Off-Reserve Income: An Examination of the First Nations-Métis Income Gap

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Abstract

This work seeks to describe the income gap faced by First Nations people that leave a reserve. I analyze the income gap between First Nations people that leave a reserve and Metis people, as they have been found to have a more similar income to non-Aboriginal people. Additionally, I investigate how the income gap changes between a female sample and male sample. Using the Aboriginal Peoples Survey for 2012, I found that the First Nations individuals who have been off-reserve the longest have a smaller income gap when compared with Métis people.

Keywords: Income Gap, First Nations, Métis

1. Introduction

In this paper I try to measure the First Nations-Métis income gap in Canada. Policy focusing on increasing the economic and labour status of Aboriginal peoples[1] has been increasingly important to the Canadian government since they officially adopted the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP) in 2016. The adoption of UNDRIP is largely due to the evidence, Aboriginal people fall behind most Canadians in earnings and income, health, and other socioeconomic levels (George and Kuhn, 1994; Mueller, 2004; Pendakur and Pendakur, 2011). Labour market discrimination research has expanded to examine Aboriginal labour market discrimination in Canada (George and Kuhn, 1994; Mueller, 2004; Pendakur et al., 2011; Feir, 2013; Drost and Richards, 2003, Kuhn and Sweetman, 2002).

It is well documented that Métis people have better economic outcomes than First Nations peoples. While part of the difference in income between Métis and First Nations people is explained by observable differences in education and geography, a large fraction of this difference is unexplained (Pendakur and Pendakur 2011; Feir 2013). In this paper, I propose that part of the explanation may be tied to First Nations peoples' experience with the reservation system.

In studying First Nations people and the reserve penalty, I use Métis people as a control group. Métis people are Aboriginal Canadians and they do not have the option of living on a reserve, in the same fashion as First Nations people do. If the reserve system is part of the reason why Métis people have higher incomes than First Nations people, I hypothesize that Métis peoples' income should be similar to that of First Nations people who have never lived on

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[1] Aboriginal people refers to First Nations people, Métis people, and Inuit people

reserve. Additionally, Métis people and First Nations people have similar population concentrations across Canada[2].

Almost 59 percent of those who identified as Aboriginal are First Nations people[3]. Moreover, 42 percent of First Nations people live on a reserve[3]. A reserve is a piece of government managed land designated for an Aboriginal nation for their use. The on-reserve income penalty and the negative effects from living on a reserve, even if a person does not live on a reserve anymore, has been studied previously by Gitter and Reagan (2002). I extend their research by studying the time since leaving reserve as a possible determinant of the economic outcomes of First Nations people.

Federal spending and resources given to First Nations people is substantial (Pendakur et. al, 2011), but there still exist income gaps between on- and off-reserve First Nations people. Understanding the income penalty faced by on-reserve First Nations people or the benefit that First Nations people receive from moving off reserve is beneficial for informing policy and funding decisions in the future. The federal government also funds programs and services for all Aboriginal people regardless of whether they live on or off a reserve. Better targeting of funds could achieve more desired outcomes if we have a better understanding of the on and off reserve income differences.

In this paper I use the 2012 Aboriginal Peoples Survey public use microdata file (Statistics Canada, 2015). The 2012 Aboriginal Peoples Survey asks questions beyond the scope of the Canadian Census. It offers data specific to Aboriginal People that can better explain the experience of Aboriginal people in Canada. It collects information on residence of First Nations

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[2] Population concentration 2015: First Nations people: Ontario (24.2%), British Columbia (17.7%), Alberta (14.0%), Manitoba (13.4%) and Saskatchewan (11.7%) Métis people: Ontario (20.5%), Alberta (19.5%), British Columbia (15.2%), Manitoba (15.2%), Saskatchewan (9.9%)

[3] According the 2016 Canadian Census (Statistics Canada, 2017)

people living off reserve, and the length of time they have been off reserve if they previously lived on reserve. To my knowledge this is the first and only Canadian data set that contains this information. This new data is essential to understanding how moving off a reserve affects income. Although this survey does not sample on-reserve First Nations people, the additional data collected about movement on and off reserve allows me to address how income differences vary by exposure to the reservation system.

In this paper I build on previous literature regarding First Nations income gaps by analyzing First Nations people who have left a reserve. These First Nations people are split into categories based on how long they have been off reserve. This analysis goes further than previous literature that just analyzed these people as purely off-reserve First Nations people. I hypothesize that individuals that have been off a reserve longer should have higher income because of better labour market assimilation than the First Nations people who have left a reserve more recently.

To observe the on reserve penalty in the data, I first estimate three models using Ordinary Least Squares (OLS). The models have the natural logarithm of total personal income as the dependent variable. The explanatory variables are a vector of control variables and categorical variables representing First Nations people with a specific period of time since leaving a reserve. Then I estimate a three-fold Oaxaca-Blinder decomposition between Métis people and specific First Nations groups. There are 6 specific groups. For example I estimate the log annual income gap between Métis individuals and First Nations individuals who have moved off a reserve for 0 to 1 year. All comparisons will be described in full in the methodology section.

2. Literature Review

There is a body of research that analyzes the negative income gap experienced by Aboriginal peoples in North America relative to white people[4]. This research draws on previous literature analyzing negative income gaps faced by minority ethnic groups. Kuhn and Sweetman (2002), draw on immigration research by Borjas (1985) to examine the on-off reserve income gap of First Nations Peoples in Canada. They hypothesize that the more assimilated an Aboriginal person is to the host culture, the more income they will earn. The two measures of assimilation that they use in their paper are the degree of intermarriage between Aboriginal and non-Aboriginal people, and whether the person has lived on a reserve. They propose that a reserve is an ethnically segregated community within Canada. Furthermore, that the on-reserve First Nations people acquire fewer skills and attributes of the host environment, Canada, than off-reserve First Nations people. Kuhn and Sweetman (2002), find that on-reserve First Nations people earn a lower income than off-reserve First Nations people. Additionally, men experience approximately a 20 percent lower income gap on-reserve than their female counterparts.

Concurrently, George and Kuhn (1994), Pendakur and Pendakur (2011), Feir (2013), and Gitter and Reagan (2002) empirically analyze the on- and off-reserve wage and earnings gap experienced by First Nations people and American Indians[5] in Canada and the United States respectively. George and Kuhn (1994) study the earnings gap between Aboriginal people and white people for the year 1985, using the Oaxaca decomposition method. They study two groups of Aboriginal people: those with complete Aboriginal ancestry and those with mixed Aboriginal ancestry. The level of ancestry is used to determine how assimilated an aboriginal person is into the host labour market. Mixed ancestry Aboriginal people are hypothesised to have more success

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[4] White people is the terminology used in Kuhn and Sweetman (2002) and George and Kuhn (1994)
[5] ''American Indians'' is an American term. American Indians are comparable to First Nations people in Canada.

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because they are more assimilated. George and Kuhn (1994) estimate an earnings gap for all groups by dividing them into female and male. Additionally, they measure the earnings gap between on- and off-reserve First Nations people.

Feir (2013) improves on George and Kuhn's research by comparing the earnings gap of Métis people and First Nations people to non-minority Canadians. Feir also uses confidential census data with a larger sample size for both 1996 and 2006. Feir finds, using an Oaxaca-Blinder decomposition, that the earnings gap is largest between on-reserve First Nations people and non-minority Canadians. The earnings gap is smaller between Métis people and non-minority Canadians than the earnings gap between off-reserve First Nations people and non-minority Canadians.

Pendakur and Pendakur (2011), expand on the research done by George and Kuhn (1994), by estimating a model for the income gap and a model the earnings gap. They estimate these models using OLS and measure the income/earnings disparity by taking the difference in the conditional mean of income/earnings regressions. They include measured income and earnings gaps for First Nations people (on and off reserve), Métis people, and Inuit people. They find comparable results to the results in Feir (2013), which find that Métis people experience the smallest income gap and on-reserve First Nations people experience the largest income gap.[6] They also find the same comparative results for earnings gaps. The proportionate income gap between British-origin women and off-reserve First Nations women is 10 percent, while the income gap of British-origin men and off-reserve First Nations men is 23 percent (Pendakur, 2011). This demonstrates that First Nations men suffer a larger income gap than First Nations women. This result is consistent throughout the literature. Lastly, they estimate the income and

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[6] Proportionate Métis income gap is -0.07 (women) and -0.11 (men). Proportionate on-reserve income gap is -0.15 (women) and -0.56 (men).

earnings gap between on- and off-reserve people in Census Metropolitan areas (CMAs) across Canada. They find that income disparity for registered Aboriginal people off-reserve in CMAs is greater if there is a larger population of First Nations people in the city.[7] This is difficult to study because I do not have individual geographical location for the individuals in the sample, but this result is worth noting for further discussion.

Gitter and Reagan (2002) study the labour market status of Indian (comparable to Aboriginal in Canada) men in the United States of America. They find evidence of a "reserve penalty". A "reserve penalty" is the negative effect of an Aboriginal person living on a reserve.

My paper will add to the simple analysis of the on- and off-reserve differences in income by making a distinction between First Nations people who left reserve recently and those who left reserve a long time ago. A similar analysis has been done that analyzed a mover variable for American Indians (Hurst, 1997). This will help to give a better understanding of the reserve penalty that exists in Canada. Some preview of the findings do show that First Nations people who have left a reserve more recently have a larger income gap to Métis people's income than First Nations people that left farther in the past.

3. Data

I use the 2012 Aboriginal Peoples Survey (APS) public use microdata file to analyze the income gap between on and off reserve First Nations (Statistics Canada, 2015). The APS sample is made up of individuals who are off-reserve First Nations people, Métis people, and Inuit people. The APS questionnaire asks questions that are more specific to Aboriginal people and is therefore more insightful for analyzing Aboriginal people in Canada. The survey sample is comprised of people who responded in Statistics Canada's 2011 National Household Survey and

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[7] Pendakur and Pendakur (2011) find that Winnipeg, which has the largest population of First Nations people have the greatest income gap for off-reserve First Nations people.

reported being of Aboriginal identity. People of Aboriginal ancestry[8] are not included in the

2012 Aboriginal Peoples Survey. The survey is voluntary and had a response rate of 76 percent

of the total sample chosen for the questionnaire. The public use APS has some limitations. First,

because the survey does not include on-reserve First Nations people, I cannot directly observe

their behavior. Second, because the data is public use microdata, I cannot observe every

individual's discrete income or geographical location.

I restrict the sample of individuals to between the ages of 19 to 55 to exclude retirees and

individuals currently attending school. Since Inuit people experience a different set of conditions

than other Aboriginal people in Canada due to their remote location, I have excluded Inuit people

from my sample. This means that the variable that denotes whether someone lives on a reserve

will only apply to First Nations people in the sample.

The Aboriginal identity in my sample is divided into Métis people, First Nations people

who have never lived on a reserve and First Nations people that have once lived on reserve and

then left. The First Nations people who have left a reserve get further broken down into 4 groups:

First Nations people that have been away from a reserve for 1 year or less, those that have been

away from a reserve between 2 to 5 years, those that have been away from a reserve between 6 to

10 years, and those that have been away from a reserve for more than 10 years. Additionally for

an analysis on Métis movers Métis people are broken down into 4 groups: Métis people who

have moved in the last year, moved 2 to 5 years ago, moved 6 to 10 years ago, and moved more

than ten years ago. I use this data when I control for the action moving. This is discussed further

in the results section.

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[8] Aboriginal ancestry refers to someone who is not of Aboriginal identity but has ancestors who were of Aboriginal
identity. People of Aboriginal ancestry do not consider themselves to have Aboriginal identity.

The summary statistics presented in Table 1 preview the results in this paper.[9] The mean of income increases as the period of time spent off reserve increases[10]. First Nations people who have never lived on reserve and Métis people have the highest mean of income at around 36,500. First Nations people who have been off a reserve one year or less have the lowest mean of income at around 16,700. Additionally, the mean of age increases as the period of time spent off reserve increases[11]. When looking at dummy variables for education it is clear that First Nations people who have been away from a reserve for 0 to 1 years have a lower level of education in all categories. First Nations people who have been off a reserve for 6 to 10 years and more than 10 years have similar levels of education. The entire sample has slightly more women than men. The mean of the number of people in a household is higher for First Nations people who have left a reserve more recently. Additionally, First Nations people who have left a reserve more recently are on average more likely to be single compared to the other First Nations categories. The First Nations people who have left a reserve between 0 to 1 year and 2 to 5 years have a higher mean for a good understanding of an Aboriginal language.

4. Methodology

To decompose the income gap between on- and off-reserve people I use a three-fold Oaxaca-Blinder decomposition method (Jann, 2008). The three-fold Oaxaca-Blinder decomposition method breaks down the log annual income differences between the two groups into three parts: differences due to the variation in the observed data between the two groups, the differences due to the variation in the unobserved effects from observed characteristics between the two groups, and the interaction term which is the differences due to the simultaneous effect

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[9] Full list of control variables located in the appendix.
[10] The standard deviations are very large since income data is from collapsed groups and because I use the midpoint and the intervals are in ranges of 10,000 I expect to have large standard deviations.
[11] The standard deviations are very large since the age data is from collapsed groups and because I use the midpoint and the intervals are in ranges of 10 years I expect to have large standard deviations.

of the differences in observed and unobserved characteristics. The literature describes the

variations in observed effects as variations in endowments between groups. Additionally, the

literature describes the variations in coefficient estimates as the variations in returns between

different groups. For example, when discussing income, the income gap due the differences in

endowments could be that First Nations people and Métis people might decide to attend different

post-secondary institutions. Secondly, the income gap due to differences in returns could be that

First Nations people and Métis people might get have different income effects from attending the

same post-secondary program.

I use these model specifications to estimate the log of annual income,

$$log(inc) = \beta_0 + \beta_1 X_i + \beta_2 FN + \beta_3 FN1 + \beta_4 FN2 + \beta_5 FN3 + \beta_6 FN4 + \varepsilon_i \quad (1)$$

$$log(inc) = \beta_0 + \beta_1 X_i + \beta_2 FN + \beta_3 FNA + \varepsilon_i \quad (2)$$

$$log(inc) = \beta_0 + \beta_1 X_i + \beta_2 FN + \varepsilon_i \quad (3)$$

This is a standard income model, where the dependent variable is the log of annual income, and

X_i represents the control variables[12]. FN is the dummy variable equal to 1 if the First Nations

person has never lived on a reserve and is equal to 0 otherwise. FNA is a dummy variable equal

to 1 if a person is of First Nations identity and is equal to 0 otherwise. The other four are dummy

variables for time since leaving reserve. FN1 is the dummy variable equal to 1 if the First

Nations person has been away from the reserve for 1 year or less and is equal to zero otherwise.

FN2 is the dummy variable equal to 1 if the First Nations person has been away from the reserve

for 2 to 5 years and is equal to zero otherwise. FN3 is the dummy variable equal to 1 if the First

Nations person has been away from the reserve for 6 to 10 years and is equal to zero otherwise.

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[12] Full list of control variables are located in the Appendix section 8.1.

The fourth category FN4 is equal to 1 if the First Nations person has been off a reserve for more than 10 years and equal to 0 otherwise. Recall that First Nations people who live on-reserve are not surveyed, so there is no dummy variable indicating on-reserve First Nations people.

To estimate the three-fold Oaxaca decomposition I take the difference of the expected value of equation (4), resulting in equation (5a),

$$log(inc)_i = \beta_0 + \beta_1 X_i + \varepsilon_i \qquad (4)$$

where, "i" is either equal to 0 or 1 indicating the group. The three-fold Oaxaca decomposition results in equation (5a) and (5b),

$$R = E(\ln(inc_i^0)) - E(\ln(inc_i^1)) \qquad (5a)$$

$$R = \left(E(X_0) - E(X_1)\right)'\beta_1 + E(X_1)'(\beta_0 - \beta_1) + \left(E(X_0) - E(X_1)\right)'(\beta_0 - \beta_1) \qquad (5b)$$

The difference in the expected value of the log of annual income will equal equation (5b) since under the standard normal assumptions the expected value of a "β" coefficient equals itself and the expected value of the error term "ε" equals zero. The resulting log income gap is broken down into the three parts of the three-fold Oaxaca decomposition; the differences due to endowments, $\left(E(X_0) - E(X_1)\right)'\beta_1$, the differences due to returns, $E(X_1)'(\beta_0 - \beta_1)$, and the differences due to the interaction term $\left(E(X_0) - E(X_1)\right)'(\beta_0 - \beta_1)$. The differences due to endowments are the observed part while the differences due to the returns are the unobserved part. I estimate the Oaxaca-Blinder decomposition between each group of First Nations people that have been away from a reserve with Métis People. Additionally, I estimate a three-fold Oaxaca-Blinder decomposition for First Nations people who have never lived on reserve and Métis people.

Métis people are a category of Aboriginal people who do not live within a reserve system. I hypothesize that First Nations people that have never lived on a reserve should exhibit

similar predicted income levels to income levels of Métis people. First Nations people and Métis people have a similar provincial distribution across Canada[3].

X_i is the vector of control variables. The control variables that I include are: age, age squared, the number of people in a household, and dummy variables for male, single, living in a census metropolitan area, and understanding an Aboriginal language well[13]. Moreover, I include educational dummy variables for different levels of educational attainment. I include educational dummies for high school level, having a high school diploma, attending post-secondary, having a post-secondary certificate less than a bachelor's degree and having a bachelor's degree or higher. The omitted dummy is having less than an eighth grade level of education.

The income data is grouped into intervals. I take the midpoint of the intervals as the measure of income. The income interval from 0 to 5000 is represented by 2500, the income interval from 5000 to 10,000 is represented by 7500, and the income interval from 10,000 to 20,000 is represented by 15,000. Income intervals 20,000 to 30,000, 30,000 to 40,000, and 40,000 to 50,000 are represented by 25,000, 35,000, and 45,000 respectively. The final interval is an open-ended interval for income greater than 50,000. The National Household Survey (NHS) data observed higher intervals of personal annual income for Aboriginal peoples. I set the income above 50, 000 to be 72,865.50[14].The same process was taken to find the income above 50, 000 for the separate female and male samples. Where the female income above 50,000 is set to 70,757.58 and male income above 50,000 is set to 73,921.57.

Furthermore, I estimate model (1) and a three-fold Oaxaca-Blinder decomposition using Métis movers instead of Métis people with no differentiation between movers and non-movers. The modified version of model (1) is:

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[13] "Well" is the term used in the 2012 APS. It corresponds to the highest level of understanding.
[14] The formula for finding the income value is located in Equations section 8.2 in the Appendix.

$$log(inc) = \beta_0 + \beta_1 X_i + \beta_2 M + \beta_3 M1 + \beta_4 M2 + \beta_5 M3 + \beta_6 M4 + \varepsilon_i \quad (6)$$

Instead of comparing Métis people with First Nations people who have been off a reserve for 0 to 1 years, the decomposition estimates the gap between Métis people who have moved in the past year and First Nations people who have been off a reserve for 0 to 1 year. This is in an attempt to control for the action of moving and how it affects income.

Lastly, I estimate model (1) for 8 different samples. The samples are divided by the declared reason for leaving a reserve. The 8 reasons for leaving are family, relationship, work, school, housing, moving to a good place, want, and other. This is to analyze the effects of being in a particular First Nations group on income while controlling for different characteristics between First Nations people that leave a reserve for different reasons.

4.1. Endogeneity

A possible source of endogeneity is that the individuals who choose to leave a reserve more recently may have different underlying characteristics that make them more or less likely to earn a higher or lower income than the individuals who chose to leave further in the past. Kuhn and Sweetman (2002) used an instrument variable to control for some endogeneity between high and low earners. They used an Aboriginal language instrument variable that stated that the less knowledge the Aboriginal person has of an Aboriginal language the more likely the person is to succeed in the host labour market. The less of an Aboriginal language an individual knew, the quicker that person assimilates, leading them to have greater success in the labour market. They found that this was a weak instrument variable. As a result, I do not use it to control for endogeneity this way.

4.2. Cohort Effect

The cohort effect is commonly referenced in immigration literature. It is defined as the effect from relative differences between consecutive groups that immigrate (Borjas, G. 2014.). This effect could be present in this research because the individuals who left the reserve more recently could have experienced a different labour market. The individuals who have left more recently could also be less motivated to succeed than the cohort that left a reserve 6 to 10 years ago causing relative differences. I cannot control for this effect in my research as I only have 1 year of cross section data.

The possible endogeneity problem and cohort effect present in this research means that there is no causal effect determined from being part of a particular First Nations category on the log of annual income. The magnitude of the coefficient estimates presented in the results section give an idea of some possible effects, but understanding the directional sign of the coefficient estimates and the comparison between First Nations people and Métis people are the main takeaways. The analysis of the First Nations-Métis income gap is mostly descriptive. Even though these problems exist the descriptive analysis provides information on a possible issue overlooked by previous research.

5. Results

Table 2 presents the results of models 1, 2 and 3 using the total sample, both female and male individuals. Firstly, all coefficient estimates have a directional sign that I expect and that confirms the summary statistics. Age has a positive coefficient estimate which means that as age increases there will be a positive effect on log of annual income. Being male shows a 49 percent increase in income. All education categories show a positive coefficient estimate therefore increasing education leads to an increase in the log of annual income. Having a bachelors' degree

has more than a 100 percent increase in income while holding a post secondary certificate under a bachelor's degree only increases income by 69 percent. Being single decreases income by 23 percent. Furthermore, adding 1 extra person to an individual's household decreases income by 4.5 percent. Being an individual that declares they speak an Aboriginal language "very well" leads to a decrease in income of 13 percent. These results for directional significance are consistent with other economic analyses of similar control variables' effects on income.

The end of Table 2 is the results of the coefficient estimates from being part of one of the First Nations categories. Categories that are only statistically significant at the 5 percent level are for First Nations people who have been off reserve for 0 and 1 year and statistically significant at the 10 percent level for First Nations people who have been off reserve between 2 to 5 years. Although these are the only two categories that have some statistical significance, observing the directional sign of the coefficient estimates does provide us with some information. The category of First Nations people that have never lived on reserves have a positive sign on the coefficient estimate and therefore has a positive effect on income. The category groups of First Nations people that have been off reserve for 0 to 1 years, 2 to 5 years, and 6 to 10 years have a negative coefficient estimates. From these results, I conclude that being part of one of these groups will negatively affect an individual's income. The categorical group of First Nations people off reserve for more than 10 years is ambiguous in sign.[15] Additionally, the R squared values are not very large, at only 21 percent. This means that the regression only explains 21 percent of the variability in the estimates of log annual income. This could reflect the extent of the endogeneity problem that exists in the estimations.[16]

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[15] The estimate is reported as 0.00362 with a standard error of 0.068. If I look at plus or minus the standard error the coefficient estimate will be either positive or negative.
[16] Pendakur and Pendakur (2011) have similar R-squared values in their simple estimation models

Table 3 corresponds to the three-fold Oaxaca-Blinder decomposition of log annual income between all the different First Nations people categories and Métis people. The top half of the table corresponds to the log annual income gap between the different categorical groups of First Nations people and Métis people. The top row is the log annual income prediction for Métis people and the second row is the log annual income prediction for the different First Nations categories. There is a statistical significant difference in predicted log of income, at a 1 percent level, between all categorical groups of First Nations people and Métis people with one exception: First Nations people who have never lived on reserve and Métis people. Additionally, the log income gap is greatest between those First Nations people who have been off reserve between 0 to 1 years and Métis people. More notably, First Nations people who have been off reserve between 2 to 5 years have a smaller log annual income gap than those who have been off between 0 to 1 years. First Nations people who have been off reserve between 6 to 10 years have a smaller log annual income gap than those who have been off between 2 to 5 years. First Nations people who have been off reserve more than 10 years have a smaller log annual income gap than those who have been off reserve between 6 to 10 years. Interestingly, there is no statistical difference in log income gap between First Nations people who have never lived on reserve and Métis people.

The results from the three-fold Oaxaca-Blinder decomposition are located in the bottom half of Table 3. The first entry on the left corresponds to how much of the difference in log income is because of differences in the endowments between the two groups. The second entry on the left of the table corresponds to how much of the difference in the log of income is due to the differences in the returns from being part of a First Nations category. The third entry on the left corresponds to the differences in log income due to the simultaneous differences of

endowments and differences in returns from being part of a particular First Nations category. The log annual income gap due to the differences in returns is, at some statistical significant level[17], for all First Nations people who have been off for 0 to 1 years to off for more than 10 years. Additionally, the log annual income gap due to the differences in returns decreases starting at the First Nations category that has been off reserve between 0 to 1 years to the First Nations category that has been off reserve for more than 10 years. The category of First Nations that has never been on reserve has a negative value for log income gap due to the differences in returns which suggests that we would see a smaller log annual income gap than the log annual income gap that is estimated.

The results show that the groups who have left a reserve most recently have the greatest income gap. The income gaps shrink as the years off of a reserve increase for each group. The groups that have been off reserve for more than ten years have the smallest income gap compared to Métis people. These results are displayed in Figure 1 which measures the income gap between every First Nations people categories and Métis people. Additionally, Figure 2 shows the breakdown of the three-fold decomposition for the total sample.

The decrease in the differences in returns can be explained by a possible shift in the labour market structure as the number of years since leaving the reserve increase. The longer the First Nations people have been off reserve, the more adapted they might be to the host labour market. Therefore, the increase in their unobserved returns from group characteristics such as age and educational attainment increases leads to a decrease in the log annual income gap.

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[17] Results are statistically significant at the 1 percent level for First Nations people, First Nations off (<1 year), First Nations off (2-5 years) and First Nations off (6-10 years). Results statistically significant at the 5 percent level for First Nations people off (>10 years), at the 10 percent level for First Nations never lived on reserve.

5.1. Analysis of the Female Sample

Table 4 presents the results of models 1, 2, and 3 for only the female sample. The results from the OLS estimations are similar to the results from the total sample. The return to income from having a bachelor's degree for a women is 119 percent. The coefficient estimate for the categorical variable for being single is not statistically significant. Moreover, the categorical variable for living in an urban centre is statistically significant at the 10 percent level and negative, or very small and positive. The categorical variables for particular First Nations categories have coefficient estimates that are not statistically significant, unlike the results for the total sample.

Table 5 presents the three-fold Oaxaca-Blinder decomposition for the female sample. As I expect, both Métis women and women of different First Nations categorical groups have lower predicted log annual income values than the total sample. This result is consistent with previous income studies examining Aboriginal income gaps. The female sample log income gaps shrink as we move right in the table as was seen earlier in the analysis of the entire sample. The individuals in the groups that have been off a reserve more recently have a larger log income gap than those who have been off a reserve for a longer period of time. With this sample there is no statistical difference between Métis women and First Nations women who have never lived on a reserve and between Métis women and First Nations women who have been off a reserve for more than 10 years. Additionally, there is no decrease/increase in difference due to returns or differences due to endowments, like we saw for the entire sample.

5.2. Analysis of the Male Sample

Table 6 presents the results of models 1, 2, and 3 for only the male sample. The results from the OLS estimations are again similar to the results of the total sample. The returns to

education are smaller than those for the female sample. Having a bachelor's degree only increases income by 76 percent as opposed to 119 percent with the female sample. The categorical variable for being single is statistically significant at the 1 percent level. This is not the case for the female sample. The coefficient estimates for the categorical variables for First Nations people who have been of a reserve for 0 to 1 year and off for between 2 to 5 years are statistically significant at the 10 percent level. These two categories have a negative coefficient estimate, which means that being part of this category has a negative effect on income.

Table 7 presents the three-fold Oaxaca-Blinder decomposition for the male sample. For both the Métis group and the First Nations people categories, the predicted log annual income gap is larger compared to the log annual income gap for the female sample. Again for the male sample, the log annual income gap shrinks as we move right in the table. The individuals in the groups that have been off more recently have a larger log income gap than those who have been off reserve for a longer period of time.

The results are consistent with Pendakur and Pendakur (2008), and Feir (2013), which found that there is a larger income or earnings gap between men than there is for women. These estimates were between on-reserve individuals and non-minority Canadians, but as stated previously Métis individuals have the smallest income gap to non-minority Canadians[18]. Therefore when comparing First Nations men/women to Métis men/women I would still expect there to be a larger income gap between Métis men and First Nations Men than for Métis women and First Nations women. Previous literature, (Pendakur, 2011 and Feir, 2013) has suggested that because men earn more on average compared to women there is a greater disadvantage for First Nations men. Furthermore, being a woman already causes a lower average income, so being a

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[18] Consistent with Pendakur (2011), Feir (2013), and Drost and Richards (2013)

First Nations woman does not cause a significantly larger amount of discrimination contributing to the income gap.

5.3. Analysis of Métis movers

Table 8 presents the results from model (6), a modified version of model (1), replacing the First Nations categories with Métis mover categories. These results are looking at the entire sample, both female and male. Much like the results in Table 2, the control variables confirm the summary statistics and are consistent with previous labour market analysis of income. Table 8 presents the analysis on Métis movers. The Métis category that has moved more recently suggests smaller income changes than those who have moved further in the past. None of the coefficient estimates for being in any Métis category is statistically significant. Being a Métis person who moved in the past year is statistically the same as a Métis person who has not moved. This is the same result for movers between 2 to 5 years, 6 to 10 years and more than 10 years.

More interestingly the results in Table 9 look at the three-fold Oaxaca-Blinder decomposition of the log annual income gap between the different First Nations categories and the different Métis mover categories. This table format is synonymous with Table 3. Column 1 compares First Nations people off reserve between 0 to 1 years and Métis people who have moved in the last year. There was a statistically significant log income gap for this comparison. All other comparisons are statistically significant as well. The results from this decomposition are similar to the results in Table 3. Furthermore, the log income gap due to differences in returns decreases the longer ago the groups have moved. Since there was no statistical difference between Métis people who have moved and those who have not moved, regardless of the number of years since moving, we would expect the log income gaps to be similar to the log income gaps

in Table 3. Moreover, there is still the persisting decline in the size of the log income gap as the number of years since moving increases.

These results show the effects from controlling for the action of moving specifically. Even though these results are interesting, they do not identify reasons for moving or geographical placement which could cause endogeneity problems. The Métis individuals could be moving mostly between urban centres while First Nations people could be moving mostly from a rural to an urban location or from a rural to a rural location. Since First Nations reserves can often be located in a rural location, an important factor that is not included in this research, due to the constraints of the data, is that geographical data of where a person has moved is not accessible. An analysis of locations of residence of First Nations people leaving the reserve could show other possible reasons for the income gap that are outside the scope of this research. Additionally, Métis people could be moving for largely different reasons than the reasons First Nations people leave a reserve. Thus this analysis of Métis movers is very constrained in its interpretation.

5.4. Analysis of reasons First Nations people left a reserve

Table 10 presents the results of model (1) including separate samples of First Nations individuals who declared they left for a particular purpose. These estimation results include male and female individuals. The reasons for individuals moving off reserve include family reasons, relationship reasons, work reasons, school reasons, and housing reasons. Additionally, moving because the location is good, they want to move, and finally moving for other reasons. There are no statistically significant results for effects from being in a particular First Nations category when controlling for moving reasons for family, relationship, housing, if it is a good place or for want. When I controlled for First Nations people who left a reserve for work related reasons

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there was statistically significant results from being in the First Nations category that have left a reserve between 0 and 1 years and between 2 to 5 years. Being a First Nations person who has left a reserve between 0 to 1 year has an effect of a 75 percent decrease in income, and being a First Nations person who has left a reserve between 2 to 5 years ago has an effect of a 34 percent decrease in income, when they declared they left a reserve for work. Since most results are not statically significant, I would not expect different result for these estimations since they are a much smaller sample. Controlling for reasons for leaving a reserve caused the sample to be very small compared to the previous results and I would suggest that they are very limited.

6. Conclusion

The differences in log annual income levels decrease as the number of years off reserve increase across First Nations groups. This is consistent when observing the total sample, female sample and male sample. Moreover, the log annual income gap between First Nations people who have never lived on reserve have no statistically significant difference to the log annual income of Métis people. This result is again consistent across the total sample, female sample, and male sample. For the total sample unobserved differences, differences in returns, decrease as the number of years off reserve increase across groups. By comparing Métis movers to the different First Nations categories, I controlled for the specific action of moving on income. The log annual income gaps are similar to the results in the original estimation results using the one Métis group. These results are consistent with all my other results since there was no statistically significant difference between any Métis mover group and Métis people. Lastly analyzing the reasons for leaving a reserve gave us one interesting result that being a First Nations person that left a reserve between 0 to 1 years or 2 to 5 years had a statistically significant effect on income if the First Nations person left a reserve for the reason of work.

It shows that First Nations people who leave the reserve are the most negatively impacted when they have left more recently. It is essential to understand the limits of these results and that this analysis is descriptive because of the possible endogeneity problems. As I said in the introduction that federal funding on Aboriginal issues will most likely increase in the future, resources and funding could be made available to those First Nations people who choose to leave a reserve. This policy would need to aid First Nations people who have left a reserve without making off-reserve existence more attractive. There already exists a "brain drain"[19] off reserves and attracting educated individuals off reserve could negatively impact reserves (Cook & O'Sullivan, 2015). Therefore, additional work that can be done is the analysis of on-reserve First Nations people concurrently with this research. Getting better data would allow for treatment of the endogeneity problem.

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[19] Brain drain defined as individuals with higher education and skills leaving making the place they left negatively impacted. In this case, there are educated individuals leaving reserves which negatively impacts reserves.

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8. Appendix

8.1. Control Variables (X matrix)

Age = midpoint of age interval

Age squared= $(Age)^2$

Sex: is equal to 1 if male and equal to 0 if female

High School: equal to 1 if highest educational achievement is high school, equal to 0 otherwise

Graduated High school: equal to 1 if the individual has a high school diploma, equal to 0 otherwise

Post-Secondary: equal to 1 if highest educational achievement is post-secondary, equal to 0 otherwise

Post-Secondary certificate: equal to one if the individual has a post-secondary certificate less than a bachelor's degree, equal to 0 otherwise

Bachelor's degree: equal to 1 if the individual has a Bachelor's degree or higher, equal to 0 otherwise

Single: equal to 1 if the individual is single, equal to 0 otherwise

Living in an urban centre: equal to one if an individual lives in a Census Metropolitan area, equal to 0 otherwise

Number of people in a household: discrete variable from 1 to 5(five or more people)

Aboriginal language understanding: equals to 1 if an individual understand an Aboriginal language very well, equal to 0 otherwise

8.2. Equations

Equation 1: Equation for income interval above 50,000

These are the midpoints for the income intervals:

$1 = 55{,}000$

$2 = 70{,}000$

$3 = 90{,}000$

$4 = 112500$

$5 > 112500$

For the Total Sample:

$$Mean\ (income\ interval) = 2.28655$$

The most common interval is 2 but the sample is skewed higher than the midpoint of the interval:

$$Income = \big((2.28655 - 2) * 10{,}000\big) + 70{,}000 = 72{,}865.50$$

Note: Same process for Female and Male samples.

8.3. Tables

Table 1: Summary Statistics: Category of Aboriginal

	Métis	First Nations	First Nations off (≤1 year)	First Nations off (2-5 years)	First Nations off (6-10 years)	First Nations off (≥10 years)	First Nations (Never lived on reserve)	Métis moved (≤1 year)	Métis moved (2-5 years)	Métis moved (6-10 years)	Métis moved (≥10 years)
Age	40.40	39.50	29.64	32.76	33.83	43.71	40.34	40.32	40.34	40.33	40.43
	(13.57)	(13.26)	(10.39)	(10.58)	(10.00)	(12.77)	(13.57)	(13.57)	(13.56)	(13.57)	(13.58)
Sex	0.48	0.45	0.49	0.38	0.40	0.40	0.48	0.48	0.48	0.48	0.48
	(0.50)	(0.50)	(0.51)	(0.49)	(0.49)	(0.49)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)
Income	36536.65	33777.99	16730.34	27556.10	30990.78	34498.14	36542.71	36501.63	36549.24	36525.67	36591.68
	(25689.72)	(25431.38)	(14558.8)	(22924.53)	(24618.09)	(25763.95)	(25657.86)	(25647.71)	(25663.61)	(25658.11)	(25693.13)
Grade 8 or below	0.08	0.08	0.07	0.07	0.03	0.10	0.08	0.08	0.08	0.08	0.08
	(0.27)	(0.28)	(0.25)	(0.26)	(0.17)	(0.30)	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)
High school level	0.20	0.22	0.33	0.23	0.24	0.19	0.20	0.20	0.20	0.20	0.20
	(0.40)	(0.41)	(0.48)	(0.42)	(0.43)	(0.39)	(0.40)	(0.40)	(0.40)	(0.40)	(0.40)
High school diploma	0.17	0.16	0.16	0.18	0.14	0.12	0.17	0.17	0.17	0.17	0.17
	(0.38)	(0.37)	(0.37)	(0.39)	(0.35)	(0.33)	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)
Post-Secondary level	0.12	0.13	0.22	0.15	0.14	0.14	0.12	0.12	0.12	0.12	0.12
	(0.32)	(0.34)	(0.42)	(0.36)	(0.35)	(0.35)	(0.32)	(0.33)	(0.32)	(0.32)	(0.32)
Post-Secondary cerificate below Bachelor's degree	0.32	0.31	0.22	0.28	0.34	0.32	0.32	0.32	0.32	0.32	0.32
	(0.47)	(0.46)	(0.42)	(0.45)	(0.47)	(0.47)	(0.47)	(0.47)	(0.47)	(0.47)	(0.47)
Bachelor's degree or higher	0.10	0.10	0.00	0.08	0.11	0.12	0.10	0.10	0.10	0.10	0.10
	(0.30)	(0.30)	(0.00)	(0.27)	(0.31)	(0.33)	(0.30)	(0.30)	(0.30)	(0.30)	(0.30)
Living in urban centre	0.46	0.46	0.27	0.36	0.41	0.47	0.47	0.47	0.46	0.47	0.47

	(0.50)	(0.50)	(0.45)	(0.48)	(0.49)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)
Single	0.31	0.34	0.56	0.45	0.40	0.28	0.31	0.31	0.31	0.31	0.31
	(0.46)	(0.47)	(0.50)	(0.50)	(0.49)	(0.45)	(0.46)	(0.46)	(0.46)	(0.46)	(0.46)
Number of people in household	2.95	3.05	3.44	3.40	3.31	3.09	2.95	2.95	2.95	2.95	2.95
	(1.27)	(1.30)	(1.44)	(1.30)	(1.34)	(1.34)	(1.27)	(1.27)	(1.27)	(1.27)	(1.27)
Understand Aboriginal Language well	0.05	0.09	0.20	0.22	0.18	0.22	0.05	0.05	0.05	0.05	0.05
	(0.21)	(0.29)	(0.40)	(0.42)	(0.39)	(0.41)	(0.21)	(0.21)	(0.21)	(0.21)	(0.21)
Time since leaving reserve	5.94	5.39	1.00	2.00	3.00	4.00	6.00	5.99	5.98	5.98	5.98
	(0.46)	(1.30)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.20)	(0.27)	(0.22)	(0.24)
Observations	8782	5090	45	215	260	734	8535	8559	8599	8593	8635

The means are reported with the standard deviations in parenthesis.

Table 2: Estimated Models with Total Sample

	(1)	(2)	(3)
Age	1.517***	1.535***	1.534***
	(0.105)	(0.105)	(0.105)
Age Squared	-0.104***	-0.105***	-0.105***
	(0.007)	(0.007)	(0.007)
Male	0.520***	0.520***	0.520***
	(0.023)	(0.023)	(0.023)
High School	0.269***	0.267***	0.268***
	(0.049)	(0.049)	(0.049)
Graduated High School	0.418***	0.418***	0.419***
	(0.050)	(0.050)	(0.050)
Post-Secondary	0.460***	0.458***	0.459***
	(0.054)	(0.054)	(0.054)
Post-Secondary Certificate	0.694***	0.694***	0.695***
	(0.047)	(0.047)	(0.047)
Bachelor's Degree	1.073***	1.075***	1.076***
	(0.055)	(0.055)	(0.055)
Single	-0.201***	-0.201***	-0.201***
	(0.029)	(0.029)	(0.029)
Living in Urban Centre	-0.0127	-0.0142	-0.0141
	(0.014)	(0.014)	(0.014)
Number of people in Household	-0.0444***	-0.0444***	-0.0445***
	(0.010)	(0.010)	(0.010)
Aboriginal Language Understanding	-0.0847*	-0.0849*	-0.0872*
	(0.046)	(0.046)	(0.046)
First Nations(Never lived on reserve	0.122**	0.123**	0.159***
	(0.060)	(0.060)	(0.028)
First Nations off (≤ 1 year)	-0.402***		
	(0.147)		
First Nations off (2-5 years)	-0.0868		
	(0.086)		
First Nations off (6-10 years)	-0.0794		
	(0.082)		
First Nations off (>10 years)	0.00362		
	(0.068)		
First Nations		-0.0425	
		(0.065)	
Constant	4.185***	4.110***	4.076***
	(0.372)	(0.372)	(0.368)
Observations	6260	6260	6260
Adjusted R^2	0.207	0.206	0.206

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.0$

Table 3: Log income gap: Oaxaca decomposition of log income

	First Nations	First Nations off (≤1 year)	First Nations off (2-5 years)	First Nations off (6-10 years)	First Nations off (≥10 years)	First Nations (never lived on reserve)
Comparison of log annual income						
Métis	10.19***	10.19***	10.19***	10.19***	10.19***	10.20***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
First Nations Category	9.951***	9.342***	9.792***	9.914***	10.05***	10.10***
	(0.030)	(0.157)	(0.072)	(0.066)	(0.038)	(0.071)
Difference	0.240***	0.849***	0.399***	0.277***	0.144***	0.0988
	(0.033)	(0.158)	(0.074)	(0.068)	(0.041)	(0.072)
Log annual income: Oaxaca decomposition						
Differences in Endowments	0.0598***	0.169	0.196**	0.0501	-0.00328	0.0180
	(0.022)	(0.207)	(0.085)	(0.071)	(0.029)	(0.032)
Differences in Returns	0.145***	0.505***	0.186***	0.182***	0.0982**	-0.129*
	(0.032)	(0.148)	(0.070)	(0.062)	(0.039)	(0.066)
Interaction	0.0354*	0.175	0.0176	0.0445	0.0489*	0.0120
	(0.020)	(0.200)	(0.081)	(0.066)	(0.027)	(0.028)
Observations	6260	5051	5221	5266	5740	5006

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Estimated Models with Female Sample

	(1)	(2)	(3)
Age	1.414***	1.426***	1.427***
	(0.151)	(0.151)	(0.151)
Age Squared	-0.0951***	-0.0957***	-0.0958***
	(0.011)	(0.011)	(0.011)
High School	0.200***	0.197***	0.197***
	(0.073)	(0.073)	(0.073)
Graduated High School	0.399***	0.396***	0.396***
	(0.074)	(0.074)	(0.074)
Post-Secondary	0.470***	0.469***	0.469***
	(0.080)	(0.080)	(0.080)
Post-Secondary Certificate	0.778***	0.777***	0.777***
	(0.070)	(0.070)	(0.070)
Bachelor's Degree	1.218***	1.218***	1.218***
	(0.078)	(0.078)	(0.078)
Single	0.0369	0.0360	0.0361
	(0.041)	(0.041)	(0.041)
Living in Urban Centre	-0.0429**	-0.0440**	-0.0441**
	(0.020)	(0.020)	(0.020)
Number of people in Household	-0.0669***	-0.0668***	-0.0668***
	(0.014)	(0.014)	(0.014)
Aboriginal Language Understanding	-0.0422	-0.0400	-0.0390
	(0.061)	(0.061)	(0.061)
First Nations(Never lived on reserve	0.156*	0.156*	0.138***
	(0.086)	(0.086)	(0.038)
First Nations off (≤1 year)	-0.242		
	(0.211)		
First Nations off (2-5 years)	0.0257		
	(0.116)		
First Nations off (6-10 years)	-0.0799		
	(0.112)		
First Nations off (≥10 years)	0.0703		
	(0.094)		
First Nations		0.0220	
		(0.090)	
Constant	4.418***	4.366***	4.383***
	(0.530)	(0.529)	(0.524)
Observations	3301	3301	3301
Adjusted R^2	0.177	0.177	0.177

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Log income gap, Oaxaca decomposition of log income for Women

	First Nations	First Nations off (≤1 year)	First Nations off (2-5 years)	First Nations off (6-10 years)	First Nations off (≥10 years)	First Nations (never lived on reserve)
Comparison of log annual income						
Métis	9.953***	9.953***	9.953***	9.953***	9.953***	9.904***
	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.016)
First Nations Category	9.823***	9.133***	9.706***	9.736***	9.892***	9.800***
	(0.020)	(0.202)	(0.088)	(0.086)	(0.048)	(0.106)
Difference	0.130***	0.819***	0.247***	0.217**	0.0612	0.104
	(0.028)	(0.203)	(0.091)	(0.088)	(0.052)	(0.107)
Log annual income: Oaxaca decomposition						
Differences in Endowments	0.0299**	0.0991	0.117	-0.0509	-0.0605	-0.0223
	(0.013)	(0.259)	(0.107)	(0.079)	(0.038)	(0.042)
Differences in Returns	0.107***	0.362**	0.103	0.216***	0.0612	-0.206**
	(0.027)	(0.179)	(0.086)	(0.083)	(0.052)	(0.099)
Interaction	0.00671	0.358	0.0266	0.0521	0.0605	0.124**
	(0.009)	(0.241)	(0.104)	(0.074)	(0.037)	(0.054)
Observations	5347	2578	2689	2712	2996	4546

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Estimated Models with Male Sample

	(1)	(2)	(3)
Age	1.509***	1.538***	1.537***
	(0.142)	(0.141)	(0.141)
Age Squared	-0.106***	-0.108***	-0.108***
	(0.010)	(0.010)	(0.010)
High School	0.331***	0.329***	0.330***
	(0.064)	(0.064)	(0.064)
Graduated High School	0.425***	0.430***	0.431***
	(0.066)	(0.066)	(0.066)
Post-Secondary	0.435***	0.431***	0.429***
	(0.070)	(0.071)	(0.071)
Post-Secondary Certificate	0.593***	0.591***	0.592***
	(0.061)	(0.061)	(0.061)
Bachelor's Degree	0.811***	0.814***	0.815***
	(0.078)	(0.079)	(0.079)
Single	-0.488***	-0.487***	-0.489***
	(0.041)	(0.042)	(0.041)
Living in Urban Centre	0.0144	0.0123	0.0125
	(0.020)	(0.020)	(0.020)
Number of people in Household	-0.0253*	-0.0260*	-0.0265**
	(0.013)	(0.013)	(0.013)
Aboriginal Language Understanding	-0.212***	-0.214***	-0.221***
	(0.068)	(0.068)	(0.068)
First Nations(Never lived on reserve	0.111	0.112	0.196***
	(0.083)	(0.083)	(0.040)
First Nations off (≤1 year)	-0.567***		
	(0.200)		
First Nations off (2-5 years)	-0.248**		
	(0.125)		
First Nations off (6-10 years)	-0.0497		
	(0.118)		
First Nations off (≥10 years)	-0.0539		
	(0.095)		
First Nations		-0.105	
		(0.090)	
Constant	4.935***	4.827***	4.745***
	(0.511)	(0.510)	(0.505)
Observations	2959	2959	2959
Adjusted R^2	0.192	0.190	0.190

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Log income gap, Oaxaca decomposition of log income for Men

	First Nations	First Nations off (≤1 year)	First Nations off (2-5 years)	First Nations off (6-10 years)	First Nations off (≥10 years)	First Nations (never lived on reserve)
Comparison of log annual income						
Métis	10.44***	10.44***	10.44***	10.44***	10.44***	10.42***
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.085)
First Nations Category	10.25***	9.561***	9.932***	10.18***	10.28***	10.37***
	(0.021)	(0.259)	(0.129)	(0.102)	(0.061)	(0.015)
Difference	0.188***	0.875***	0.504***	0.253**	0.158**	0.0587
	(0.028)	(0.260)	(0.130)	(0.104)	(0.063)	(0.086)
Log annual income: Oaxaca decomposition						
Differences in Endowments	0.0573***	0.720	0.365**	-0.0597	0.00771	0.119***
	(0.015)	(0.501)	(0.151)	(0.156)	(0.045)	(0.036)
Differences in Returns	0.147***	0.661***	0.356***	0.151*	0.146**	0.0690
	(0.026)	(0.252)	(0.117)	(0.090)	(0.061)	(0.094)
Interaction	-0.0164*	-0.506	-0.218	0.162	0.00340	-0.129**
	(0.009)	(0.497)	(0.140)	(0.148)	(0.041)	(0.054)
Observations	4762	2486	2545	2567	2757	4223

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Estimated Model with Métis Movers

	(1)
Age	1.530***
	(0.105)
Age Squared	-0.105***
	(0.007)
Male	0.518***
	(0.023)
High School	0.267***
	(0.049)
Graduated High School	0.417***
	(0.050)
Post-Secondary	0.458***
	(0.054)
Post-Secondary Certificate	0.693***
	(0.047)
Bachelor's Degree	1.072***
	(0.055)
Single	-0.202***
	(0.029)
Living in Urban Centre	-0.0146
	(0.014)
Number of people in Household	-0.0443***
	(0.010)
Aboriginal Language Understanding	-0.0850*
	(0.046)
Métis	-0.0354
	(0.092)
Métis moved ($\leq$1 year)	-0.0768
	(0.139)
Métis moved (2-5 years)	0.0856
	(0.111)
Métis moved (6-10 years)	0.0379
	(0.112)
Métis moved ($\geq$10 years)	0.155
	(0.104)
Constant	4.091***
	(0.369)
Observations	6259
Adjusted R^2	0.206

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 9: Log income gap, Oaxaca decomposition of log income for Métis movers

	First Nations to Métis	First Nations off (≤1 year) to Métis Moved (≤1 year)	First Nations off (2-5 years) to Métis moved (2-5 years)	First Nations off (6-10 years) to Métis moved (6-10 years)	First Nations off (≥10 years) to Métis moved (≥10 years)	First Nations (never lived on reserve) to Métis never moved
Comparison of log annual income						
Métis (Mover)	10.19***	10.19***	10.20***	10.19***	10.20***	10.20***
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
First Nations Category	9.951***	9.342***	9.792***	9.914***	10.05***	10.10***
	(0.030)	(0.157)	(0.072)	(0.066)	(0.038)	(0.071)
Difference	0.240***	0.851***	0.403***	0.279***	0.150***	0.0988
	(0.033)	(0.158)	(0.074)	(0.068)	(0.041)	(0.072)
Log annual income: Oaxaca decomposition						
Differences in Endowments	0.0598***	0.170	0.196**	0.0484	-0.00224	0.0180
	(0.022)	(0.205)	(0.085)	(0.071)	(0.029)	(0.032)
Differences in Returns	0.145***	0.515***	0.193***	0.191***	0.103***	-0.129*
	(0.032)	(0.148)	(0.070)	(0.062)	(0.040)	(0.066)
Interaction	0.0354*	0.166	0.0144	0.0397	0.0490*	0.0120
	(0.020)	(0.198)	(0.081)	(0.066)	(0.027)	(0.028)
Observations	6260	4841	5048	5089	5597	5006

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 10: Estimated Models with Total Sample with reasons for moving

Reason for leaving:	Family	Relationship	Work	School	Housing	Good Place	Want	Other
Age	1.357***	2.054**	0.792***	1.570***	0.970	1.621***	1.801***	1.453***
	(0.227)	(0.858)	(0.211)	(0.423)	(0.608)	(0.426)	(0.581)	(0.371)
Age Squared	-0.0944***	0.143**	0.0551***	0.105***	0.0706*	0.112***	0.117***	-0.107***
	(0.016)	(0.060)	(0.015)	(0.030)	(0.042)	(0.029)	(0.040)	(0.025)
Male	0.490***	0.625***	0.518***	0.253***	0.509***	0.514***	0.483***	0.485***
	(0.052)	(0.171)	(0.044)	(0.090)	(0.123)	(0.090)	(0.122)	(0.082)
High School	0.190*	0.282	0.281***	0.270	0.0957	0.0447	0.110	-0.124
	(0.102)	(0.416)	(0.103)	(0.301)	(0.262)	(0.189)	(0.224)	(0.140)
Graduated High School	0.451***	0.106	0.576***	0.423	0.319	-0.0342	0.175	0.151
	(0.108)	(0.429)	(0.105)	(0.302)	(0.289)	(0.194)	(0.256)	(0.156)
Post-Secondary	0.431***	-0.136	0.455***	0.540*	0.370	0.402**	0.386	-0.0123
	(0.112)	(0.455)	(0.108)	(0.306)	(0.268)	(0.201)	(0.260)	(0.163)
Post-Secondary Certificate	0.640***	0.729*	0.746***	0.951***	0.390	0.625***	0.382*	0.292**
	(0.098)	(0.410)	(0.096)	(0.288)	(0.250)	(0.179)	(0.222)	(0.138)
Bachelor's Degree	1.013***	0.838	1.118***	1.302***	1.032***	1.123***	0.966***	0.909***
	(0.121)	(0.507)	(0.106)	(0.294)	(0.318)	(0.219)	(0.286)	(0.180)
Single	-0.129**	-0.0237	-0.0798	-0.0556	-0.238	-0.0403	-0.0426	-0.352***
	(0.064)	(0.238)	(0.060)	(0.098)	(0.157)	(0.123)	(0.145)	(0.103)
Living in Urban Centre	-0.00449	-0.0817	0.0230	0.0668	-0.0869	-0.0637	-0.0976	0.0713
	(0.032)	(0.109)	(0.028)	(0.066)	(0.071)	(0.054)	(0.075)	(0.050)
Number of people in Household	-0.0596***	-0.0554	-0.0176	0.00673	-0.0104	-0.0204	0.0270	0.0910***
	(0.022)	(0.076)	(0.018)	(0.036)	(0.049)	(0.039)	(0.052)	(0.033)
Aboriginal Language Understanding	0.0345	-0.245	-0.0263	-0.203	0.200	-0.168	-0.0376	-0.216*
	(0.108)	(0.314)	(0.087)	(0.135)	(0.213)	(0.183)	(0.205)	(0.125)
First Nations(Never lived on reserve	0.142	1.012**	0.0947	-0.0309	0.287	0.373**	0.118	0.0186
	(0.114)	(0.467)	(0.095)	(0.225)	(0.260)	(0.179)	(0.264)	(0.148)
First Nations off (≤1 year)	-0.210	0	-0.757***	-0.137	0.230	-0.470	-0.517	-0.665**
	(0.285)	(.)	(0.292)	(0.426)	(0.592)	(0.404)	(0.465)	(0.316)
First Nations off (2-5 years)	0.0000154	0.703	-0.341**	-0.154	-0.0447	-0.0650	-0.0561	0.0149
	(0.184)	(0.598)	(0.141)	(0.261)	(0.300)	(0.254)	(0.353)	(0.205)
First Nations off (6-10 years)	-0.220	1.038*	-0.231*	-0.258	0.0498	0.0543	0.228	-0.318
	(0.156)	(0.535)	(0.128)	(0.245)	(0.403)	(0.268)	(0.358)	(0.237)
First Nations off (≥10 years)	0.0709	1.053**	-0.0192	-0.211	0.114	0.0207	-0.334	-0.0197
	(0.127)	(0.494)	(0.106)	(0.231)	(0.273)	(0.209)	(0.292)	(0.164)
Constant	4.776***	1.691	6.770***	3.627**	6.310***	3.759**	2.728	5.241***
	(0.800)	(2.881)	(0.753)	(1.465)	(2.165)	(1.505)	(2.032)	(1.329)
Observations	1439	163	1522	430	246	405	294	466
Adjusted R^2	0.159	0.165	0.194	0.260	0.141	0.280	0.165	0.244

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11a: Estimated Models with Female Sample

	(1)
Age	1.198***
	(0.133)
Age Squared	-0.0803***
	(0.009)
High School	0.0989
	(0.063)
Graduated High School	0.361***
	(0.065)
Post-Secondary	0.517***
	(0.068)
Post-Secondary Certificate	0.731***
	(0.060)
Bachelor's Degree	1.190***
	(0.068)
Single	-0.0105
	(0.035)
Living in Urban Centre	-0.0658***
	(0.018)
Number of people in Household	-0.0777***
	(0.012)
Aboriginal Language Understanding	-0.141**
	(0.055)
Métis	0.00139
	(0.040)
Métis moved (≤1 year)	-0.165*
	(0.090)
Métis moved (2-5 years)	0.0877*
	(0.053)
Métis moved (6-10 years)	0.0393
	(0.054)
Métis moved (≥10 years)	0.160***
	(0.040)
Constant	5.353***
	(0.465)
Observations	4461
Adjusted R^2	0.180

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 11b: Estimated Models with Male Sample

	(1)
Age	1.531***
	(0.127)
Age Squared	-0.107***
	(0.009)
High School	0.268***
	(0.058)
Graduated High School	0.456***
	(0.062)
Post-Secondary	0.470***
	(0.064)
Post-Secondary Certificate	0.575***
	(0.057)
Bachelor's Degree	0.818***
	(0.072)
Single	-0.515***
	(0.037)
Living in Urban Centre	-0.0209
	(0.018)
Number of people in Household	-0.0216*
	(0.012)
Aboriginal Language Understanding	-0.222***
	(0.061)
Métis	0.0793*
	(0.043)
Métis moved (≤1 year)	0.326***
	(0.085)
Métis moved (2-5 years)	0.147***
	(0.051)
Métis moved (6-10 years)	0.139***
	(0.053)
Métis moved (≥10 years)	0.127***
	(0.039)
Constant	4.793***
	(0.452)
Observations	3801
Adjusted R^2	0.205

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

8.4. Figures

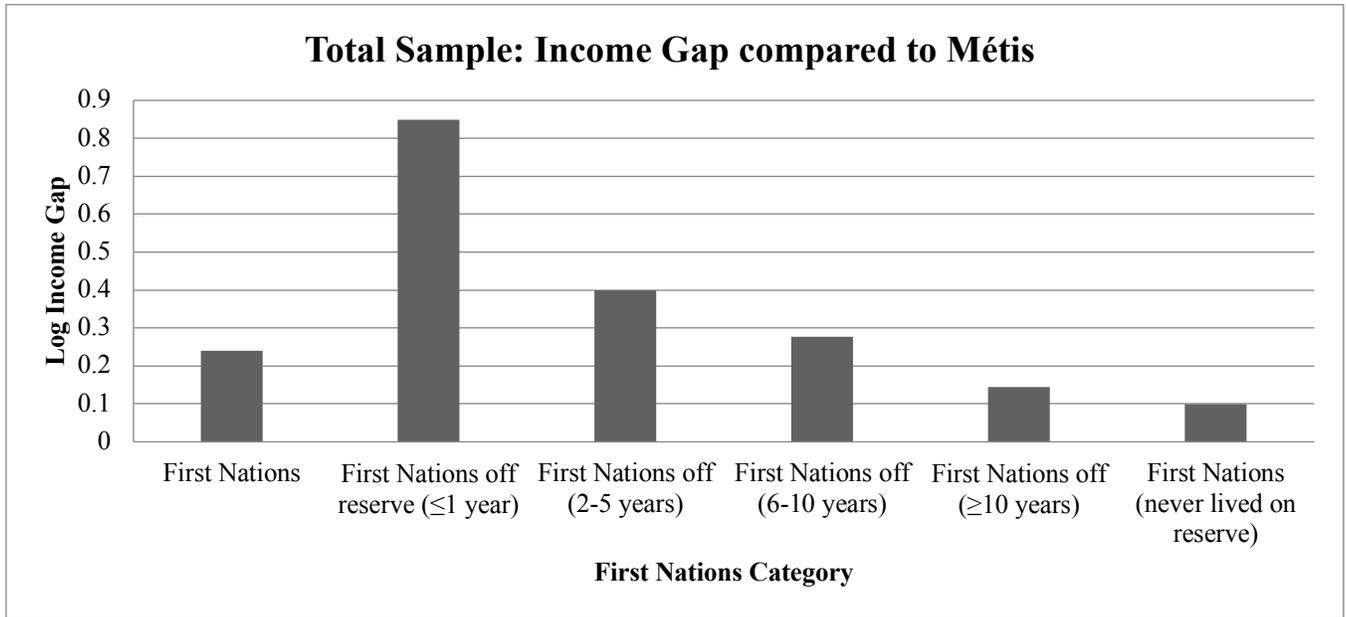Figure 1: *Income Gap of Total Sample*

Total Sample: Income Gap compared to Métis

Figure 2: *Decomposed Income Gap of Total Sample*

Total Sample: Decomposed Income Gap