

**SELF-EMPLOYMENT TRENDS
IN NEW BRUNSWICK:
1982-2016**



Pablo Miah, MA, MSc
Philip Leonard, PhD
Ted McDonald, PhD

PROJECT TITLE

Self-employment trends in New Brunswick: 1982-2016

PRINCIPAL INVESTIGATORS

Philip Leonard, Research Associate, NB-IRDT
Ted McDonald, Director, NB-IRDT

RESEARCH TEAM

Pablo Miah, Data Analyst, NB-IRDT

PARTNERS

Funding for this project was provided by the Government of New Brunswick, Department of Post-Secondary Education, Training and Labour (PETL). This study forms part of a five-year research agreement between PETL and the New Brunswick Institute for Research, Data and Training (NB-IRDT), focusing on the priority research area, "Profile of NB Businesses and Entrepreneurs."

The analysis presented in this paper was conducted at the New Brunswick Research Data Centre, which is part of the Canadian Research Data Centre Network (CRDCN). The services and activities provided by the NB-RDC are made possible by the financial or in-kind support of the SSHRC, the CIHR, the CFI, Statistics Canada, the Government of New Brunswick Department of Post-Secondary Education, Training and Labour, and the University of New Brunswick. The views expressed in this paper do not necessarily represent the CRDCN's or those of its partners.

HOW TO CITE THIS REPORT

Miah, P., Leonard, P., & McDonald, T. (2020). Self-employment trends in New Brunswick: 1982-2016. Fredericton, NB: New Brunswick Institute for Research, Data and Training.

TABLE OF CONTENTS

DEFINITIONS FOR SELF-EMPLOYMENT	5
EXECUTIVE SUMMARY	6
INTRODUCTION.....	8
DATA & METHODOLOGY	8
Limitations	9
DESCRIPTIVE STATISTICS.....	11
Self-Employment in NB	11
Self-Employment by Age and Gender	14
Self-Employment by Immigration.....	16
Self-Employment by Region	19
Self-Employment in the Fisheries and Forestry Sectors	21
Average Income	25
CONCLUSION	29
REFERENCES	31
APPENDIX – TABLES	32

LIST OF TABLES

Table 1: Self-employment counts & rates in NB by Gender,1982-2016.....	32
Table 2: Strict Self-employment counts & rates in NB by Gender,1982-2016	33

LIST OF FIGURES

Figure 1: Self-employment & Strict Self-employment counts in NB, 1982-2016	11
Figure 2: Self-employment & Strict Self-employment rates in NB, 1982-2016	12
Figure 3: Self-employment entrants & leavers in NB, 1983-2016	13
Figure 4: Strict Self-employment entrants & leavers in NB, 1983-2016.....	13
Figure 5: Self-employment counts in NB by Age,1982-2016	14
Figure 6: Self-employment rates in NB by Age,1982-2016	15
Figure 7: Strict Self-employment counts in NB by Age,1982-2016.....	15
Figure 8: Strict Self-employment rates in NB by Age,1982-2016	16
Figure 9: Self-employment counts of Immigrants in NB,1982-2016	17
Figure 10: Self-employment counts of Non-Immigrants in NB,1982-2016	17
Figure 11: Self-employment rates of Immigrants in NB, 2006-2016	18
Figure 12: Self-employment rates of Non-Immigrants in NB, 2006-2016	18
Figure 13: Self-employment counts in NB by Region,1982-2016	19
Figure 14: Self-employment rates in NB by Region, 2001-2016	20
Figure 15: Strict Self-employment counts in NB by Region,1982-2016.....	20
Figure 16: Strict Self-employment rates in NB by Region, 2001-2016	21
Figure 17: Fisheries & Forestry counts and shares of Self-Employment in NB, 1982-2016.....	22
Figure 18: Fisheries & Forestry counts of Self-Employment in NB by Gender,1982-2016.....	23
Figure 19: Fisheries & Forestry counts of Strict Self-Employment in NB by Gender,1982-2016	23

Figure 20: Fisheries & Forestry counts of Self-Employment in NB by Age,1982-2016	24
Figure 21: Fisheries & Forestry counts of Self-Employment in NB by Region,1982-2016	25
Figure 22: Average Total Income (Real Terms) of Broad Self-employed & Strict self-employed individuals in NB, 1982-2016	26
Figure 23: Average Total Income (Real Terms) of Broad Self-employed individuals in NB by Gender, 1982-2016	26
Figure 24: Average Total Income (Real Terms) of Strict Self-employed individuals in NB by Gender, 1982-2016	27
Figure 25: Average Self-employment Income (Real Terms) of Broad Self-employed & Strict self-employed individuals in NB, 1982-2016.....	28
Figure 26: Average Self-employment Income (Real Terms) of Broad Self-employed individuals in NB by Gender, 1982-2016	28
Figure 27: Average Self-employment Income (Real Terms) of Strict Self-employed individuals in NB by Gender, 1982-2016	29

DEFINITIONS FOR SELF-EMPLOYMENT

- 1. Self-Employed Individual** Any tax filer who reported any self-employment earnings in a year
- 2. Strict Self-Employed Individual** Any tax filer who reported positive self-employment earnings greater than 50% of their total income
- 3. Broad Self-Employment Entrant** A tax filer in NB who reported self-employed earnings in year X but did not report them the previous year (X-1)
- 4. Broad Self-Employment Leaver** A tax filer who did not report self-employed earnings in year X but reported them the previous year (X-1) in NB
- 5. Strict Self-Employment Entrant** Same criteria as Definition 3, but for strict self-employed individuals
- 6. Strict Self-Employment Leaver** Same criteria as Definition 4, but for strict self-employed individuals
- 7. Self-Employed Individual in Fisheries/Forestry** Any tax filer who reported any **net-earnings** in either fisheries or forestry or both
- 8. Strict Self-Employed Individual in Fisheries/Forestry** Any tax filer who reported positive **net-earnings** in either fisheries or forestry, greater than 50% of their total income
- 9. Self-Employment Rate** Percentage of the population (*i.e., number of self-employed individuals*) in a category (*e.g., age group 25-44*) divided by the population in that category and multiplied by 100
- 10. Immigrant** Any tax filer with an indicator for immigration and landing year in the LAD
- 11. Non-Immigrant** Any tax filer without an immigration indicator in the LAD
- 12. Region** For the purposes of this report, Moncton, Saint John, Fredericton, and Other NB Regions (*i.e., the rest of NB*)

EXECUTIVE SUMMARY

INTRODUCTION - The aim of this study is to investigate self-employment trends in New Brunswick over the past three decades – specifically, from 1982 to 2016. Accordingly, this report analyzes the characteristics of self-employed individuals in the province by age, gender, region, and average income.

METHODOLOGY – To estimate self-employment in New Brunswick, this study utilizes the Longitudinal Administrative Databank (LAD): a longitudinal dataset of tax files with information on income and basic demographics for a 20% sample of tax filers in Canada. The report defines self-employment in two primary ways:

- 1) **Broad** – any individual who files self-employment income (including negative) is deemed to be under broad self-employment.
- 2) **Strict** – any individual who files net positive self-employment income greater than 50% of their total income is under strict self-employment.

If an individual reports self-employment earnings in one year but not in the previous year, he/she is considered an “entrant” to self-employment. Likewise, if a tax filer files self-employment income in one year but not in the following year, he/she is considered a “leaver” from self-employment.

REPORT FINDINGS

- Overall, from 1982 to 2016, the number of individuals in broad self-employment has grown, with around 43,000 individuals self-employed in 2016 (7% of the total population aged 15 years and over) as opposed to 31,000 in 1982 (6%).
- However, estimates for strict self-employment show some fluctuation over the years, with an increasing trend until 1998 with 19,335 individuals (3.3%) followed by a declining trajectory in recent years (16,090 individuals, or 2.6%). The average strict self-employment rate over the 1982-2016 study period is approximately 3%.
- More males than females are self-employed under both broad and strict self-employment definitions. However, due to growth in female self-employment (broad and strict) and a gradual decline in male self-employment (broad and strict), the difference has diminished in recent years.
- The age group comprised of individuals 45-64 years old has the highest numbers for broad and strict self-employment. On average, this age group holds the highest broad self-employment rates (10%) and strict self-employment rates (4.5%). This implies that older groups comprise a significant portion of self-employment while participation of younger population has rather remained low and steady, perhaps due to the aging demographic of the province.
- Strict self-employment numbers in the Fredericton, Moncton, and Saint John municipalities have remained steady over the last two decades, following an initial increase. In other regions, strict self-employment numbers have gradually declined.

However, in relation to population changes in respective regions, self-employment rates have remained relatively stable.

- Broad and strict self-employment numbers in the fisheries and forestry sectors have decreased by at least 50% between 1982 and 2016.
- Individuals in broad and strict self-employment have experienced mixed trends in average total income, with broad self-employed individuals earning consistently higher incomes than strict self-employed individuals.
- By definition, average self-employment income from strict self-employment is significantly higher than that of broad self-employment (in which self-employment may be a part-time job), with average incomes of \$28,000 and \$12,000, respectively, in 2016.

INTRODUCTION

This report examines trends in self-employment in New Brunswick from 1982 to 2016. As such, it provides descriptive statistics on the number of self-employed individuals in the province and presents counts and rates of self-employment by gender, age, region, and income.

Estimates for strict definitions of self-employment (i.e., individuals who reported positive self-employment earnings greater than 50% of their total earnings) are also provided. Statistics on individuals self-employed in the fisheries and forestry sectors are presented by broad and strict definition; and statistics are given by age, gender, and region whenever they meet the minimum disclosure requirement of the Research Data Centre (RDC).

In addition to various descriptive statistics, we focus on average total income and self-employment income of both broad and strict definitions – in general and broken down by gender.

DATA & METHODOLOGY

The data used in this study were obtained from the Longitudinal Administrative Databank (LAD) accessible at the New Brunswick RDC. The LAD is a longitudinal dataset containing information on income and demographics for a 20% sample of the annual T1 Family File (T1FF): a yearly cross-sectional file of all Canadian tax filers and their families.

The LAD includes tax files for all years of a selected individual. At the time of the study, the dataset ranged from 1982 until 2016. If individuals did not file tax in certain years, they are missing from the LAD for those years. Because the LAD only contains information on tax filers aged 15 years and older, the **total population** referred to in this report includes only those aged 15 years and older.

The LAD also contains the Longitudinal Immigration Database (IMDB): a database containing information on key characteristics (e.g., immigration status, landing year) of immigrants who landed in Canada between 1980 and 2016.

To identify self-employed individuals in the LAD, we used two definitions of self-employment: broad and strict. On the one hand, if a tax filer reports *any self-employment earnings* (including negative earnings), that individual is defined as self-employed in a “broad” sense. On the other hand, if a tax filer reports positive self-employment earnings greater than 50% of his/her total earnings, that individual is identified as self-employed in a “strict” sense. For example, a university professor who earns most of her income from her university salary but completes one small consulting contract in the year would be counted as self-employed in the first definition (broad), but not in the second (strict).

In addition to annual counts of self-employment, we also provide information on entrants and leavers to self-employment – both broad and strict. Individuals who reported self-employment earnings in a given year but did not in the previous year are defined as “entrants” to self-employment in the given year. Similarly, self-employment “leavers” are tax filers who meet the definition of self-employment in a previous year but do not in the given year. An individual could

appear as an entrant and/or leaver in multiple years in the database. An individual can also switch from broad to strict definitions of self-employment from year to year, and vice versa.

In this report, we provide self-employment estimates for individuals in New Brunswick, including classifications according to age and gender. Along with numbers of individuals who are self-employed in different age groups¹ and genders, self-employment rates for each group are also provided. Using publicly available population counts from Statistics Canada,² self-employment rates are calculated by dividing self-employment counts in each group by the total population in the respective groups. For example, dividing the number of females in broad self-employment with the female population in the same year would result in the female self-employment rates (broad) for that year.

This study further estimates self-employment in the fisheries and forestry sectors in the province. Because the T1FF file consists of separate sections for these sectors, it is possible to focus on them – unlike other industries in self-employment, which are not indicated in the dataset. An individual is considered self-employed in the fisheries or forestry sectors if he/she reports any net earnings in either or both sectors. Similarly, anyone reporting positive net earnings in these sectors (i.e., more than 50% of their total earnings) is considered self-employed under the strict definition.

Descriptive statistics according to region are broken down into four areas: Fredericton, Moncton, Saint John, and Other NB Regions.

Individuals who landed as immigrants, regardless of their current status (e.g., naturalized citizen), are flagged as immigrants in the LAD.

Due to the disclosure requirements of the RDC, all counts are rounded to the nearest five. Average total income and average self-employment income figures are rounded to the nearest \$100 if the amount is over \$1,000 and are rounded to the nearest \$10 if the amount is less than \$1,000. Additionally, all nominal income values are adjusted for inflation using the Consumer Price Index (Base Year = 2002). Thus, all average total and self-employment income figures are expressed in real dollar values.

Limitations

The LAD dataset only indicates if an individual is self-employed or not, along with the reported income from self-employment. Even though the occupation and the industry of an individual are reported in the dataset, these are collected from T4 slips, which are submitted by an employer. Thus, these are not indicators for a self-employed individual, and it is not possible to disaggregate self-employment by various occupations and distinguish between 'gig workers' and such. However, sectors such as fisheries and forestry are separately indicated in the annual T1 Family File; hence, it is possible to separate these industries and estimate their share in the self-employment in New Brunswick.

Additionally, apart from demographic indicators such as age, sex, and region of residence, the dataset does not include other relevant information to self-employment such as individual

¹ Namely, under 24, 25-44, 45-64, and 65 & over.

² Specifically, *Labour force characteristics by sex and detailed age group, annual*. (See References for full citation.)

education and experience. Therefore, the disaggregation of self-employment estimates is limited to demographic indicators.

DESCRIPTIVE STATISTICS

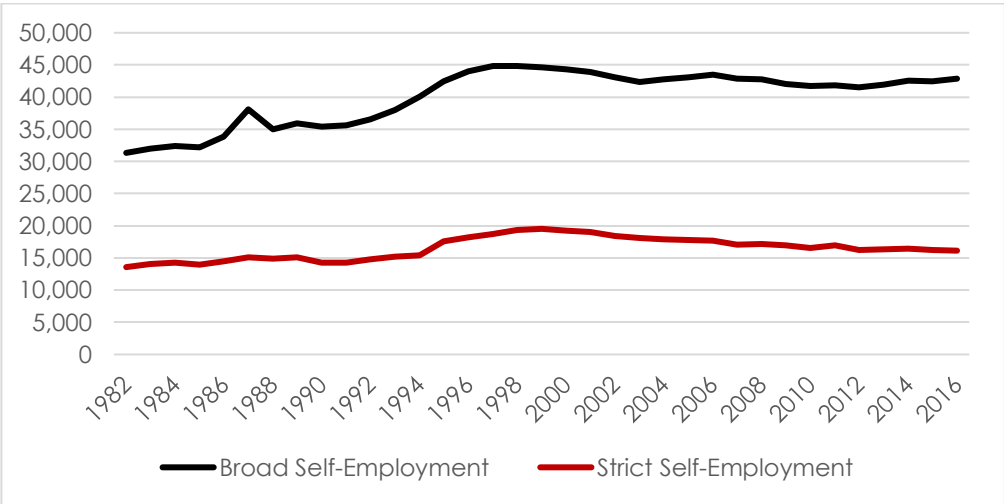
Self-Employment in NB

The introduction and methodology above outline two definitions of self-employment: broad and strict. Counts of self-employed individuals in these two categories are shown in Figure 1 below. There, we see that the number of individuals who reported any self-employment earnings has been increasing over the last three decades. From 1982 to 2016, the number of broad self-employed individuals in New Brunswick has grown from over 31,000 in 1982 (6% of the population)³ to close to 43,000 (7% of the population).

An increasing trend can be observed until 1987, followed by a decline until 1991, and then a steady rise to about 45,000 in 1997. Since then, the trajectory has declined slightly, though the number has more recently lingered around 43,000. On average, self-employment rates from 1982 to 2016 have been approximately 7% (Figure 2).

By definition, the number of strict self-employed individuals is much lower than the number of those self-employed in a broad sense. Figure 1 shows that the number of individuals meeting the strict definition gradually increased from around 13,500 in 1982 to 19,000 in 2001. The pattern reversed in 2002, with a general decline reaching approximately 16,000 in 2016. However, despite the change in numbers, the self-employment rates under the strict definition have not changed much, with an average annual rate of nearly 3% (Figure 2).

Figure 1: Self-employment & Strict Self-employment counts in NB, 1982-2016



Source: Longitudinal Administrative Databank

³ As discussed in the Methodology, the population examined in this report is comprised of tax filers aged 15 years and older.

Figure 2: Self-employment & Strict Self-employment rates in NB, 1982-2016



Source: Longitudinal Administrative Databank, Table 14-10-0327-01 (Statistics Canada)

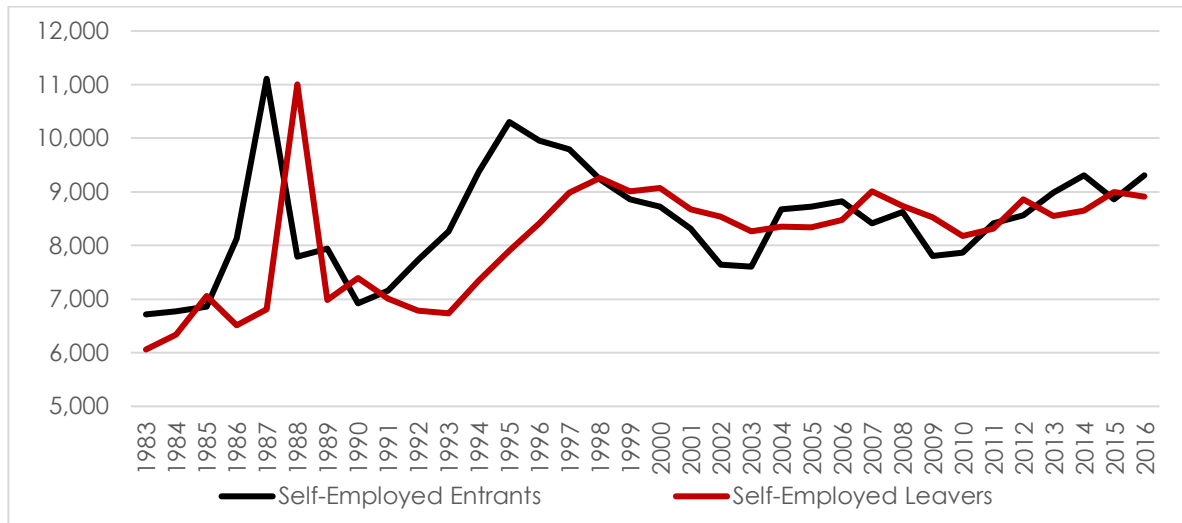
Figure 3 depicts trends of entries to and exits from self-employment in the province. Since the definitions of entrants and leavers are based on self-employment status in previous years, the estimates for both categories begin in 1983 instead of 1982.⁴ The numbers of entrants and leavers appear similar from year to year, with the number of entrants being slightly higher in most cases. The number of entrants to self-employment experienced a peak in 1987, followed by a significant drop in 1988.

The large spike in entrants in 1987 and leavers in 1988 could be an effect of a federal tax reform bill (Bill C-139) passed in 1987. Bill C-139 broadened the tax base for both personal and corporate income, which could have resulted in more individuals meeting the broad definition of self-employment. However, it is not clear why the bill would only cause a spike in one year and not result in increasing trends for both entries and exits in following years.

In general, the number of entrants fluctuated from year to year, reaching close to its peak in 1995. The number of leavers reached its highest level in 1988 (one year after the highest number of entrants), with trends similar to those of entrants.

⁴ Because estimations of entrants and leavers for 1982 requires data from 1981 (which is unavailable), we are unable to provide estimates for 1982.

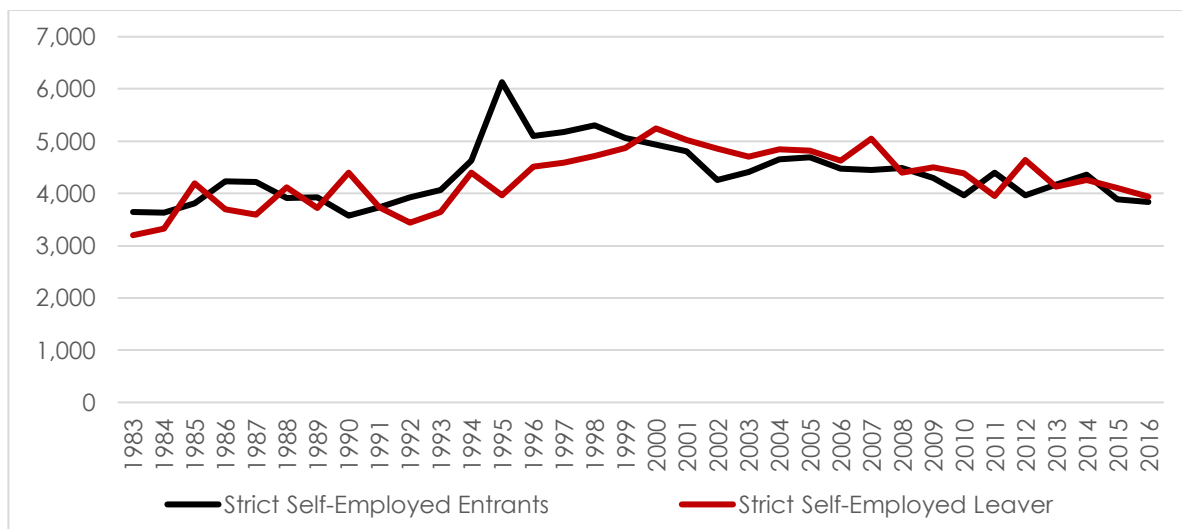
Figure 3: Self-employment entrants & leavers in NB, 1983-2016



Source: Longitudinal Administrative Databank

In Figure 4, we see that the numbers of strict self-employment entrants and leavers are comparatively less than those under the broad definition. The trends and fluctuations for strict entrants and leavers are similar to those under the broad definition, apart from a noticeable difference between strict entrants and strict leavers in 1995, when we see almost twice as many entrants as leavers. A tax law that changed the reported fiscal year could have caused these spikes in strict leavers in 1994 and strict entries in 1995. The change resulted in many self-employed individuals reporting less than 12 months of self-employment income, as many individuals could not meet the definition of strict self-employment in 1994. However, in the following year, many individuals reported self-employment income from more than 12 months, making it easier to be included under the strict definition in 1995.

Figure 4: Strict Self-employment entrants & leavers in NB, 1983-2016

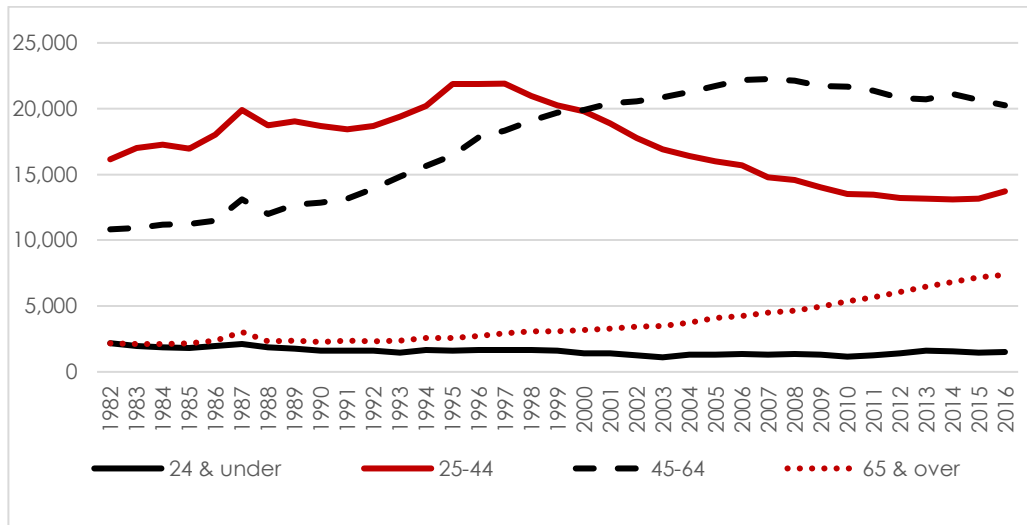


Source: Longitudinal Administrative Databank

Self-Employment by Age and Gender

Disaggregating self-employment into various age groups (Figure 5) reveals that the youngest age group (under 24) consistently had the lowest count of self-employed individuals in the broad category. The 25-44 age group had the highest count in early years and showed an increasing trend until around 1996, after which numbers started to decline. Meanwhile, the numbers for the 45-64 age group have continued to increase and eventually included the highest counts for broad self-employment by a significant margin. Even though seniors (65+) have the second lowest count, this group has nonetheless been experiencing growth.

Figure 5: Self-employment counts in NB by Age, 1982-2016

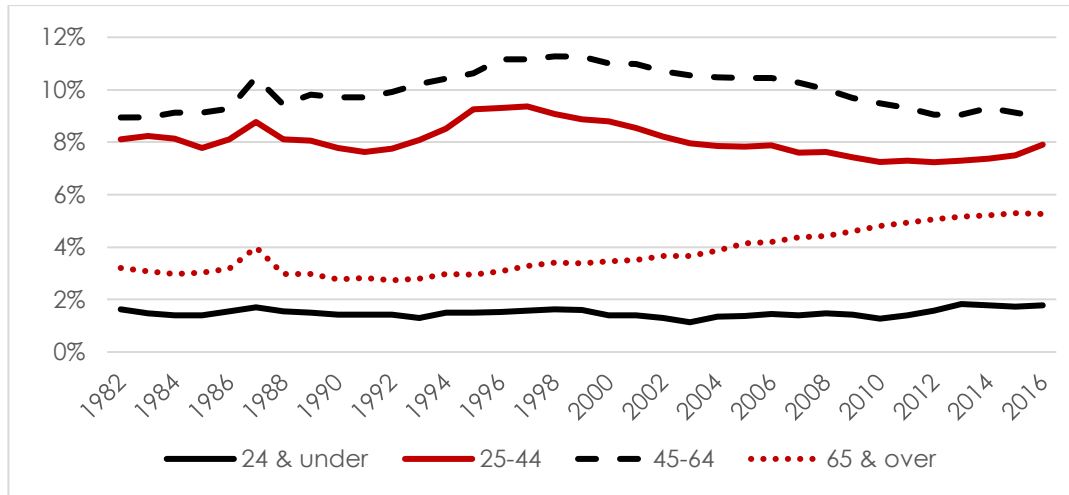


Source: Longitudinal Administrative Databank

It should be noted that the Under 24 age group consists of individuals between 15 and 24 years old – a smaller age bracket than the other groups. Therefore, expressing self-employment rates as a ratio of the population of different age groups could provide an analysis more conducive to comparison between different age groups.

The broad self-employment rates for those 24 and under have remained consistently low, with an average of 1.5% (Figure 6). On the contrary, the average self-employment rate (broad) for the 45-64 age group is 10% – the highest among all the age categories. In the 65+ group, the average self-employment rate is 3.7%, and this rate has been gradually increasing for the last 20 years.

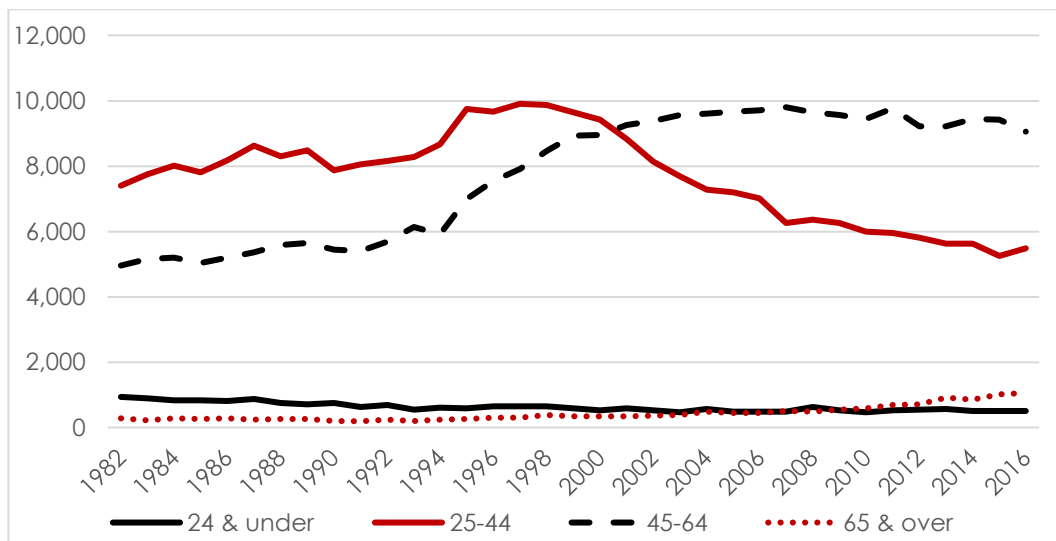
Figure 6: Self-employment rates in NB by Age, 1982-2016



Source: Longitudinal Administrative Databank, Table 14-10-0327-01 (Statistics Canada)

Figure 7 shows that even though absolute counts for strict self-employment (disaggregated by age) are smaller than for the broad definition, the trends in each are almost identical (compare Figures 5 and 7). A notable difference is that the gap between the youngest and senior age groups is much smaller in the strict definition of self-employment.

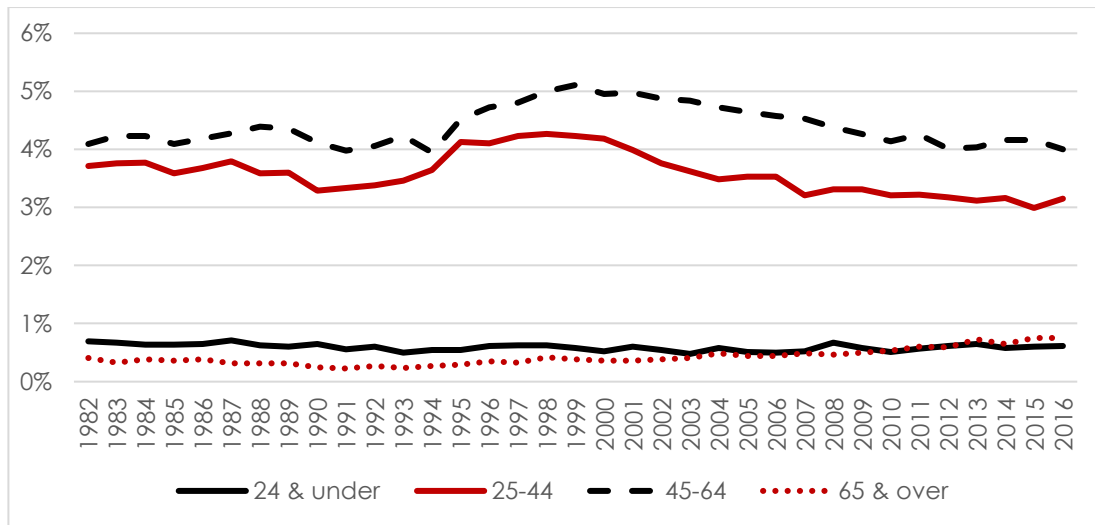
Figure 7: Strict Self-employment counts in NB by Age, 1982-2016



Source: Longitudinal Administrative Databank

The annual self-employment rate for individuals under age 24 is 0.6% on average (Figure 8), compared to a rate of 0.4% for seniors (65+). It is likely that the total income of many seniors is mostly comprised government and age-related transfers or incomes (e.g. CPP, private investments, pensions); thus, they are less likely to meet the strict definition of self-employment. On the other hand, the highest strict self-employment rate is in the 45-64 age category, at an average of 4.5%, followed by 3.6% for individuals aged 25-44.

Figure 8: Strict Self-employment rates in NB by Age, 1982-2016



Source: Longitudinal Administrative Databank, Table 14-10-0327-01 (Statistics Canada)

Self-employment observations by gender reveal that more males are self-employed than females in both broad and strict definitions. The broad self-employment numbers in Table 1 (Appendix) show that the number of males is constantly higher than that of females. However, over the years, the disparity between two has been significantly reduced.

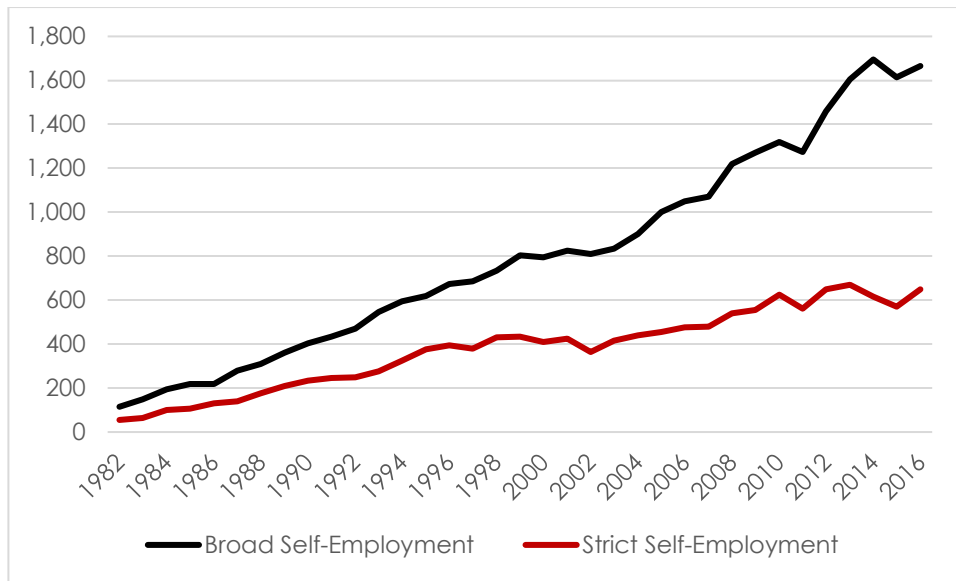
The number of (broad) self-employed males dropped from over 25,000 in 1982 to just over 23,000 in 2016. Meanwhile, the number of (broad) self-employed females increased from around 6,000 in 1982 to over 19,500 in 2016. Self-employment rates followed similar trends, as the male self-employment rate dropped from 10% in 1982 to around 7.5% in 2016 (Appendix, Table 1). In 1982, the female self-employment rate stood at just over 2.3%, and by 2016 it reached over 6%.

The difference between strict self-employment for males and females has also declined, as shown in Table 2. The number of self-employed females in 2016 was approximately 7,500, compared to 8,700 males. On average, nearly 2% of females were self-employed under the strict definition, while the average rate for males was over 3.5% (Appendix, Table 2).

Self-Employment by Immigration

The number of immigrants self-employed under the broad definition has been following a general upward trajectory. In 2016, the number of self-employed immigrants was over 1,600, compared to only low hundreds in earlier years (Figure 9). Strict self-employment has also been rising among immigrants over the past three decades, increasing by more than 10-fold between 1982 and 2016.

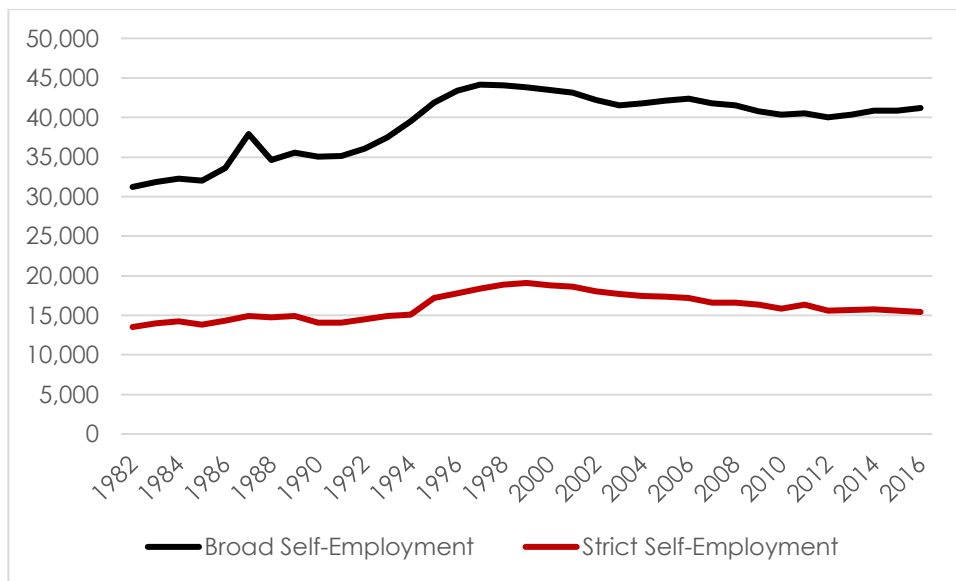
Figure 9: Self-employment counts of Immigrants in NB, 1982-2016



Source: Longitudinal Administrative Databank

In general, the majority of the self-employed population in the province consists of non-immigrants, with around 97% of (broad and strict) self-employed individuals being non-immigrants (Figure 10). Although there has been some fluctuation, the number of self-employed non-immigrants in both definitions has remained fairly steady.

Figure 10: Self-employment counts of Non-Immigrants in NB, 1982-2016



Source: Longitudinal Administrative Databank

Figure 11 illustrates self-employment rates among immigrants between 2006 and 2016. Broad self-employment rates among immigrants have generally remained between 5% to 6%. Similarly, strict self-employment rates have generally been steady over the last decade. This indicates that

the increasing self-employment of immigrants in New Brunswick is due to higher number of immigrants in the province, as self-employment rates under both definitions have been steady.

Figure 11: Self-employment rates of Immigrants in NB, 2006-2016



Source: Longitudinal Administrative Databank, Table 14-10-0083-01 (Statistics Canada)

Broad self-employment rates among non-immigrants remained stable at approximately 7% between 2006 and 2016 (Figure 12). Meanwhile, self-employment rates for the strict category have maintained a relatively steady trend of just under 3%.

Figure 12: Self-employment rates of Non-Immigrants in NB, 2006-2016



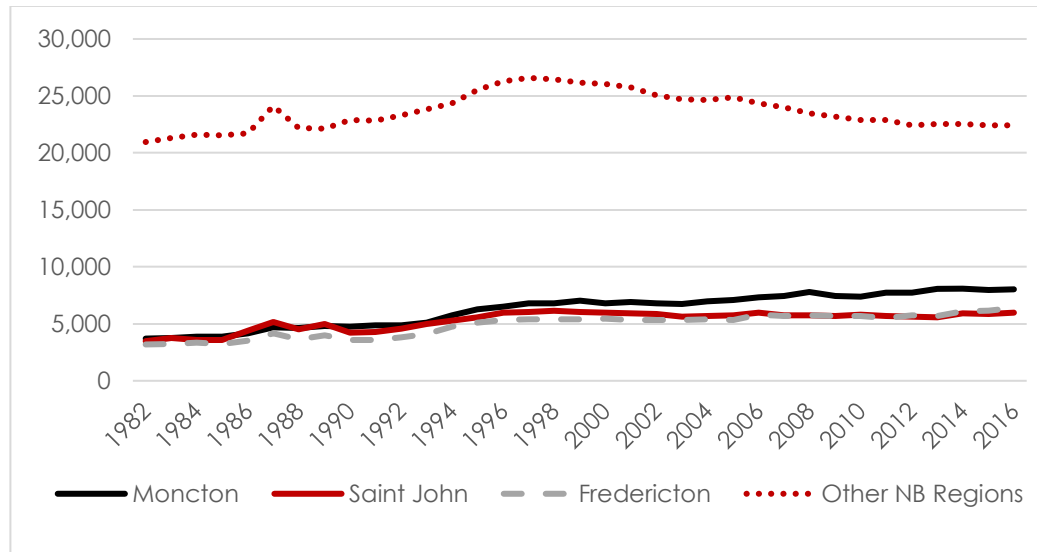
Source: Longitudinal Administrative Databank, Table 14-10-0083-01 (Statistics Canada)

Self-Employment by Region

The distribution of self-employment by region in Figure 13 demonstrates that the three largest CMA/CAs in the province (Moncton, Saint John, and Fredericton) have similar trends in self-employment counts over time.

Moncton has the highest number of self-employed individuals among the municipalities, and this number has increased the most over the study period. However, all three municipalities combined have fewer self-employed individuals than the rest of the province. The Other NB Regions outside these cities contained close to 70% of all self-employed individuals in the early years of the study period. However, in more recent years, that share dropped to approximately 52%. Even though self-employment numbers in the three municipalities have risen in recent years, they still account for less than half (48%) of self-employment in the province.

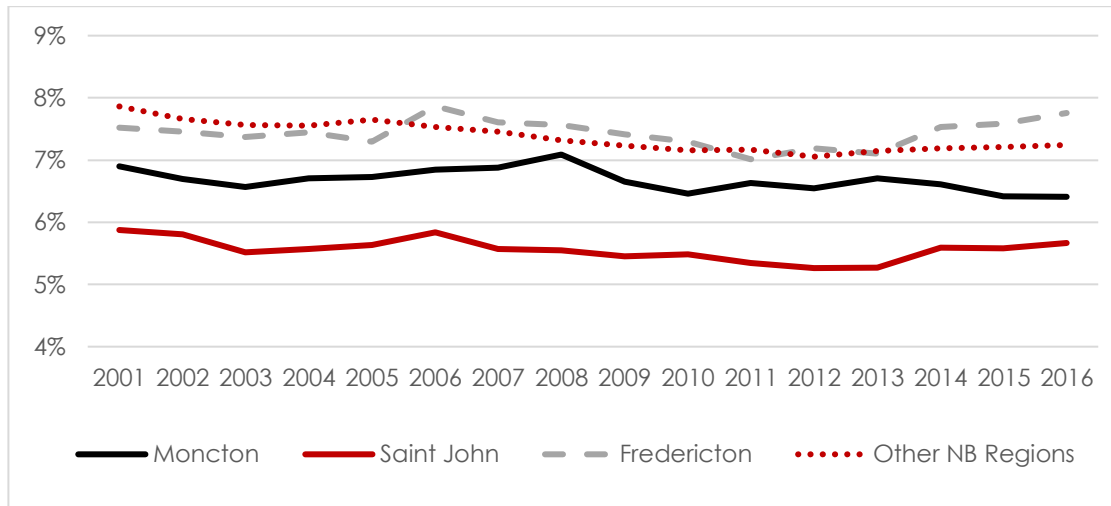
Figure 13: Self-employment counts in NB by Region, 1982-2016



Source: Longitudinal Administrative Databank

The decline in self-employment numbers in Other NB Regions could be attributed to changing population trends in the province, as more people could be moving to the three municipalities from these regions. Figure 14 indicates there have been no large changes in broad self-employment rates between the examined regions between 2001 and 2016. The rate in Other NB Regions fell by less than 1 percentage point in 2016 (~8%) as compared to 2001 (7.2%).

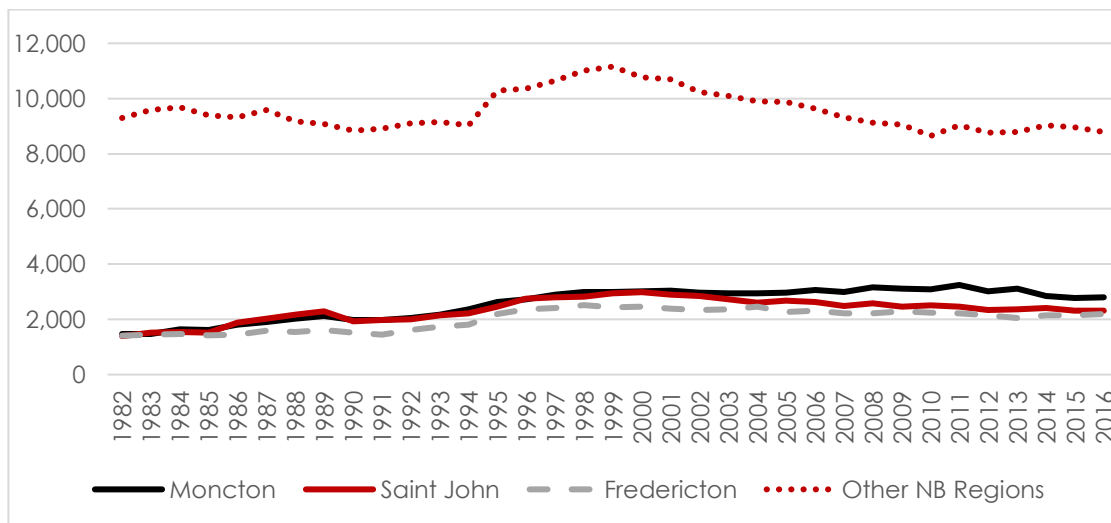
Figure 14: Self-employment rates in NB by Region, 2001-2016



Source: Longitudinal Administrative Databank, Tables: 14-10-0327-01, 14-10-0096-01, 14-10-0102-01 (Statistics Canada)

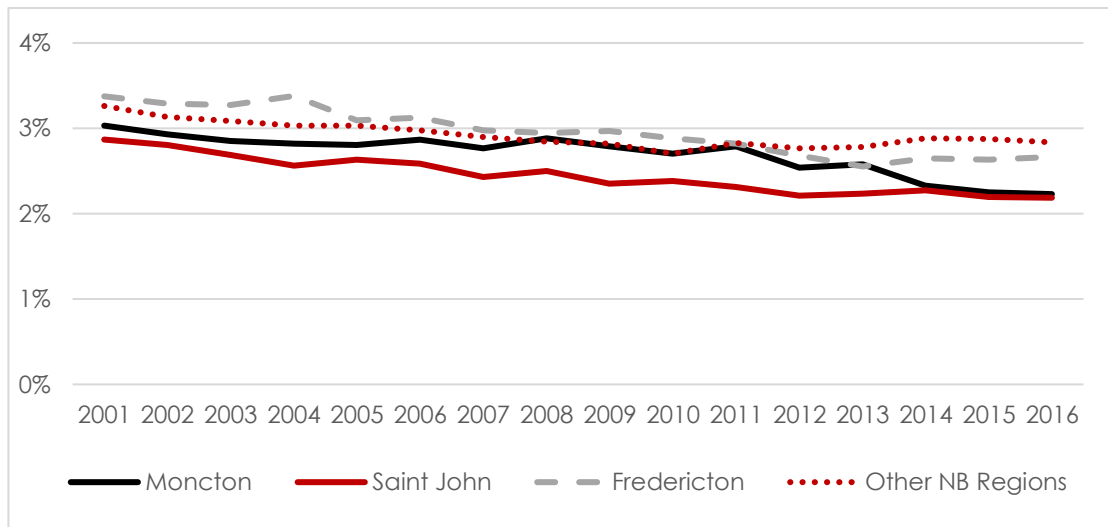
In the case of strict self-employment, Figure 15 shows that the three largest cities have nearly parallel trends. All three cities experienced gradual increases in self-employment numbers until 1998, after which their trajectories somewhat flattened. Meanwhile, in Other NB Regions, the number of strict self-employed individuals started declining around the year 2000. However, in terms of strict self-employment rates, Figure 16 reveals that all four regions experienced slight declines over the years, and any shift in strict self-employment counts could be due to population shifts between regions.

Figure 15: Strict Self-employment counts in NB by Region, 1982-2016



Source: Longitudinal Administrative Databank

Figure 16: Strict Self-employment rates in NB by Region, 2001-2016



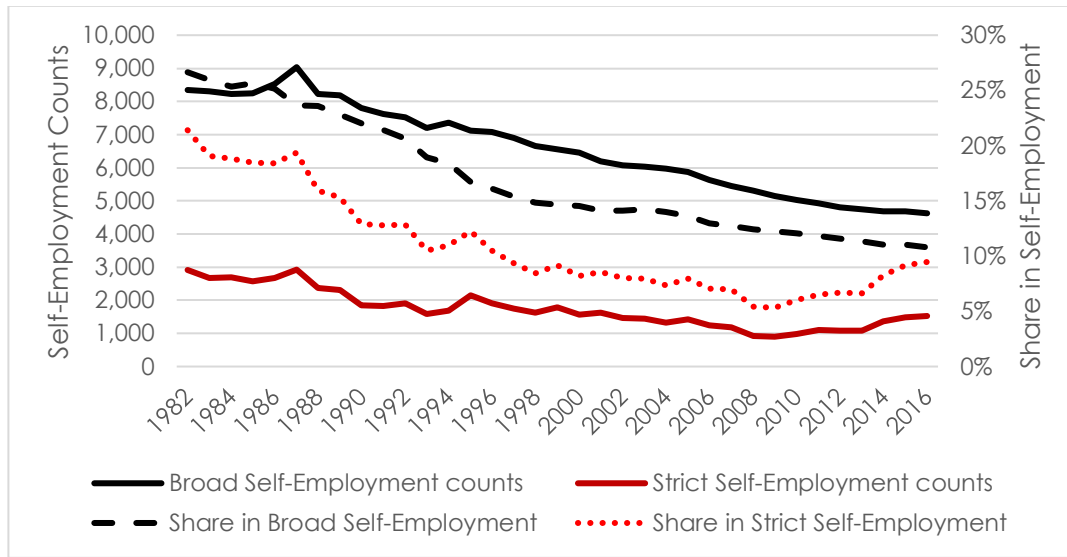
Source: Longitudinal Administrative Databank, Tables: 14-10-0327-01, 14-10-0096-01, 14-10-0102-01 (Statistics Canada)

Self-Employment in the Fisheries and Forestry Sectors

Estimates for the fisheries and forestry sectors show that broad and strict self-employment have been continuously declining in the province (Figure 17). From 1982 to 2016, the number of both broad and strict self-employed individuals decreased by nearly half in each of the respective sectors. Figure 17 depicts both counts and shares of the fisheries and forestry sectors in total self-employment, which also declined over the years. In 2016, around 11% of broad self-employed individuals were involved in the fisheries and forestry sectors – a significant fall from approximately 25% in earlier periods. Similarly, the sectors' share in strict self-employment went from constituting almost 20% of total strict self-employment in the province until 1985 to falling below 10% by 1996.

The overall decline in these sectors could be attributed to individuals shifting to other industries or small firms in fisheries and forestry sectors being bought by large businesses.

Figure 17: Fisheries & Forestry counts and shares of Self-Employment in NB, 1982-2016

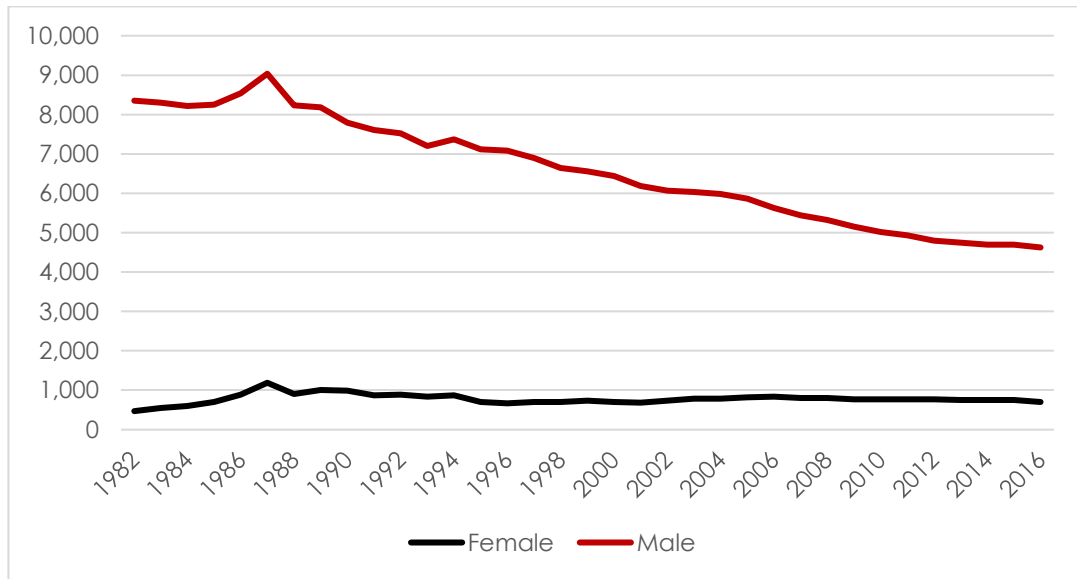


Source: Longitudinal Administrative Databank

Similar to (broad) self-employment counts by gender, the number of males in the fisheries and forestry sectors has considerably declined. By 2016, the number of males in broad self-employment in these sectors had fallen from approximately 8,000 in 1982 to below 4,000 – a decline of nearly 50% (see Figure 18).

On the contrary, absolute counts for females experienced few fluctuations, reaching their peak (approx. 1,200) in 1987 and then slowly falling but nonetheless maintaining higher counts relative to early years. However, in terms of the share of total female self-employment, the fisheries and forestry sectors experienced decline. In 2016, just over 700 females were self-employed in fisheries and forestry, which accounts for less than 4% of total female self-employment and, likewise, less than the 1982 rate (8%).

Figure 18: Fisheries & Forestry counts of Self-Employment in NB by Gender, 1982-2016

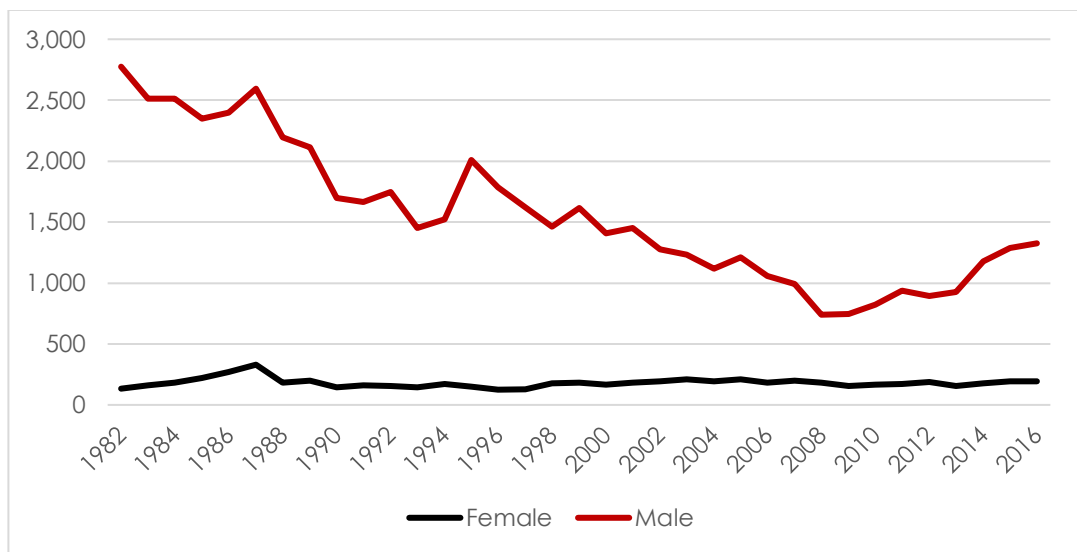


Source: Longitudinal Administrative Databank

Strict self-employment in the fisheries and forestry sectors by gender (Figure 19) follows a similar path. The number of males self-employed in the fisheries and forestry sectors has seen a notable decline over the years, as well as a drop in the ratio between these sectors and total strict self-employment. There were just over 1,300 males in these sectors in 2016, compared to approximately 2,780 in 1982 – and a drop in the ratio from 26% in 1982 to 15% in 2016.

Female strict self-employment in these sectors has remained somewhat steady over the investigated periods. However, since overall counts of female strict self-employment increased, the share of females in the fisheries forestry sectors has declined.

Figure 19: Fisheries & Forestry counts of Strict Self-Employment in NB by Gender, 1982-2016

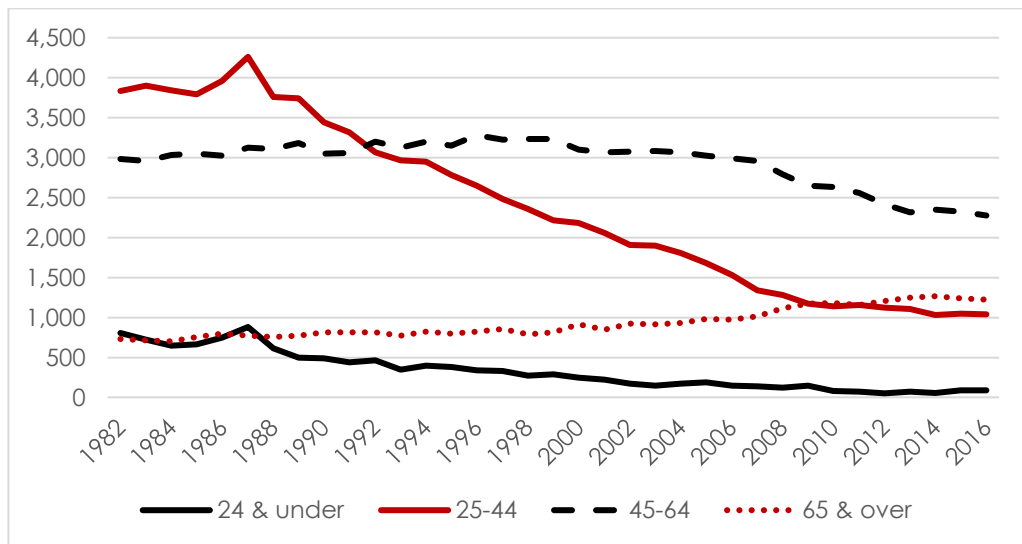


Source: Longitudinal Administrative Databank

Figure 20 presents an analysis of various age groups in the fisheries and forestry sectors. It can be seen that youngest age group (under 24) has the lowest number of individuals self-employed in these sectors. In fact, the number dropped below 100 in 2010 and never reached triple digits again in the following six years. Only around 5% of the youngest population in self-employment is in the fisheries and forestry sectors. On the other hand, a growing number of seniors (aged 65+) is becoming involved in fisheries and forestry. However, only 17% of all self-employed seniors were working in these sectors in 2016, as opposed to 34% in 1982. The biggest decline in terms of numbers was seen in the 25-44 age group. Initially, this group had the highest number of self-employment in the two sectors; yet, in 2016 there were just over 1,000 individuals compared to 3,800 in 1982 – which is more than a 70% drop over three decades.

Provided overall self-employment among the younger population in the province is declining, it is very likely that the falling participation of younger age groups in these sectors is driven by demographic change in the province.

Figure 20: Fisheries & Forestry counts of Self-Employment in NB by Age, 1982-2016

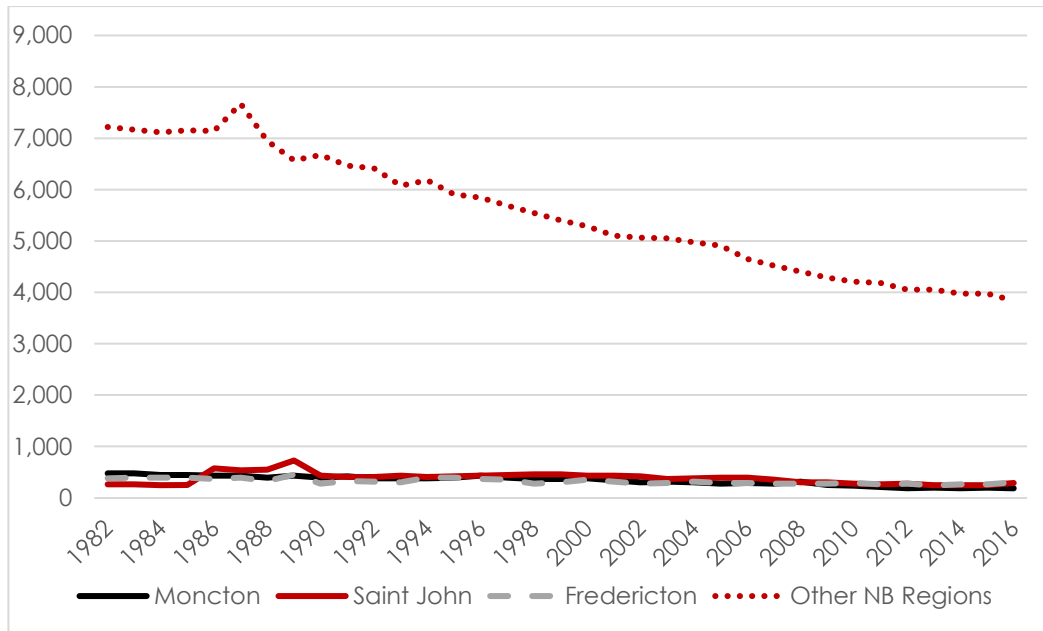


Source: Longitudinal Administrative Databank

Disaggregation by region in Figure 21 shows that (broad) self-employment in the fisheries and forestry sectors experienced a significant decline in Other NB Regions. Of all the self-employed individuals in Other NB Regions, approximately one-third were in fisheries and forestry between 1982-1990. However, in more recent years, these sectors accounted for only 17% (approximately 3,800 persons) of self-employment in these regions. The three municipalities also experienced a downward trend in absolute numbers of self-employment in the fisheries forestry sectors.

The Other NB Regions are experiencing a change in demographics, with more individuals (especially the younger population) moving to urban regions. This factor could also contribute to the decline of self-employment in the fisheries and forestry sectors in Other NB Regions.

Figure 21: Fisheries & Forestry counts of Self-Employment in NB by Region, 1982-2016



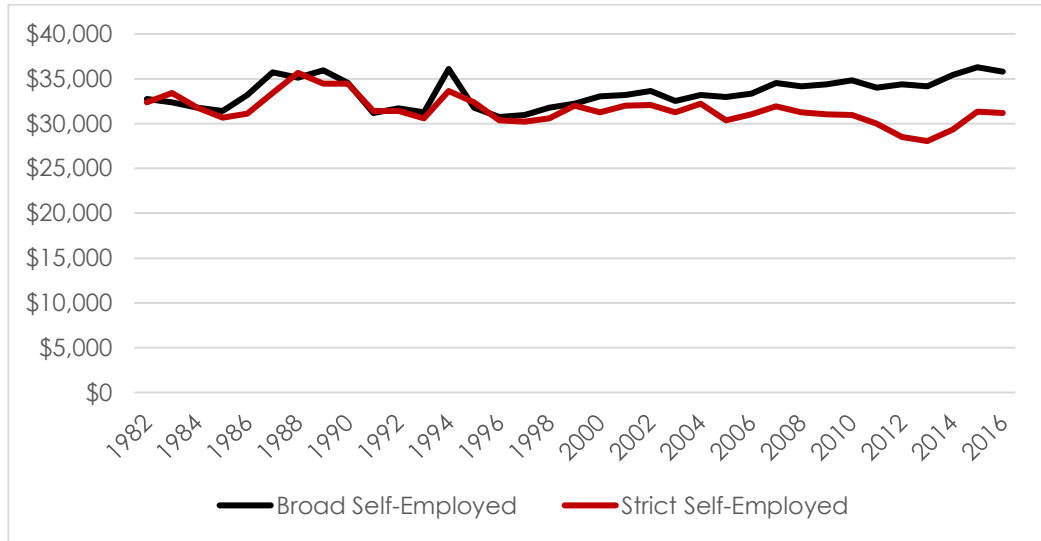
Source: Longitudinal Administrative Databank

Average Income

All income figures in this section are expressed in real terms (i.e., the nominal dollar values have been adjusted for inflation). Figure 22 compares the annual total average income of broad and strict self-employed individuals. Results show that over the years both definitions exhibited fluctuating trends. However, especially since 2005, the difference in mean total income from broad and strict self-employment has widened.

Total income from broad self-employment has shown few fluctuations, with an average of over \$33,400. Meanwhile, total income from strict self-employment has exhibited an average of just over \$31,500 during the study period. In recent years, the difference in average total income between the two groups has been around \$4,000, indicating that individuals who are solely self-employed or generate most of their income from self-employment (i.e., strict self-employment) earn less than those involved in other employment activities (i.e., broad self-employment).

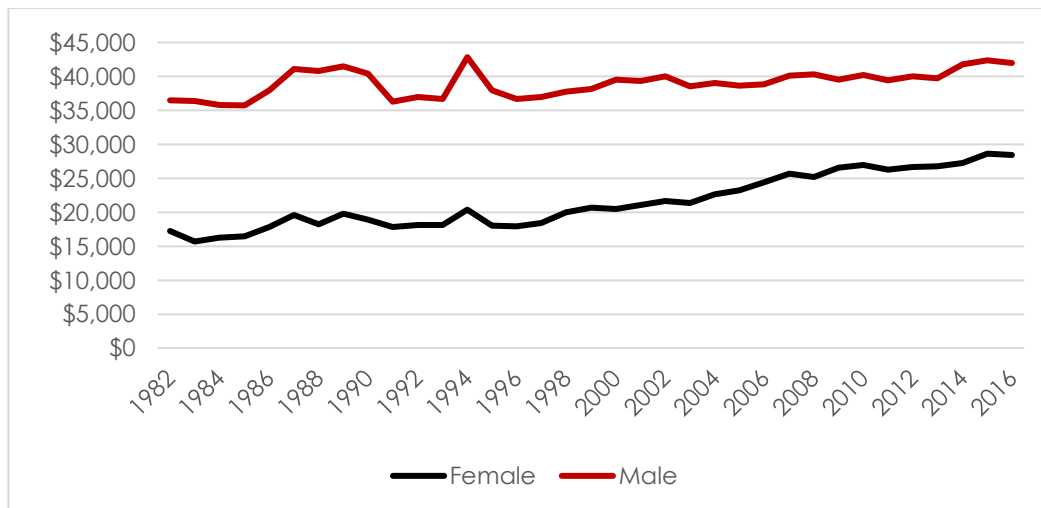
Figure 22: Average Total Income (Real Terms) of Broad Self-employed & Strict self-employed individuals in NB, 1982-2016



Source: Longitudinal Administrative Databank, Table 18-10-0005-01 (Statistics Canada)

Females involved in broad self-employment experienced increases in average annual total income. The real dollar values in Figure 23 show that female average income increased from mean total earnings of around \$17,300 in 1982 to close to \$28,400 by 2016. Even though male average total income fluctuated over the years, the average total male income in 2016 (approximately \$42,000) still shows an increase from \$36,500 in 1982. Along with a gradual decline in the difference between the self-employment numbers of male and females, the disparity in income has also declined. In fact, in 1982 the difference between the two average total incomes was over \$19,000; meanwhile, from 2009 until 2016, the gap between the average total earnings of the two groups narrowed and remained around \$13,500.

Figure 23: Average Total Income (Real Terms) of Broad Self-employed individuals in NB by Gender, 1982-2016

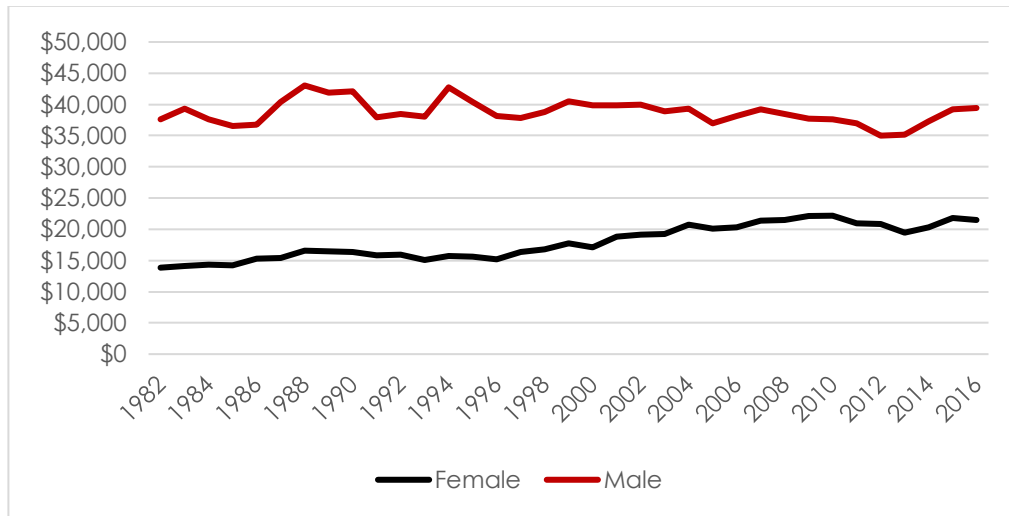


Source: Longitudinal Administrative Databank, Table 18-10-0005-01 (Statistics Canada)

In general, strict self-employed females exhibited increases in average annual total earnings (Figure 24). From under \$14,000 in 1982 to approximately \$21,500 in 2016, female average total income has increased by 55%.

On the other hand, males in strict self-employment experienced fluctuating trends, with an overall increase in average total income of 5% from 1982 to 2016. Similar to broad self-employment, the gap between average total earnings between females and males in strict self-employment has contracted over the years.

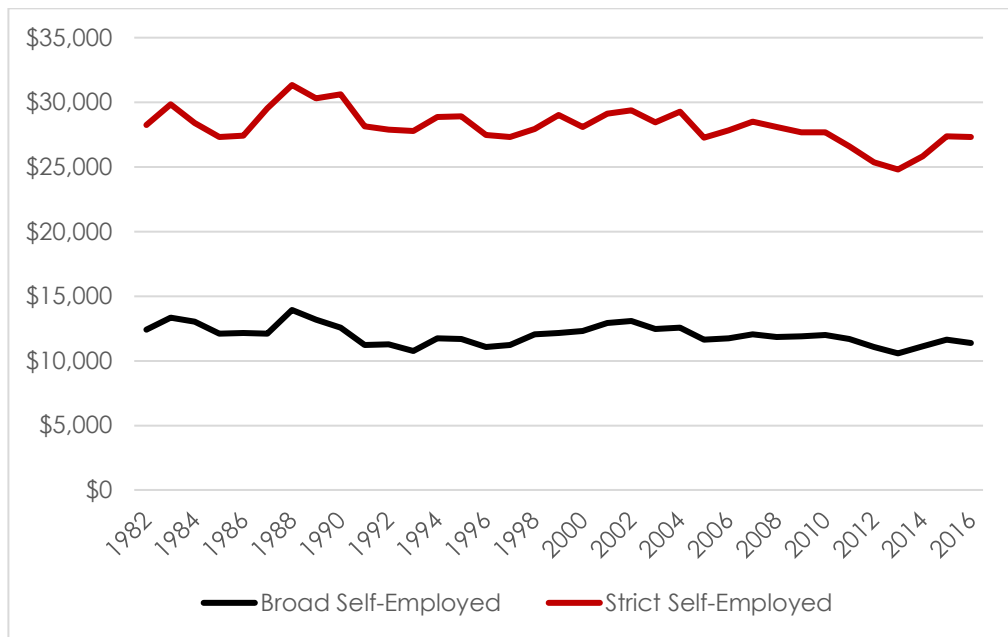
Figure 24: Average Total Income (Real Terms) of Strict Self-employed individuals in NB by Gender, 1982-2016



Source: Longitudinal Administrative Databank, Table 18-10-0005-01 (Statistics Canada)

In Figure 25, we also investigate average self-employment incomes over the study period. As expected, individuals who are self-employed under the strict definition earn higher self-employment incomes than those under the broad definition. Both groups exhibit mixed trends in average income from self-employment. Under the broad definition, average self-employment income remained around \$12,000, which is notably lower than average income around the range of \$28,000 for those under strict self-employment.

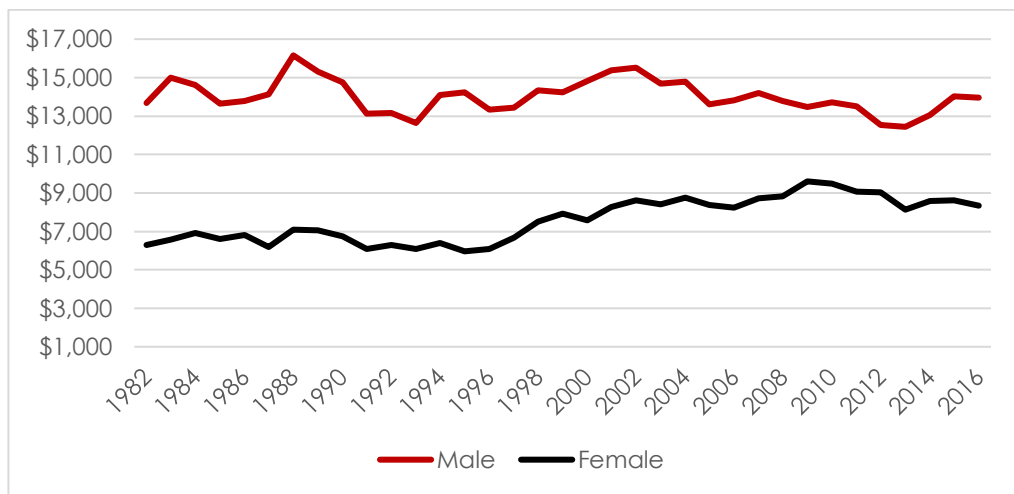
Figure 25: Average Self-employment Income (Real Terms) of Broad Self-employed & Strict self-employed individuals in NB, 1982-2016



Source: Longitudinal Administrative Databank, Table 18-10-0005-01 (Statistics Canada)

Figure 26 breaks down average self-employment income by gender. The average self-employment income for females in broad self-employment increased by more than 32% between 1982 (\$6,300) and 2016 (\$8,300). On the contrary, males under the broad definition of self-employment experienced varying trends over the years. From 1982 to 2016, the difference between male and female broad self-employment earnings has been gradually declining, with a 24% drop between 1982 (\$7,400) and 2016 (\$5,600).

Figure 26: Average Self-employment Income (Real Terms) of Broad Self-employed individuals in NB by Gender, 1982-2016

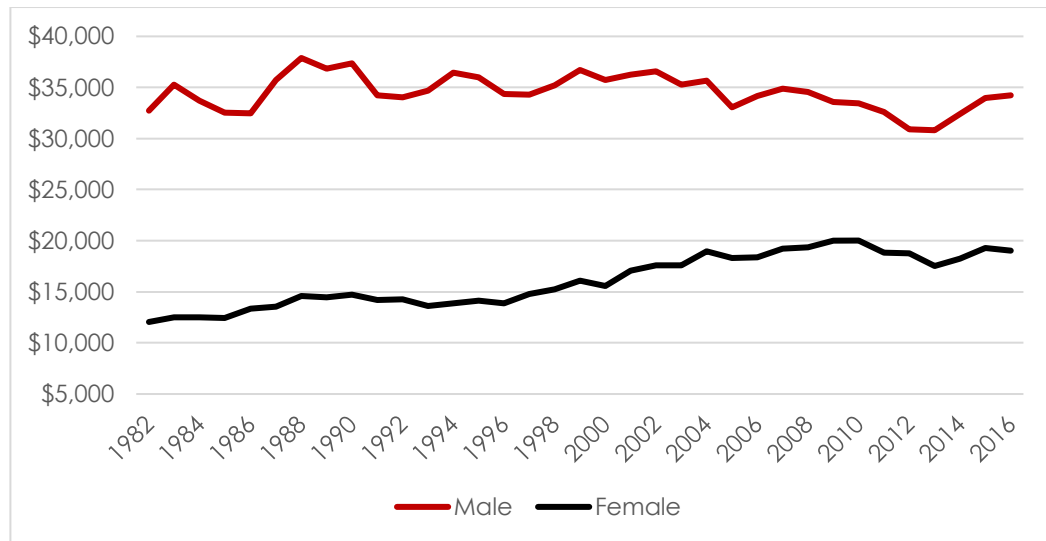


Source: Longitudinal Administrative Databank, Table 18-10-0005-01 (Statistics Canada)

Similar to broad self-employment, an examination of average strict self-employment incomes according to gender reveals a gradual, upward trajectory for self-employed females (Figure 27).

From \$12,000 in 1982 to \$19,000 in 2016, the real average income from strict self-employment for females has risen by around 58%. The average self-employment income for males in 2016 stood at over \$34,200, which is around \$15,200 higher than female income in the same year. However, the relative income of male to female has fallen by 27% – from an income disparity of \$20,700 in 1982 to \$15,200 in 2016.

Figure 27: Average Self-employment Income (Real Terms) of Strict Self-employed individuals in NB by Gender, 1982-2016



Source: Longitudinal Administrative Databank, Table 18-10-0005-01 (Statistics Canada)

CONCLUSION

Our results indicate that the number of individuals involved in the broad definition of self-employment in the province is growing. The number in the strict definition of self-employment has also grown, but with some fluctuations. However, self-employment rates for the population aged 15 years and over remained steady for both broad and strict definitions of self-employment.

Results from different age groups indicate that perhaps self-employment is shifting toward older groups. For instance, the older population in the province is increasingly taking part in self-employment, while self-employment participation by the younger population has remained rather steady and low.

Declining counts in self-employment numbers in various regions in the province could suggest that broad and strict self-employment in regions outside the three largest municipalities (Moncton, Saint John, and Fredericton) is shrinking. However, while absolute counts are declining outside the municipalities, self-employment rates in Other NB Regions are stable. This indicates that a population shift to urban areas from these regions could be a contributing factor in the declining numbers of self-employment.

When our results are broken down by gender, they indicate the growing involvement of females in broad and strict self-employment. If the same trajectory continues, it is likely that the gender

distribution of self-employment could be much narrower in a few years. Likewise, differences between average total self-employment incomes for females and males have been gradually declining.

New Brunswick has experienced a gradual decline in both broad and strict self-employment in the fisheries and forestry sectors – in terms of absolute counts and share of total self-employment. The trend of shifting away from these sectors is apparent in observations by age, gender, and region. The change in self-employment in these sectors could possibly be due to individuals choosing other industries, or it might be due to large businesses acquiring small firms in fisheries and forestry sectors.

REFERENCES

Statistics Canada. (2020). *Table 18-10-0005-01 Consumer Price Index, annual average, not seasonally adjusted*. Retrieved from <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1810000501>

Statistics Canada. (2020). *Table 14-10-0102-01 Labour force characteristics by census agglomeration, annual*. Retrieved from <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410010201>

Statistics Canada (2020). *Table 14-10-0083-01 Labour force characteristics by immigrant status, annual*. Retrieved from <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410008301>

Statistics Canada. (2020). *Table 14-10-0096-01 Labour force characteristics by census metropolitan area, annual*. Retrieved from <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410009601>

Statistics Canada. (2020). *Table 14-10-0327-01 Labour force characteristics by sex and detailed age group, annual*. Retrieved from <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410032701>

APPENDIX – TABLES

Table 1: Self-employment counts & rates in NB by Gender, 1982-2016

Year	Female Self-Employment	Female Population (15 & over)	Female Self-Employment Rate	Male Self-Employment	Male Population (15 & over)	Male Self-Employment Rate	Total Self-Employment
1982	6,035	266,200	2.3%	25,295	255,900	9.9%	31,335
1983	6,385	270,400	2.4%	25,605	259,800	9.9%	31,990
1984	6,695	274,100	2.4%	25,735	263,400	9.8%	32,430
1985	7,040	276,900	2.5%	25,190	266,000	9.5%	32,230
1986	7,845	279,400	2.8%	26,010	267,800	9.7%	33,855
1987	9,405	282,000	3.3%	28,750	269,900	10.7%	38,155
1988	8,840	284,500	3.1%	26,105	272,300	9.6%	34,945
1989	9,375	287,600	3.3%	26,530	275,000	9.6%	35,900
1990	9,565	291,000	3.3%	25,870	278,100	9.3%	35,435
1991	9,800	294,200	3.3%	25,795	281,300	9.2%	35,590
1992	10,450	296,300	3.5%	26,080	283,400	9.2%	36,530
1993	11,065	297,600	3.7%	26,985	284,600	9.5%	38,050
1994	11,985	298,700	4.0%	28,100	286,000	9.8%	40,085
1995	13,160	300,000	4.4%	29,325	287,200	10.2%	42,490
1996	13,980	301,400	4.6%	30,050	288,500	10.4%	44,030
1997	14,635	302,600	4.8%	30,200	290,000	10.4%	44,835
1998	15,040	303,500	5.0%	29,775	290,200	10.3%	44,810
1999	15,050	304,900	4.9%	29,605	290,800	10.2%	44,655
2000	15,215	306,100	5.0%	29,090	292,100	10.0%	44,305
2001	15,085	307,100	4.9%	28,850	292,600	9.9%	43,940
2002	14,975	308,400	4.9%	28,080	292,900	9.6%	43,055
2003	15,160	309,800	4.9%	27,235	293,600	9.3%	42,390
2004	15,300	311,000	4.9%	27,420	294,200	9.3%	42,725
2005	16,015	312,000	5.1%	27,100	294,400	9.2%	43,115
2006	16,600	312,500	5.3%	26,865	294,100	9.1%	43,465
2007	16,755	313,100	5.4%	26,110	294,700	8.9%	42,865
2008	17,120	314,000	5.5%	25,630	296,400	8.6%	42,745
2009	16,830	315,300	5.3%	25,200	298,700	8.4%	42,025
2010	16,930	316,600	5.3%	24,780	301,000	8.2%	41,710
2011	17,250	317,600	5.4%	24,550	303,100	8.1%	41,800
2012	17,430	318,200	5.5%	24,075	304,200	7.9%	41,505
2013	18,045	318,300	5.7%	23,890	304,200	7.9%	41,935
2014	18,595	318,000	5.8%	23,995	303,800	7.9%	42,590
2015	18,755	318,000	5.9%	23,695	303,900	7.8%	42,450
2016	19,545	318,900	6.1%	23,310	304,500	7.7%	42,855

Source: Longitudinal Administrative Databank, Table 14-10-0327-01 (Statistics Canada)

Table 2: Strict Self-employment counts & rates in NB by Gender, 1982-2016

Year	Female Strict Self-Employment	Female Population (15 & over)	Female Self-Strict Employment Rate	Male Strict Self-Employment	Male Population (15 & over)	Male Strict Self-Employment Rate	Total Strict Self-Employment
1982	2,920	266,200	1.1%	10,655	255,900	4.2%	13,575
1983	3,320	270,400	1.2%	10,695	259,800	4.1%	14,015
1984	3,570	274,100	1.3%	10,745	263,400	4.1%	14,315
1985	3,625	276,900	1.3%	10,310	266,000	3.9%	13,935
1986	3,795	279,400	1.4%	10,680	267,800	4.0%	14,475
1987	4,190	282,000	1.5%	10,905	269,900	4.0%	15,095
1988	4,130	284,500	1.5%	10,755	272,300	3.9%	14,890
1989	4,390	287,600	1.5%	10,700	275,000	3.9%	15,090
1990	4,240	291,000	1.5%	10,030	278,100	3.6%	14,270
1991	4,295	294,200	1.5%	9,980	281,300	3.5%	14,280
1992	4,595	296,300	1.6%	10,165	283,400	3.6%	14,760
1993	4,980	297,600	1.7%	10,205	284,600	3.6%	15,185
1994	5,155	298,700	1.7%	10,260	286,000	3.6%	15,420
1995	5,720	300,000	1.9%	11,865	287,200	4.1%	17,580
1996	6,125	301,400	2.0%	12,045	288,500	4.2%	18,170
1997	6,690	302,600	2.2%	12,065	290,000	4.2%	18,755
1998	7,130	303,500	2.3%	12,205	290,200	4.2%	19,335
1999	7,270	304,900	2.4%	12,255	290,800	4.2%	19,525
2000	7,280	306,100	2.4%	11,945	292,100	4.1%	19,220
2001	7,070	307,100	2.3%	11,935	292,600	4.1%	19,005
2002	6,960	308,400	2.3%	11,445	292,900	3.9%	18,405
2003	7,035	309,800	2.3%	11,080	293,600	3.8%	18,110
2004	6,885	311,000	2.2%	11,030	294,200	3.7%	17,915
2005	7,035	312,000	2.3%	10,755	294,400	3.7%	17,785
2006	7,035	312,500	2.3%	10,610	294,100	3.6%	17,640
2007	6,980	313,100	2.2%	10,065	294,700	3.4%	17,040
2008	7,230	314,000	2.3%	9,895	296,400	3.3%	17,125
2009	7,310	315,300	2.3%	9,605	298,700	3.2%	16,915
2010	7,105	316,600	2.2%	9,395	301,000	3.1%	16,500
2011	7,420	317,600	2.3%	9,525	303,100	3.1%	16,945
2012	7,425	318,200	2.3%	8,850	304,200	2.9%	16,275
2013	7,430	318,300	2.3%	8,880	304,200	2.9%	16,310
2014	7,665	318,000	2.4%	8,745	303,800	2.9%	16,410
2015	7,305	318,000	2.3%	8,890	303,900	2.9%	16,195
2016	7,390	318,900	2.3%	8,700	304,500	2.9%	16,090

Source: Longitudinal Administrative Databank, Table 14-10-0327-01 (Statistics Canada)