut-Off
Full-time	9.8%	11.6%	10.7%
Part-time	11.7%	23.2%	47.6%

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[12] Individuals who work 30 hours or more per week are considered full-time workers.

Figure 8: Proportion of Individuals in NB with Less than High School or Equivalent Since 1996 by Immigration Status
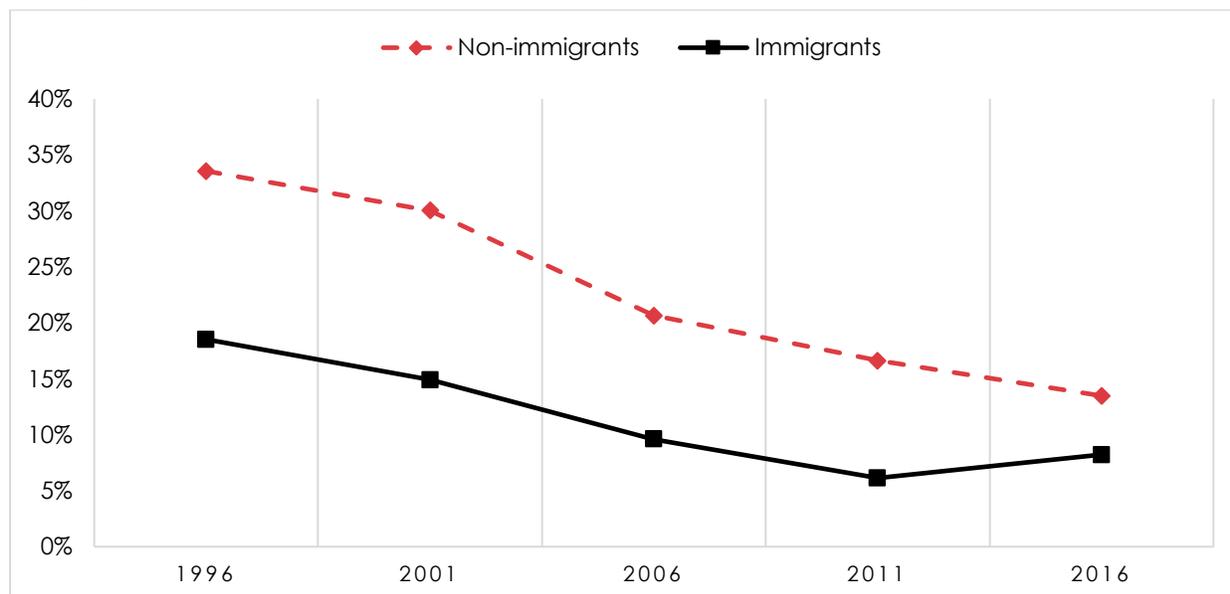

Figure 8 shows the proportion of individuals in NB with less than a high school certificate or its equivalent since 1996, stratified by immigration status. For both groups, this proportion has trended downward.

In 2016 the proportion of low-skilled individuals was 8.2% for immigrants and 13.5% for non-immigrants. Since 1996, the gap between the two categories has decreased from 15 percentage points to 5 percentage points.

The proportion of non-immigrants who are considered low-skilled has always been higher than the proportion of immigrants. This could be due to targeted immigration streams in NB, as large proportions of immigrants coming to Canada under skill-based entry streams are more highly educated than non-immigrants overall. However, those high levels of qualification do not necessarily translate into higher paying jobs, as reflected in our measures of low skill.

Table 6: Proportion of "Low-Skilled" Individuals in NB by Immigrant Status in 2016 (all definitions)

Immigrant Status	Less than High School Certificate	NOC Skill Level D	Earnings Less than Cut-Off
Non-immigrants	13.5%	13.6%	16.0%
Immigrants	8.2%	11.3%	16.5%

Figure 9: Proportion of Individuals in NB with Less than High School or Equivalent Since 2001 by Ethnicity
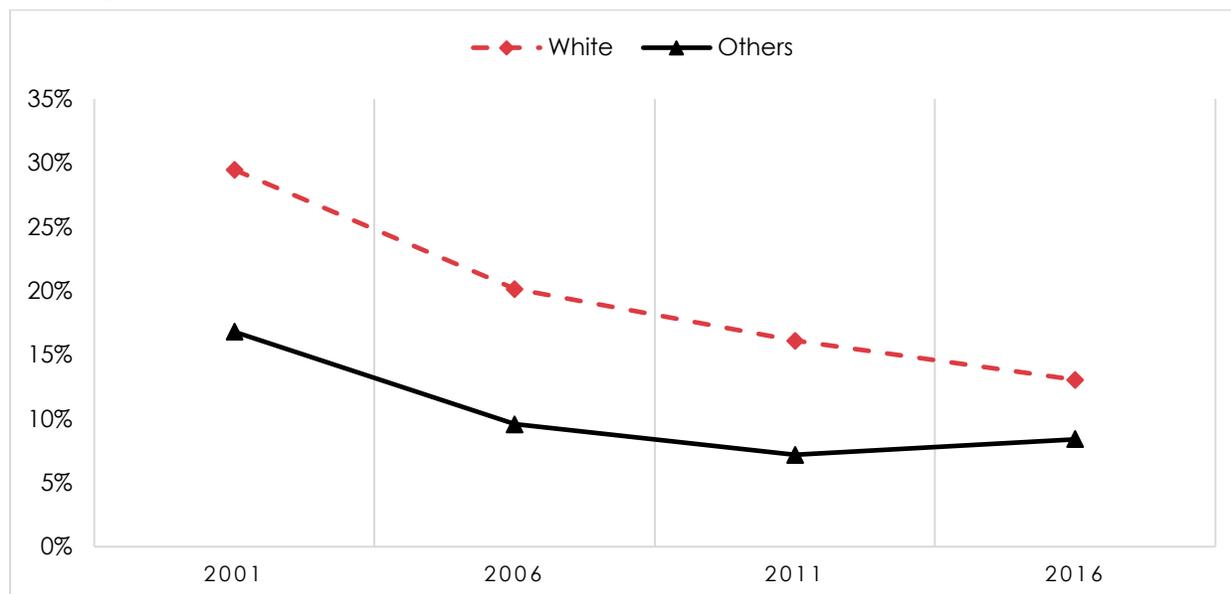

Figure 9 shows the proportion of individuals in New Brunswick who have less than a high school certificate or its equivalent since 2001, stratified by ethnicity. For this report, we consider two broad groupings of ethnicities: white and non-Aboriginal non-white (or, "Other"). A consideration of the earnings and labour market outcomes of Indigenous people in NB is beyond the scope of this report.

For both groups, the proportion of low-skilled individuals has generally trended downward over time at similar rates. However, for ethnicities other than those considered ethnically white, there was about a 1 percentage point increase in the proportion of individuals considered low-skilled from 2011 to 2016. The gap in proportions of low-skilled workers between those who are ethnically white and other ethnicities was about 13 percentage points in 2001, but this gap reduced to about 5 percentage points by 2016.

Table 7: Proportion of "Low-Skilled" Individuals in NB by Ethnicity in 2016 (all definitions)

Ethnicity	Less than High School Certificate	NOC Skill Level D	Earnings Less than Cut-Off
White	13.1%	13.3%	15.6%
Other	8.4%	15.0%	22.1%

Figure 10: Proportion of Individuals in NB with Less than High School or Equivalent Since 2006 by Region of Residence
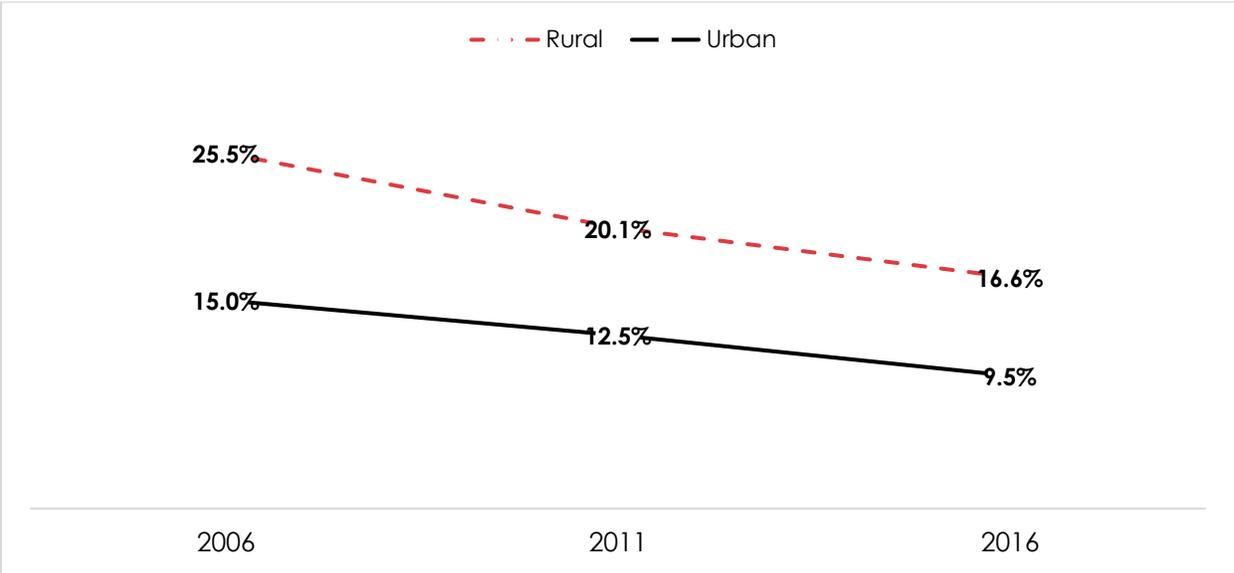

Figure 10 shows the proportion of individuals in NB with less than a high school certificate or its equivalent since 2006, stratified by region of residence. Proportions of low-skilled individuals in both groups have trended downward at a similar rate.

The gap between proportions of low-skilled individuals in rural areas compared to urban areas[13] was about 10 percentage points in 2006 but reduced to about 7 percentage points in 2016.

**Table 8: Proportion of "Low-Skilled" Individuals in NB by Region of Residence in 2016 (all definitions)**

Rural/Urban Area	Less than High School Certificate	NOC Skill Level D	Earnings Less than Cut-Off
Rural	16.6%	15.1%	16.3%
Urban	9.5%	11.9%	15.9%

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[13] Urban areas have a population of at least 1,000 and a population density of 400 persons or more per square kilometre.

Median Annual Earnings of "Low-Skilled" Individuals by Category

Figure 11: Median Annual Earnings (Current Dollars) of "Low-Skilled" Individuals by Atlantic Province in 2016 (all definitions)
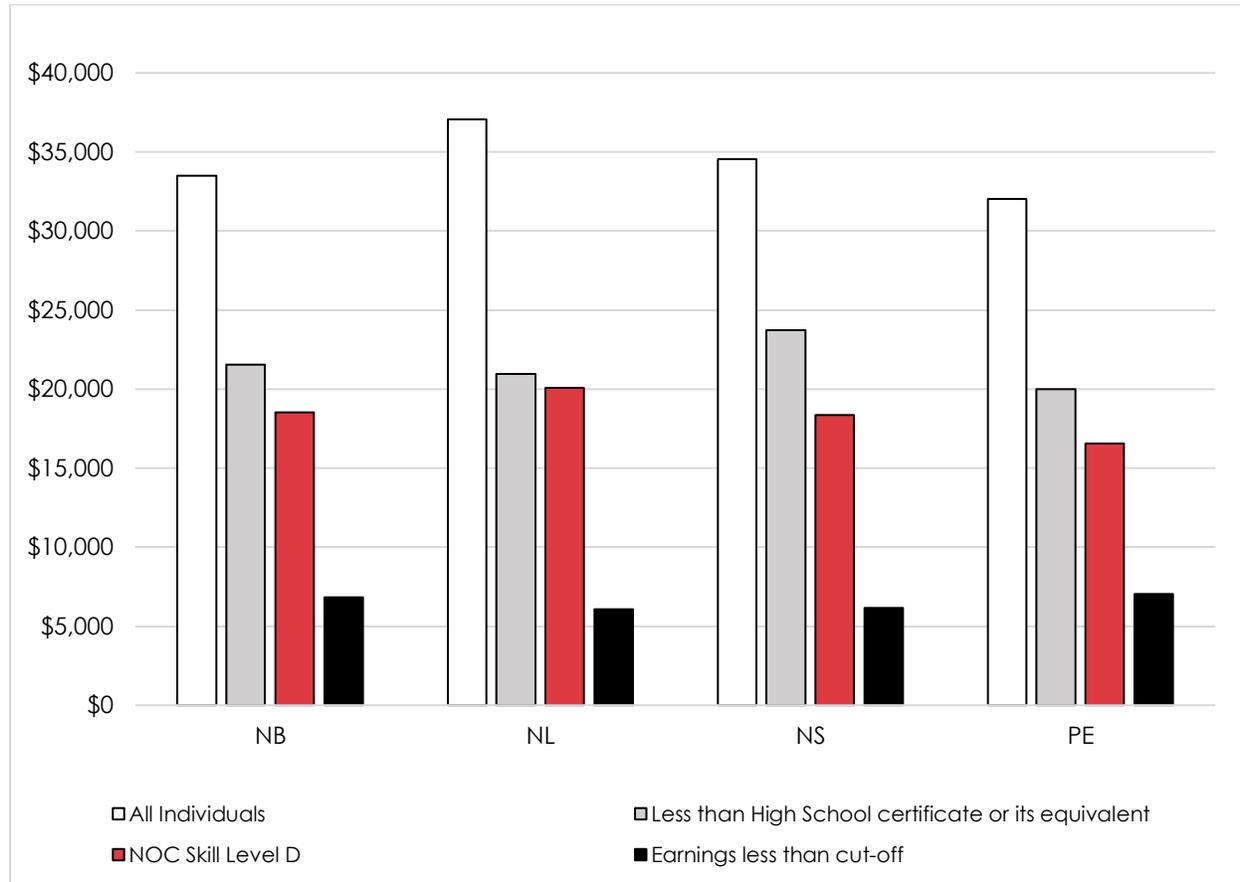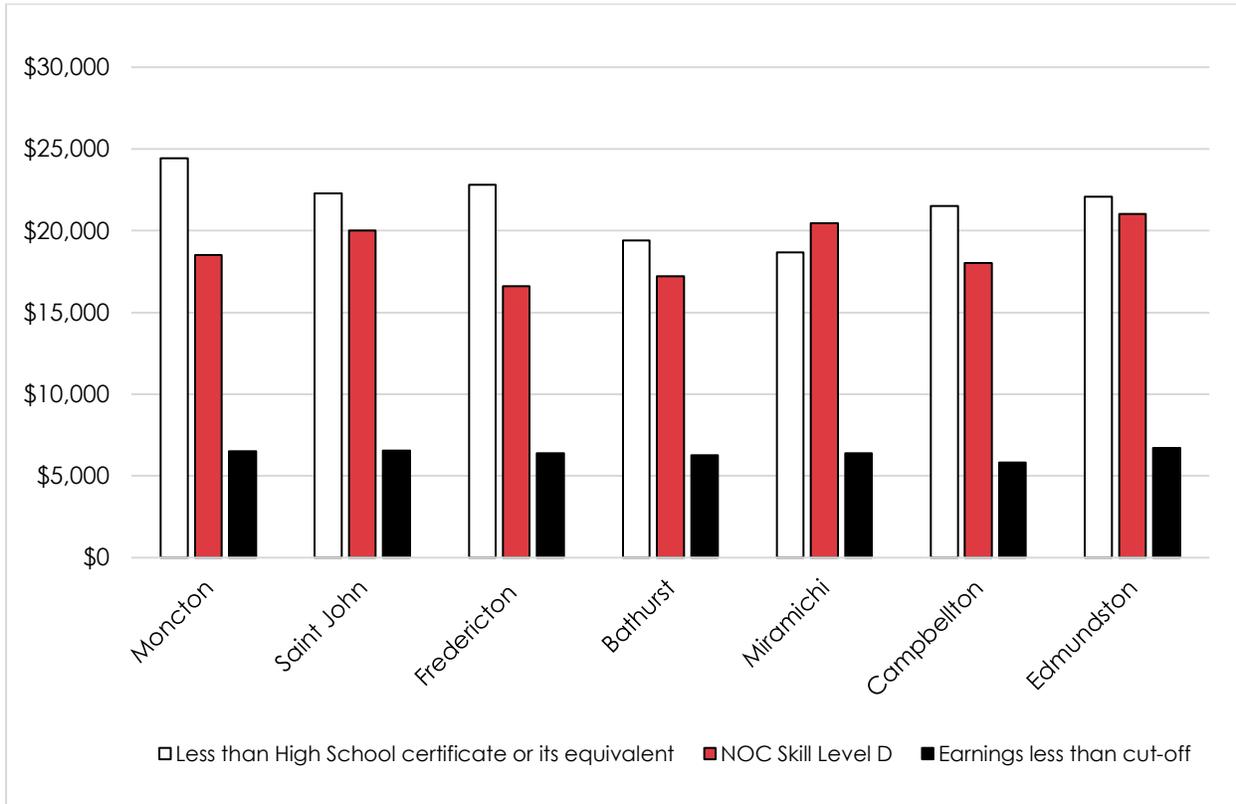

Note: These results are not adjusted for inflation.

Figure 11 shows the median annual earnings of low-skilled individuals across the Atlantic Provinces in 2016 for each of the three definitions of low skill.

For NB, the median annual earnings are $21,550 by the first definition, $18,505 by the second definition, and $6,820 by the third definition, while the median earnings for the entire workforce is $33,490.

For all Atlantic provinces, the median annual earnings are highest by the first definition and lowest by the third definition. However, it should be noted that earnings based on the third definition's low value arise somewhat mechanically from the fact that earned income is used to compute the low-income threshold. Nevertheless, it does suggest a very low median earned income level for this definition of low-skilled individuals.

Figure 12: Median Annual Earnings (Current Dollars) of "Low-Skilled" Individuals in 2016 by CMA/CA (all definitions)

Note: These results are not adjusted for inflation.

Figure 12 shows the median annual earnings of low-skilled individuals in the Census Agglomerations (CAs) and Census Metropolitan Areas (CMAs) of NB in 2016 by all three definitions of low skill.

The median annual earnings for those with less than a high school certificate is less than $20,000 for the Bathurst, Edmundston, and Miramichi CAs, whereas the median annual earnings for those classified under NOC Skill level D is less than $20,000 for all CMAs except Saint John.

Based on the low-income cut-off definition of low skill, all the CMAs have similar level of earnings.

Figure 13: Median Annual Earnings (Current Dollars) of "Low-Skilled" Individuals in NB Since 1996 (all definitions)

Note: These results are not adjusted for inflation.

Figure 13 shows how median annual earnings have evolved over time for NB based on all three definitions of low skill.

For the first definition (high school or less), annual median earnings grew by about 60%, from $13,515 in 1996 to $21,550 in 2016

According to the second definition (NOC Skill Level D), annual earnings grew from $9,170 in 1996 to $18,505 in 2016.

Finally, for the third definition (low-income cut-off) earnings were $2,750 in 1996 and grew to $6,820 in 2016.

For all individuals in the sample, annual median earnings trended upward from $18,010 in 1996 to $33,490 in 2016.

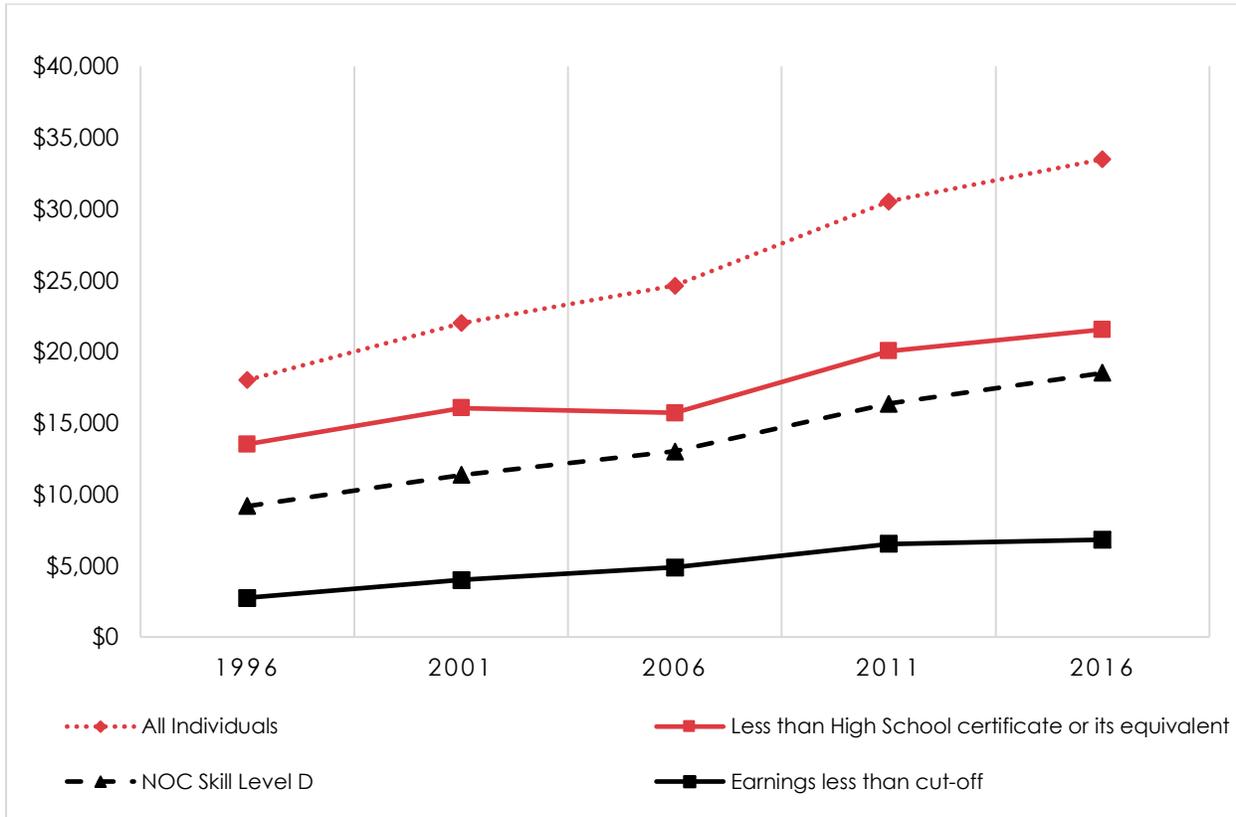**Figure 14: Median Annual Earnings (Current Dollars) of Individuals in NB with Less than High School or Equivalent Since 1996 by Sex**
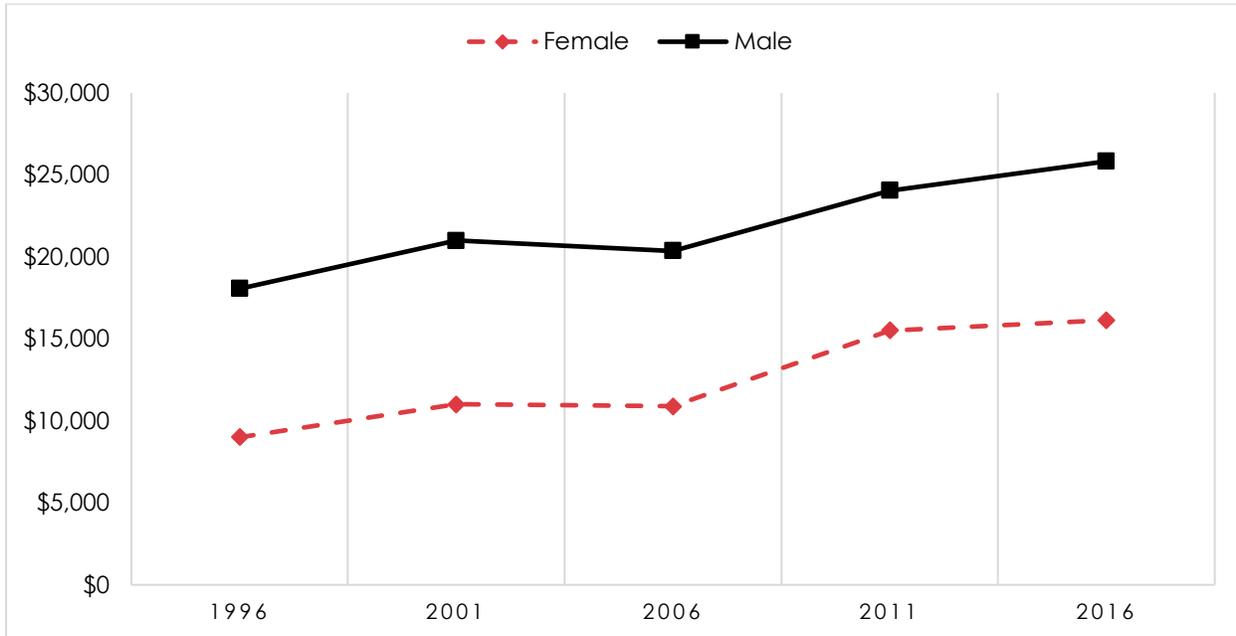
Note: These results are not adjusted for inflation.

Figure 14 shows the median annual earnings of individuals with less than a high school certificate or its equivalent since 1996, stratified by sex.

While earnings have trended upwards for both sexes, there is a persistent gap in earnings, with males earning much more than females. However, this increase is only notable in the results for the first two definitions, and not the third definition. This report has not controlled for the various factors that may influence these values, however, such as occupation or number of hours worked.

Table 9: Median Annual Earnings of "Low-Skilled" Individuals in NB by Sex in 2016 (all definitions)

Sex	Less than High School Certificate	NOC Skill Level D	Earnings Less than Cut-Off
Female	$16,140	$15,750	$6,815
Male	$25,830	$21,805	$6,825

Note: These results are not adjusted for inflation.

Figure 15: Median Annual Earnings (Current Dollars) of Individuals in NB with Less than High School or Equivalent Since 1996 by Age Group

Note: These results are not adjusted for inflation.

Figure 15 shows the median annual earnings of individuals with less than a high school certificate or its equivalent since 1996, stratified by age group.
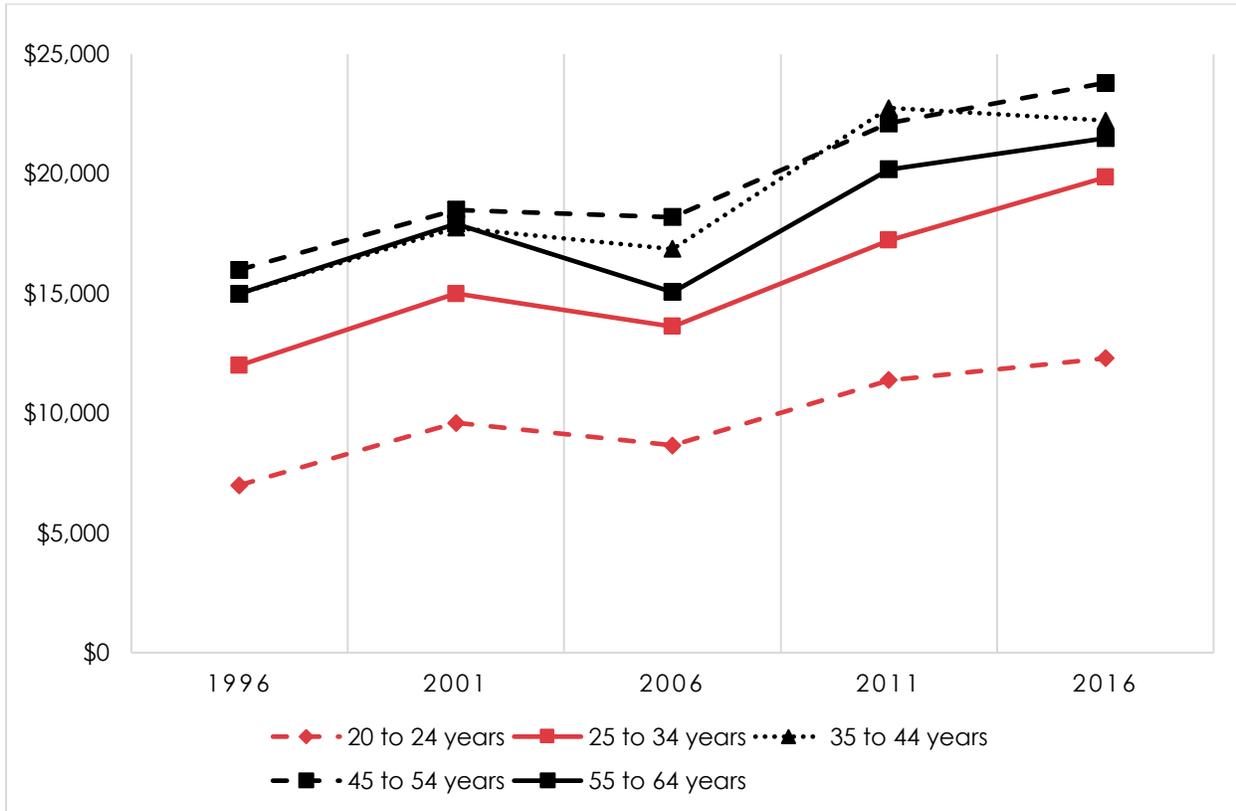
Annual earnings for all age groups have increased over time, but there is a persistent gap in earnings between those in the 20-24 age bracket and those in higher age brackets.

Table 10: Median Annual Earnings of "Low-Skilled" Individuals in NB by Age Group in 2016 (all definitions)

Age Group	Less than High School Certificate	NOC Skill Level D	Earnings Less than Cut-Off
20 to 24 years	$12,295	$11,710	$7,095
25 to 34 years	$19,855	$17,645	$6,850
35 to 44 years	$22,225	$20,600	$7,000
45 to 54 years	$23,805	$22,015	$7,485
55 to 64 years	$21,490	$20,550	$5,555

Note: These results are not adjusted for inflation.

Figure 16: Median Annual Earnings (Current Dollars) of Individuals in NB with Less than High School or Equivalent Since 1996 by Work Status

Note: These results are not adjusted for inflation.

Figure 17 shows the median annual earnings of individuals with less than a high school certificate or its equivalent since 1996, stratified by work status.
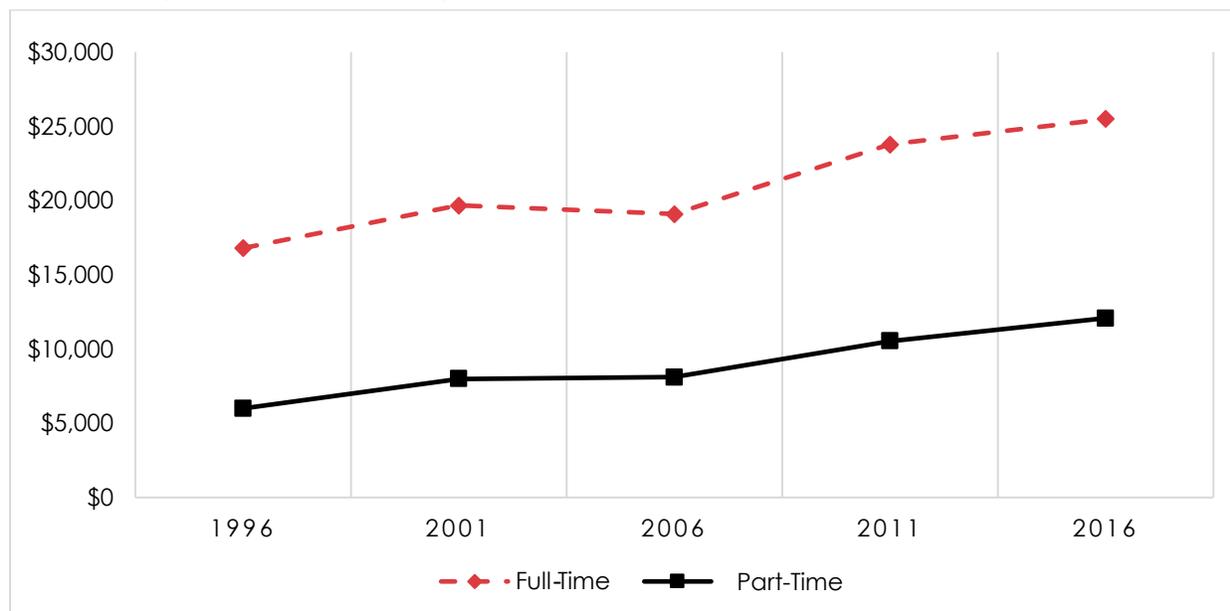
For individuals working full-time, earnings increased by about 50% from $16,800 in 1996 to $25,490 in 2016. For those working part-time, earnings more than doubled during the same period.

Table 11: Median Annual Earnings of "Low-Skilled" Individuals in NB by Work Status in 2016 (all definitions)

Work Status	Less than High School Certificate	NOC Skill Level D	Earnings Less than Cut-off
Full-time	$25,490	$22,385	$8,255
Part-time	$12,085	$10,780	$6,760

Note: These results are not adjusted for inflation.

Figure 17: Median Annual Earnings (Current Dollars) of Individuals in NB with Less than High School or Equivalent Since 1996 by Immigrant Status
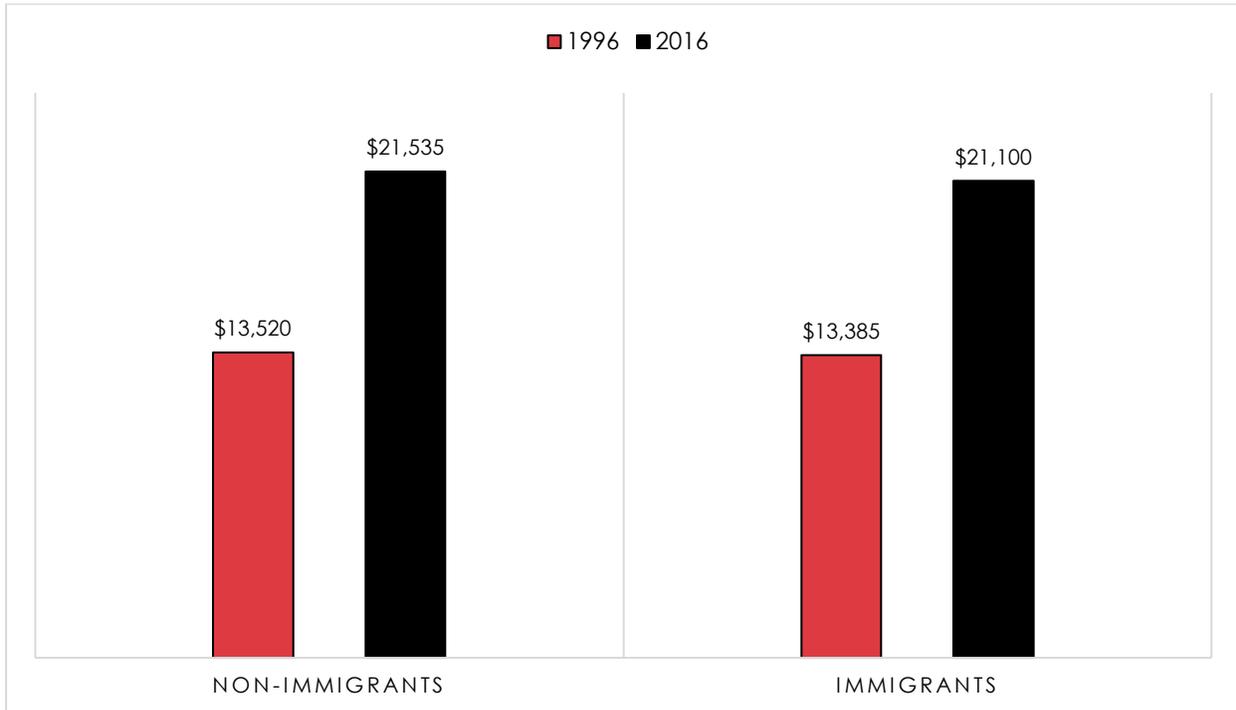
Note: These results are not adjusted for inflation.

Figure 18 shows the median annual earnings of individuals with less than a high school certificate or its equivalent for 1996 and 2016, stratified by immigrant status.

Earnings for other Census years have been omitted from this report due to residual disclosure issues. For both groups, earnings (before adjusting for inflation) have increased by similar proportions.

Table 12: Median Annual Earnings of "Low-Skilled" Individuals in NB by Immigrant Status in 2016 (all definitions)

Immigrant Status	Less than High School Certificate	NOC Skill Level D	Earnings Less than Cut-Off
Non-immigrants	$21,535	$18,600	$6,860
Immigrants	$21,100	$18,140	$5,995

Note: These results are not adjusted for inflation.

Figure 18: Median Annual Earnings (Current Dollars) of Individuals in NB with Less than High School or Equivalent Since 2001 by Ethnicity

Note: These results are not adjusted for inflation.

Figure 19 shows the median annual earnings of individuals with less than a high school certificate or its equivalent since 2001, stratified by ethnicity.
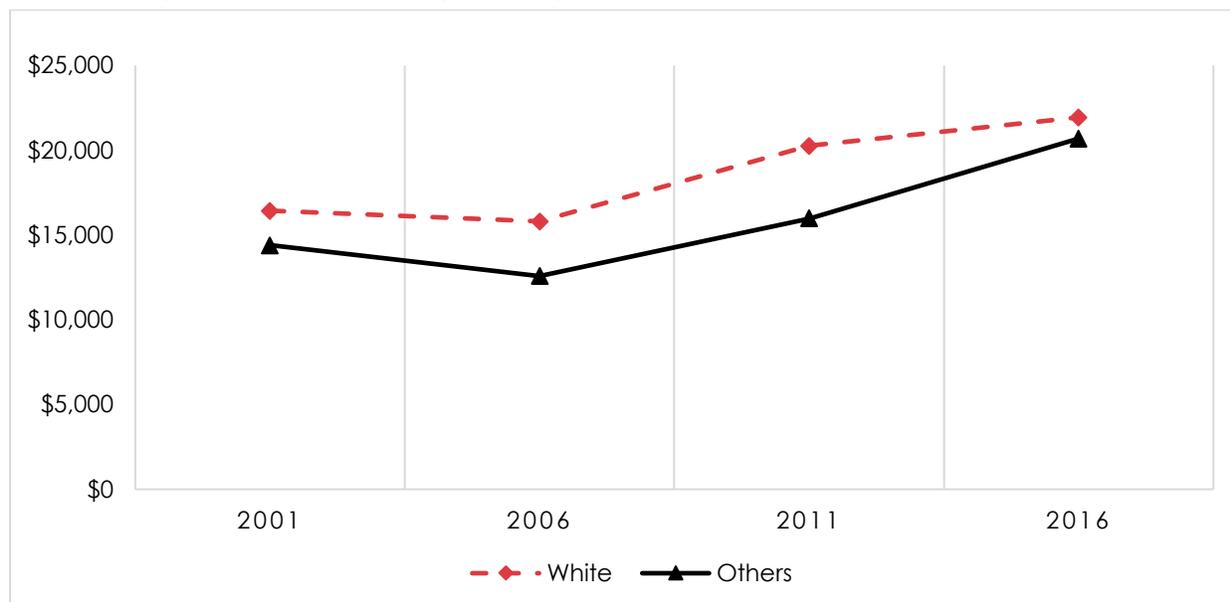
Generally, for all ethnicities, median annual earnings (before adjusting for inflation) have trended upwards over time. Individuals, who are ethnically white have higher earnings compared to individuals of other ethnicities.

In 2016, for those with less than less than a high school certificate, ethnically white individuals earned $21,940, while individuals of other ethnicities earned $20,690. The gap between the two groups reduced from $2,020 in 2001 to $1,250 in 2016.

Table 13: Median Annual Earnings of "Low-Skilled" Individuals in NB by Ethnicity in 2016 (all definitions)

Ethnicity	Less than High School Certificate	NOC Skill Level D	Earnings Less than Cut-Off
White	$21,940	$18,935	$6,870
Other Ethnicities Combined	$20,690	$15,980	$5,780

Note: These results are not adjusted for inflation.

Figure 19: Median Annual Earnings (Current Dollars) of Individuals in NB with Less than High School or Equivalent Since 2006 by Region of Residence
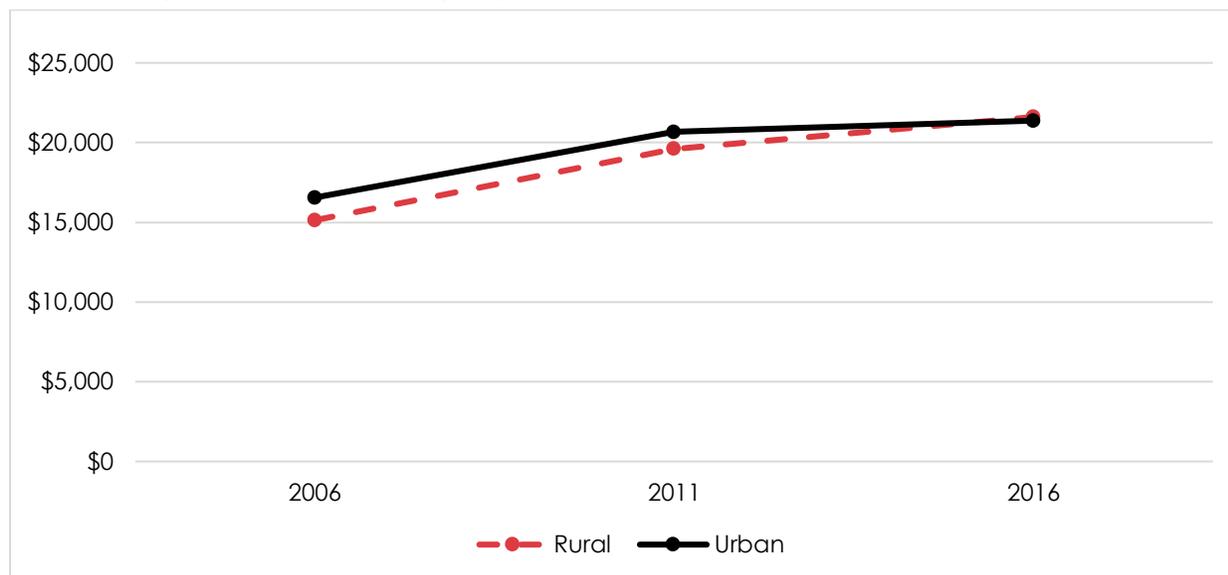
Note: These results are not adjusted for inflation.

Figure 20 shows the median annual earnings of individuals with less than a high school certificate or its equivalent since 2006, stratified by region of residence.

In 2006, earnings of low-skilled individuals were $15,130 for those who lived in rural areas and $16,550 for those who lived in urban areas. Earnings before adjusting for inflation have increased and converged since 2006, with both groups having annual earnings of about $21,550 in 2016.

Table 14: Median Annual Earnings of "Low-Skilled" Individuals in NB by Region of Residence in 2016 (all definitions)

Rural/Urban Area	Less than High School Certificate	NOC Skill Level D	Earnings Less than Cut-Off
Rural	$21,600	$19,105	$7,020
Urban	$21,375	$17,640	$6,590

Note: These results are not adjusted for inflation.

Conclusion

This report aims to construct profiles of "low-skilled" workers in New Brunswick (NB) from various measures that are correlated with low skill levels, using data from the 1996, 2001, 2006, and 2016 Census files and the 2011 National Household Survey (NHS).

Profiles include sex, age group, industry, work status, immigrant status, ethnicity, and region of residence, along with a calculation of annual median income for low-skilled workers in these groups.

This report uses three measures of low skill:

- Lack of high school certificate or its equivalent
- NOC Skill Level D
- Annual earnings, in terms of employment income, below the lowest income quintile

Each measure reflects a different dimension one might expect to be associated with low labour market skills – for instance, low educational attainment, working in an occupation that has limited skill requirements, and earning a relatively low wage/salary. None is a complete measure of labour market skill, which is an intrinsically complex and multi-dimensional concept.

The proportion of individuals who are considered "low-skilled" based on the first definition has trended downward over the two decades since 1996, while the proportion based on the second and third definitions has remained generally flat.

The proportion of individuals with less than a high school certificate or its equivalent has generally trended downward across all profile categories. According to this definition, the proportion of individuals who are low-skilled is higher for males than for females, and higher for those who work in the Manufacturing and Natural Resources industries relative to those in other industries. The proportion is also higher for those who work part-time compared to those who work full-time; for non-immigrants; for ethnically "white" individuals; and for those who live in rural areas.

While the annual earnings of all three definitions of "low-skilled" workers have grown, the gap between those deemed low-skilled and all individuals in the 20–64 age bracket have increased over time.

Among low-skilled workers, certain groups are more vulnerable than others. The earnings of low-skilled individuals in the 20–24 age group are significantly lower than those in the higher age brackets. Low-skilled females earn substantially less than low-skilled males. And part-time low-skilled workers earn substantially less than full-time low-skilled workers.

Understanding who the low-skilled workers in NB are and how the profiles of these individuals have evolved over time will help the government design more targeted programs. Once the most vulnerable groups are identified, it becomes easier to see whether they are taking advantage of existing public programs. This information has the potential to help the government examine the impact of existing programs aimed at these individuals and evaluate how such programs can be improved to better serve these likely vulnerable groups.