The Indigenous—White Earnings Gap and Labour Market Discrimination in Canada

by

Mallory Ross

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For my mother, Margaret, and my grandmother,
Jacqueline. I love you.

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ABSTRACT

Indigenous people represent four percent of the total population in Canada and are the youngest and fastest growing minority population in the country. Colonialism left Indigenous people disadvantaged in terms of education, health and labour market outcomes relative to the majority population in Canada today. This study looks at the relationship between self-reported labour market discrimination and the annual earnings gap between the Indigenous and white populations as of 2013 using Cycle 28 of the General Social Survey on Victimization in Canada. By employing the Oaxaca (1973) decomposition method, I find between 44.2 and 49.2 percent of the men's Indigenous–white annual earnings gap can be explained by observable characteristics and 50.8 and 55.8 percent of the gap is unexplained. For women, 32.2 percent of the gap cannot be explained when secondary variables such as employment type and disability status are included in that analysis, yet 86.3 percent is unexplained when only education, work experience and geography are observed. Lastly, I utilize a nuanced approach to analyzing the Indigenous–white earnings gap. I find a higher proportion of men reported labour market discrimination who have higher predicted earnings than their actual using human capital coefficients from the white group's earnings regression to predict Indigenous men's earnings.

LIST OF ABBREVIATIONS USED

GSS	General Social Survey

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CHAPTER 1 INTRODUCTION

The process of cultural assimilation begins when immigrants arrive, by choice or for protection, to a new country. Likewise, when a population's land is colonized, the original habitants must adapt to foreign ways of being. Institutionalized discrimination against Indigenous peoples began when European settlers arrived at Turtle Island, the land we now call North America. Indigenous peoples are the youngest and fastest growing minority population in Canada today and their standard of living is well below that of the average Canadian (Wilson & MacDonald, 2010). The marginalized population earns lower wages, has lower employment rates and lower educational attainment than the majority population.

Since the 1990s, economists have studied the disparities in education and labour market outcomes between Indigenous peoples and the rest of Canada. A common approach used to analyze such disparities between groups is the Oaxaca (1973) decomposition method. The objective of using this approach is to statistically understand the relationship between the characteristics that relate to human capital and the gap in labour market outcomes between a base group and a group that is assumed to experience labour market discrimination, in this case, Indigenous peoples in Canada.

This study follows other authors and employs the Oaxaca (1973) decomposition method in order to analyze the Indigenous–white annual earnings gap separated for men and women using the 2014 General Social Survey (GSS) – Cycle data. As the 2014 GSS aims to assist governments, organizations and researchers in understanding the extent and nature of victimization in Canada, the dataset provides a unique opportunity to observe self-reported labour market discrimination within an analysis of the Indigenous–white annual earnings gap.

I first perform the Oaxaca (2013) decomposition method using the Indigenous–white earnings gap model by Feir (2013) that includes the number of weeks worked, employment type, disability, household composition and language in addition to the mainstream human capital characteristics: education, work experience and geography. I then compare these results to a "pared-down" model that only includes basic human capital variables (i.e. education, work experience and geography). I find 49.2 percent of the Indigenous–white earnings gap for men can be explained by differences in human capital characteristics while 50.8 is unexplained, or due to discrimination when Feir's (2013) model is used. For women, I find 67.8 percent of the earnings gap can be explained by differences in characteristics in Feir's (2013) model. In the pared-down model, a smaller portion of the gap is explained by differences in characteristics for both men and women: 55.8 percent of the men's annual earnings gap is unexplained and 86.3 percent is unexplained for women.

How and whether self-reported workplace or labour market discrimination is associated with the differences in earnings between the Indigenous and majority populations in Canada is a question generally untackled by economists. To analyze the relationship between wage discrimination and self-reported labour market discrimination, I predict the annual salary for each Indigenous person given their own characteristics but using the white group's earnings regression and compare this wage with reports of discrimination in the labour market. I find a higher proportion of Indigenous men reported labour market discrimination when their predicted earnings are higher than actual earnings in both the Feir (2013) model and the pared-down model. And the case is similar for women when Feir's (2013) model is used to predict earnings. In the pared-

down model, however, more women reported labour market discrimination whose predicted earnings are lower than their actual.

The Indigenous sample observed in this study is made up of those who self-identify as Indigenous and who live off-reserve and outside the Territories. The term "Indigenous people" refers to First Nation peoples, Métis peoples and the Inuit, who are all the original inhabitants of the land and nation we now call Canada. The lived experiences and means of livelihood are distinct within and across First Nations, Métis, and Inuit communities. The languages, identities and cultures of these three groups are profoundly different from one another, but have all been negatively impacted by colonialism. The three groups are treated as homogenous in this study only because data does not provide the specific Indigenous identity of individuals. I refer to the comparison group in this study as the "white" population. Individuals in the white group did not identify as Indigenous or as a visible minority and they are not recently landed immigrants in Canada.

Chapter 2 provides a historical and contemporary background on the Indigenous population in Canada and places the 2014 GSS data on income, education and geographical location within the context of the economics literature on the Indigenous–white earnings gap. Chapter 3 discusses the economic theories that attempt to explain labour market discrimination. Chapter 4 introduces self-reported discrimination data and looks at how and when Indigenous peoples perceived discrimination both within and outside the labour market according to the 2014 GSS data. Chapter 5 reviews the summary statistics and explains the methodology used in this study. In Chapter 6, I present the regression and Oaxaca decomposition results as well as the analysis on the

relationship between predicted annual salary and self-reported labour market discrimination. Finally, I provide my concluding remarks and discussion in Chapter 7.

CHAPTER 2 BACKGROUND

The Indigenous population in Canada is made up of the Inuit, First Nation and Métis peoples. The Inuit, meaning “the People”, make up 4.2 percent of the 538,295 Indigenous peoples in Canada and inhabit regions of Alaska, northern Canada and Greenland (Wilson & Macdonald, 2010). The Métis people are descendants of different First Nations and European settlers, primarily the French, and inhabit many regions in southern Canada and in the northwestern United States. Approximately 40 percent of the Indigenous population in Canada are Métis (Wilson & Macdonald, 2010). First Nation peoples make up the majority of the Indigenous population in Canada at 53 percent and live in regions from east to west (Wilson & Macdonald, 2010). There are 634 unique First Nations recognized by the Canadian Crown, each with their own language and culture. The remaining 3.2 percent of Indigenous peoples in Canada have multiple Indigenous roots (Wilson & Macdonald, 2010).

As some might say, Canada has entered an Era of Reconciliation after the federal government of Canada was placed under scrutiny for its lack of focus on the well-being of the Indigenous population. In 2015, the Truth and Reconciliation Commission called upon all governments in Canada to take action in improving the lives of Indigenous people and to begin efforts in repairing the relationship between Indigenous peoples and the rest of Canada. Since 2017, the Liberal Party has set aside billions of dollars in annual budgets for the improvement of education, health, employment and infrastructure in Canada’s Indigenous communities (McDiarmid, 2017).

To understand the current economic state of Indigenous persons in Canada, it is important to address how colonialism has shaped their lives. This chapter attempts to address this complex topic by providing a brief historical background on the treatment

and governance of Indigenous peoples in Canada. I then review the literature in economics on the Indigenous–white earnings gap followed by an analysis of the GSS 2014 data on income, education and geographical remoteness.

2.1 HISTORICAL BACKGROUND

For more than a century, the federal government endorsed the use of "residential schools" in order to "civilize and Christianize" the First People of Canada (Nelson, 2012). This long-reigning colonial system caused irreversible damage to those who attended, their families, and future generations, as many residential schools were notorious for the neglect and abuse of children and youth (Nelson, 2017).

Furthermore, many Indigenous children were removed from their homes and placed into foster care or adopted as part of the infamous "60's scoop" as a way to deal with the "Indian problem" in Canada (Sinclair, 2016). By the 1970s, one in three First Nation children were in foster care or had been adopted (Sinclair, 2016). And despite the eradication of the practice, Indigenous children are still overrepresented in the child welfare system: Indigenous children make up 7 percent of the child population in Canada but account for 48 percent of foster children (Turner, 2016).

The mistreatment of Indigenous children and youth did not end with the abolishment of residential schools and the Indigenous child removal system. This continued violence particularly affects Indigenous girls and extends to Indigenous women and Indigenous 2SLGBTQQIA[1] persons. Today, Canada has epidemic rates of missing and murdered Indigenous girls and women: Hotton et al. (2017) report 24 percent of female homicide

[1] Two-Spirit, lesbian, gay, bisexual, transgender, queer, questioning, intersex and asexual persons

(National Inquiry into Missing and Murdered Indigenous Women and Girls, 2018).

victims are Indigenous women and girls when they make up only 4 percent of Canada's female population. Indigenous women are three times more likely to experience sexual violence in their lifetime than non-Indigenous women[2] and the majority of human trafficking cases in Canada involve Indigenous girls and women and Indigenous 2SLGBTQQIA persons (Conroy & Cotter, 2017; Statistics Canada, 2019).

An 1880 amendment to the *Indian Act* of 1867, the act of parliament that defines the government's relations with Indigenous people, allowed for the enfranchisement of First Nations admitted to university (Nelson, 2017). This means that if an Indigenous person wanted to become a doctor or a lawyer, for example, they would lose their "Indian Status".[3] Indigenous people in this situation had to choose between a career and their rights and identity. This amendment, among others, set out to assimilate Indigenous people and cut expenses on Indigenous relations for the federal government.

First Nations were once forced to reside on designated land known as "Indian reserves".[4] And the geographical remoteness of many Indian reserves limited labour market opportunities. Approximately 40 percent of Indigenous people in Canada, all of whom are First Nations[5], live on-reserve today. The on-reserve population have lower employment rates and lower wages than Indigenous persons who live off-reserve and white Canadians. Many Indigenous people reside in urban centres across Canada, and labour market outcomes have improved for those who do (Statistics Canada, 2017). This

[2] Statistics are from the 2014 General Social Survey, Cycle 28 and are based on self-reported data on sexual assault

[3] An individual with Indian Status is also referred to as a registered Indian and applies to First Nations; those with Indian Status have different rights that the Métis, Inuit, non-status First Nations and other Canadians (Statistics Canada, 2017).

[4] Indian reserves are Crown land designated for the use and benefit of Indian bands (Nelson 2012).

[5] Reserves do not apply to Métis and Inuit communities.

is not to suggest, though, that moving away from enclaves is necessarily a solution to labour market discrimination or to unfavourable labour market outcomes, but that lack of economic development on reserves is concerning.

The Canadian Centre for Policy Alternatives estimated that the income gap between Indigenous peoples and the rest of Canada fell by 4 percent between 1996 and 2001 and by 10 percent between 2001 and 2006 (Wilson & Macdonald, 2010). At the rate at which the gap is closing, it would take 63 years for Indigenous peoples to have the same income level as the rest of Canada (Wilson & Macdonald, 2010). Clearly, Indigenous peoples are far from having an equitable standard of living today and Canada has much work to do in finding truth and reconciliation with respect to the mistreatment of the Indigenous population and closing the gaps in labour market outcomes. The following section reviews the literature in economics related to the Indigenous–white earnings gap in Canada.

2.2 EMPIRICAL WORK ON THE INDIGENOUS–WHITE EARNINGS GAP

The size of the gap in earnings between Indigenous people and white people varies depending on the definition of Indigenous, the sample, the characteristics observed and gender (Feir, 2013). The Indigenous samples of men and women observed by economists have included on-reserve and off-reserve First Nations peoples, Status and non-Status Indians, Métis peoples and single and multiple origin Indigenous peoples.

George and Kuhn (1994), DeSilva (1999), Kuhn and Sweetman (2002), Mueller (2004), Pendakur and Pendakur (2011) and Feir (2013) investigate the earnings gap between white Canadians and Indigenous peoples in Canada. For the most part, these authors focus on the off-reserve population and the population living outside the

territories due to limited data and small sample sizes. But some are able to partly identify the source of the on-reserve earnings and employment gaps (DeSilva, 1999; Mueller, 2004; Pendakur and Pendakur, 2011; Feir, 2013). The studies discussed in this section control for characteristics such as education, age and geography.

Using 1986 Canadian Census data, George and Kuhn (1994) find Indigenous men earn 14 percent less than white men and Indigenous women earn 8.7 percent less than white women. Similarly, Kuhn and Sweetman (2002), using 1991 Census data, find that Indigenous men earn 11.3 percent less than white men and Indigenous women earn 5.9 percent less than white women. From 1996, 2001 and 2006 Census data, Pendakur and Pendakur (2011) also identify significant earnings gaps for both Indigenous men and women, especially for Indigenous men living on-reserve who earn 64 percent less than white men.

Mueller (2004) suggests the earnings gap is between 7 to 63 percent for men and 2 to 15 percent for women, the higher number for men representing the earnings gap between Indigenous men living on-reserve and white Canadians. Significant gaps in earnings between on and off-reserve First Nations has been documented in the literature as well, but importantly, this gap is widening. Feir (2013) suggests that the pattern of more "westernized" Indigenous persons newly identifying as Indigenous is a possible explanation for the increasing earning gap between Indigenous persons living on-reserve and off from 1995 to 2005. Feir (2013) also recognizes that the younger Indigenous population are attaining higher levels of education and, hence, higher earnings. Wilson and MacDonald (2010) agree, and suggest the termination of residential schools is an important hypothesis for why this is occuring, and is an interesting area for future research, especially given the intergenerational trauma from residential schools.

It is clear that on-reserve men face major earnings penalties but results of whether or not level or type of Indigenous origin matters in terms of the income gap have varied in the research. George and Kuhn (1994) found no significant differences in the structure of wages for persons with single and multiple Indigenous origins while Kuhn and Sweetman (2002) and Pendakur and Pendakur (2011) find that labour market circumstances are worse for those who have been less exposed to the majority culture in Canada (e.g. having two Indigenous parents as opposed to one of British and one of Indigenous ancestry).

Using the 2014 GSS data, it is not possible to divide Indigenous persons into groups based on registry, identity and ancestry due to the non-specific nature of the Indigenous identity question. The 2014 GSS also was not conducted on Indian reserves. And while this is problematic given the most disadvantaged group in terms of wages and employment is on-reserve men, Kuhn and Sweetman (2002) and Pendakur and Pendakur (2011) suggest discrimination likely has little to do with on-reserve wage disparity. Reserves are self-governed and First Nations living on-reserve have less contact within the labour market with the discriminating group in the literature (i.e. white people). The following sections introduce the GSS 2014 data on income, education and geographical remoteness and place the data within the context of the empirical work on the Indigenous–white earnings gap.

2.3 OVERVIEW OF GSS 2014 DATA

The 2014 General Social Survey, Cycle 28 aims to assist governments, organizations and researchers in understanding the extent and nature of victimization in Canada (Statistics

Canada, 2014). The survey collected information from individuals aged 15 and older, living in private households across all provinces. To increase accuracy of the survey data, the respondents' personal and household income have been linked to their tax files (Statistics Canada, 2014).

Within the Indigenous sample, I cannot distinguish individuals by Indigenous origin (i.e. First Nations, Métis and Inuk). An individual who is not a registered Indigenous person, but identifies as Indigenous because their grandmother is Métis, for example, is treated the same as a Status Indian with two First Nation parents. Due to the historical definition of "Indian" in the *Indian Act* of 1867, many who have been raised culturally as Indigenous are not registered and do not have Indian Status (Government of Canada, 2018). The definition of Indian was based on the supremacy of men rather than on community and kinship which has had an intergenerational effect on Indigenous families. If an Indigenous woman married a non-Indigenous man, for example, she would lose her status and so would her children and future descendants (Government of Canada, 2018).

The 2014 GSS collected data across the Canadian provinces and territories but all observations from the territories are lost in the subsample used in this study. Because of this, the Indigenous sample is unlikely to accurately represent the Inuit. However, there may be some representation from the Inuit communities in Newfoundland and Labrador and Northern Quebec and the Inuit residing in Southern Canada. For the Inuit in the North, though, labour market opportunities are not necessarily comparable to those in the South due to harsh climate and geographical remoteness.

Both the Indigenous group and the white group referred to in this study are age 25-55 and their major source of income was salaries and wages in 2013. Those who reported

they do not speak English or French from the white and Indigenous samples have been removed.

Before Feir (2013), studies on the Indigenous earnings gap in Canada focused on full-time and full-year employees, but this tends to underestimate the gap since Indigenous persons are more likely to be unemployed and to have non-permanent and seasonal employment. Instead, Feir (2013) focuses on individuals whose major source of income was salaries and wages in the previous year, but who were not necessarily employed full-time or for the full-year. I do the same, as Feir (2013) finds that eliminating the differences in the number of weeks worked in a year reduces the on-reserve and the Indigenous earnings gap for both men and women and contributes to the narrowing of the earnings gap for women between 1995 and 2005.

I eliminate those whose major source of income was from self-employment and government transfers as this study aims to better understand labour market discrimination against Indigenous peoples. The white sample of men is reduced by 4.67 percent and 5.69 percent due to the exclusion of self-employment income and government transfers, respectively, while the Indigenous sample of men is reduced by 2.78 percent and 12.35 percent due to the same. The white sample of women is reduced by 3.69 percent and 14.33 percent due to the exclusion of self-employment income and government transfers, respectively, and the Indigenous sample of women is reduced by 3.06 percent and 25.76 percent.

2.4 THE 2014 GSS: INCOME

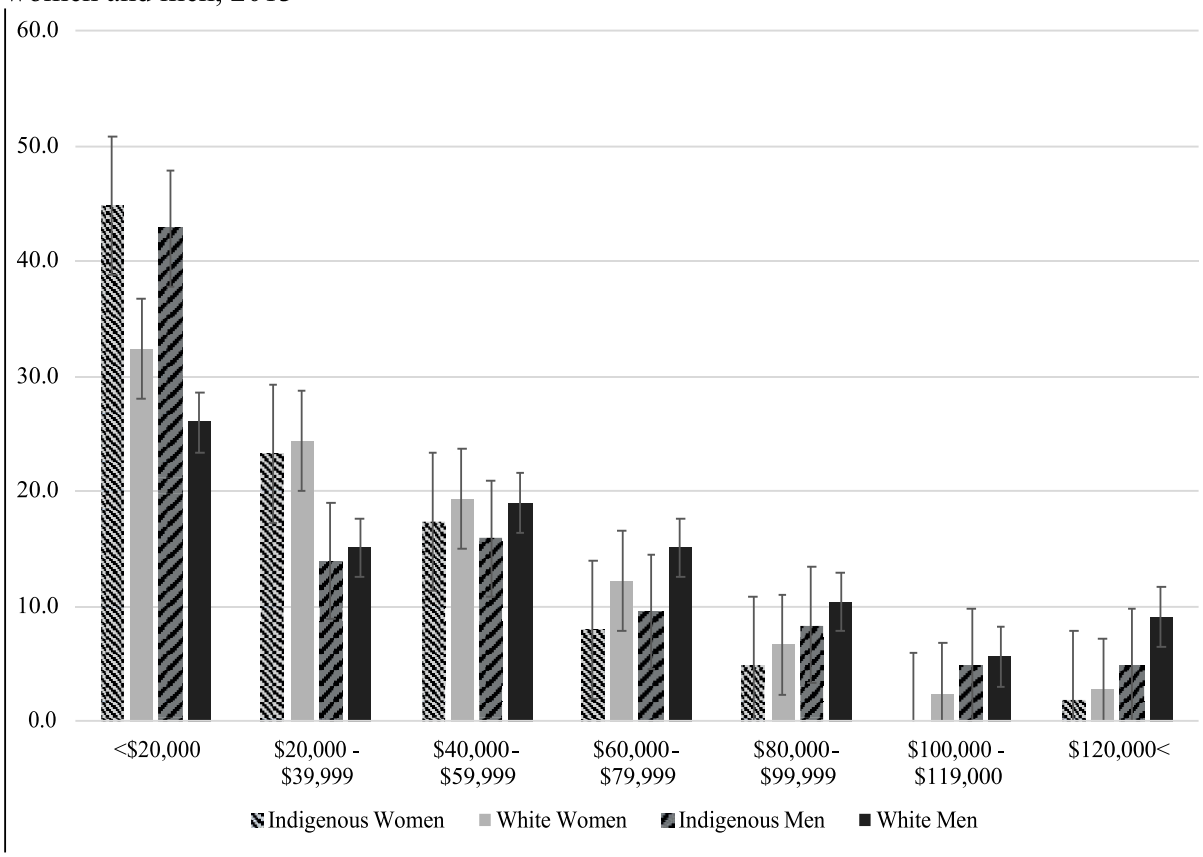
Trends in the Indigenous–white earnings gap put forth by George and Kuhn (1994), DeSilva (1999), Kuhn and Sweetman (2002), Pendakur and Pendakur (2011) and Feir

(2013) prevail in the 2014 GSS data. Figure 2 shows a smaller gap in earnings between females than males and that far fewer Indigenous men are represented in the income groups above $20,000 annually than white men. In the less than $20,000 per year income group, earnings of Indigenous men and white men are polarized. Approximately 43 percent of Indigenous men and 26 percent of white men earn less than $20,000. Interestingly, earning differences between Indigenous and white men narrow at the higher end of the income distribution (Figure 2). In the sample of Indigenous men, 13.09 percent earn between $80,000 and $119,000 annually while 15.96 percent of white men are in the same income groups. White men dominate, however, in the over $120,000 per year bracket (Figure 2). Due to small samples sizes of the Indigenous population of women and men, though, the standard errors bar are large.

Approximately 85 percent of Indigenous women earn less than $59,999 annually, with a nine-percentage point average gap relative to white women (Figure 2). Additionally, fewer Indigenous women are represented in the income groups above $20,000 annually than white women (Figure 2). 44.81 percent of Indigenous women earn less than $20,000 per year, compared to 32.36 percent of white women (Figure 2).

The gap in earnings between Indigenous and white peoples in Canada has remained over time for both men and women, despite researchers' efforts in understanding the source of the disparity. George and Kuhn (1994), DeSilva (1999), Kuhn and Sweetman (2002), Mueller (2004), Pendakur and Pendakur (2011) and Feir (2013) all find, though, that the earnings gap can be explained in large part by differences in endowments or characteristics, such as education or geographical location.

Figure 2 – Mean annual employment income group, percentage of Indigenous and white women and men, 2013



Notes: Income groups are in Canadian dollars, author's calculations, General Social Survey, Cycle 28 (Statistics Canada, 2014)

2.5 THE 2014 GSS: EDUCATION

Educational attainment plays an important role in explaining the gap in earnings between Indigenous and white peoples in Canada. Kuhn and Sweetman (2002) found, however, that there was still a 20 log point difference (relative to the base difference of 25 log points) in wages when the education of single-origin Indigenous men is raised to meet that of non-Indigenous men. Hull (2005) and Pendakur and Pendakur (2011) agree: although the Indigenous–white employment gap decreases at higher levels of education, significant income gaps are still apparent.

The percentage of both Indigenous persons and white persons who did not complete high school has declined, but the gap of completion between them has remained. The

high school completion rates increased substantially for the Indigenous population between 1996 and 2006: 50 percent of Indigenous men and 40 percent of Indigenous women had not completed high school in 1996 (Wilson & Macdonald, 2010). These number dropped to 36 percent and 27 percent for Indigenous men and women by 2006, respectively. Yet, only 15 percent of white Canadians had not completed high school in 2006 (Wilson & Macdonald, 2010).

Gordon and White (2014) report that post-secondary educational attainment for Indigenous persons was 65 percent of white persons in 1996 and increased to 68 percent in 2011. Between 1996 and 2006, the number of Indigenous persons obtaining a university education increased, but the Indigenous population fell further behind the non-Indigenous population over this period due to the concurrent increase in non-Indigenous Canadians going to university (Wilson & Macdonald, 2010). As of 2006, 14 percent of Indigenous women were Bachelor degree recipients while 28 percent of white women held Bachelor degrees. But the situation is worse for Indigenous men: 25 percent of white men held a Bachelor degree compared to 8 percent of Indigenous men in 2006 (Wilson & Macdonald, 2010).

On a more positive note, Wilson and Macdonald (2010) report the income gap between Indigenous and non-Indigenous Canadians with Bachelor degrees decreased from $3,382 to $648 between 1996 and 2006. Indigenous women are obtaining Bachelor degrees at a faster rate than Indigenous men and Indigenous women have surpassed income levels of non-Indigenous women with the same degree, on average (Wilson & Macdonald, 2010). This does not speak, however, to the differences in employment levels between Indigenous and white women (Wilson & Macdonald, 2010). Additionally, according to Hull (2005), Indigenous women have higher levels of

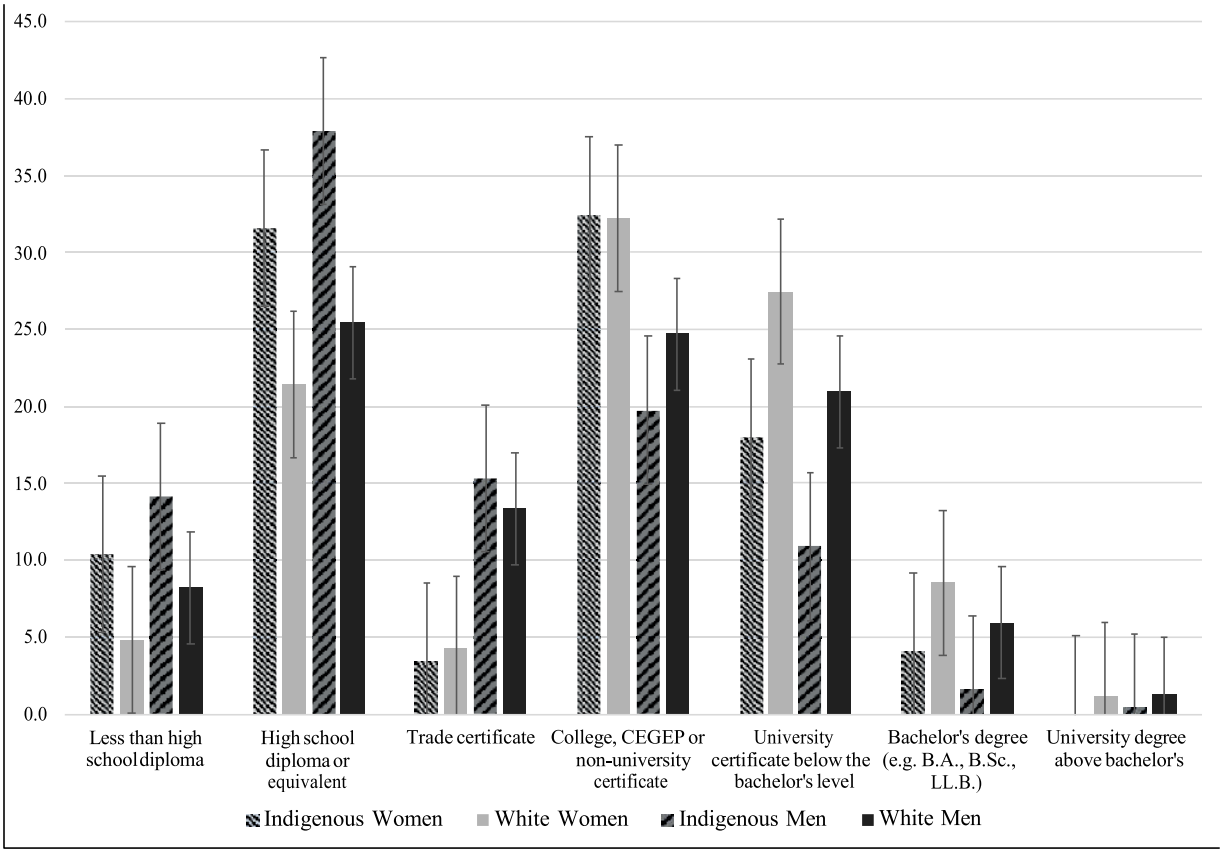
education than Indigenous men, but have lower levels of participation in the labour market.

Indigenous women with lower levels of education have lower participation in the labour market as well: Using data from the 2012 Aboriginal Peoples Survey (APS), Aboriginal Affairs and Northern Affairs Canada (2013) show that 59 percent of Indigenous men who did not complete high school were employed while only 37 percent of Indigenous women who did not complete high school were employed (Aboriginal Affairs and Northern Affairs Canada, 2013). Caretaking of elders and children was identified as the main reason for lower levels of employment and labour force participation of Indigenous women in the 2013 APS, regardless of education level.

The gaps and trends in educational attainment discussed above are present in the GSS data. Figure 2.1 shows 31.6 percent of Indigenous women and 37.9 percent of Indigenous men reported their highest level of educational attainment is a high school diploma or its equivalent, compared to 21.4 percent and 25.5 percent of white women and men, respectively. At higher levels of education, white persons dominate, too: 27.5 percent and 21 percent of white women and men and 18 percent and 10.9 percent of Indigenous women and men stated they completed a university certificate below the bachelor's level, respectively (Figure 2.1).

In both the white and Indigenous GSS samples, women have higher levels of education (Figure 2.1). But Indigenous men are lagging behind: Indigenous women are twice as likely to obtain a post-secondary degree than Indigenous men while only slightly more white women have post-secondary degrees than white men.

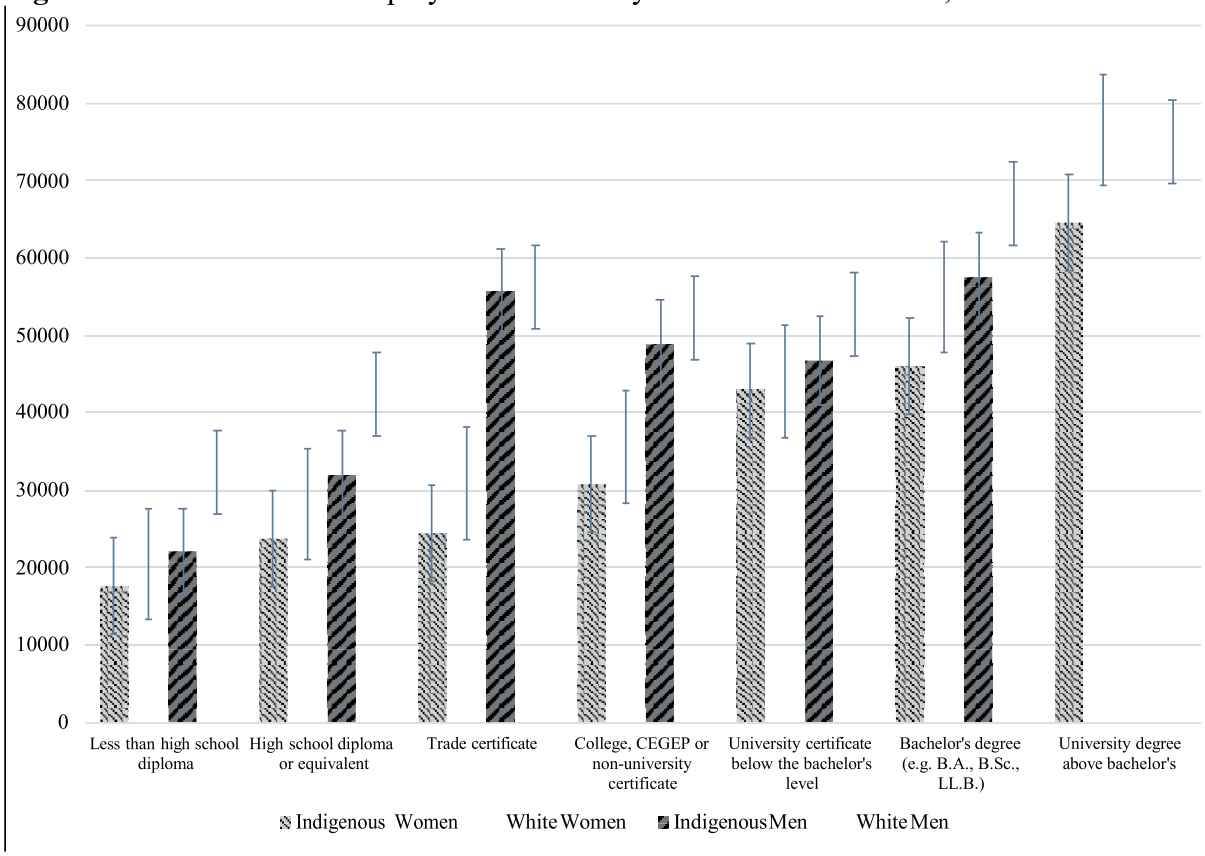
Figure 2.1 – Level of educational attainment, percentage of Indigenous and white women and men, 2013



Notes: Author's calculations, General Social Survey, Cycle 28 (Statistics Canada, 2014)

Wilson and Macdonald (2010) find Indigenous peoples with Master or Bachelor degrees have nearly the same median incomes as non-Indigenous peoples with the same education. But income disparity between Indigenous and non-Indigenous populations at lower levels of education are concerning. Indigenous peoples who have not completed any secondary education earn $3,027 less than Indigenous peoples with only high school or less than high school (Wilson & Macdonald, 2010). Although a higher proportion of Indigenous peoples have completed an apprenticeship, trade certificate or diploma relative to non-Indigenous peoples, they earn $4,692 less, on average (Wilson & Macdonald, 2010). They also find similar trends for those who have a high school education or less (Wilson & Macdonald, 2010).

Figure 2.2 – Mean annual employment income by educational attainment, 2013



Notes: Income is in Canadian dollars, author's calculations, General Social Survey, Cycle 28 (Statistics Canada, 2014)

The GSS data shows Indigenous women and men earn less than the white population at every level of educational attainment. The gap in earnings is smallest for women who hold a university certificate below the Bachelor level. And contrary to Wilson and Macdonald (2010), Indigenous men with a trade certificate earn just $727 less annually than white men who have the same.

Indigenous women with less than high school earn $2,818 less, on average, than white women with the same education (Figure 2.2). And Indigenous men who did not complete high school earn $10,183 less than white men (Figure 2.2). These patterns continue at higher levels of education in the GSS data as well. Indigenous women earn $8,951 less than white women when both have a Bachelor's degree while Indigenous men with a

Bachelor's lag by $9,592. The 2014 GSS earnings gap at higher levels of education is much larger than that reported by Wilson and MacDonald (2010). It is possible the earnings gap given by the 2014 GSS data is reflecting the differences in labour market attachment between Indigenous and white persons. I revisit this point in the Results, Chapter 6.

Indigenous peoples may be concentrated at the lower end of the income distribution partly because they have lower levels of education relative to the white group. But Indigenous peoples have lower earnings than the comparison group even when their education level is equivalent. Returns to education for Indigenous women are increasing, though, and the gap in earnings once education is accounted for may not be purely due to discrimination: geographical remoteness has also been found to explain, in part, the wage gap between Indigenous and white peoples in Canada.

2.6 THE 2014 GSS: LOCATION

It has been suggested that Indigenous peoples experience lower employment and lower levels of income because they choose to live in remote, rural areas. But what has sometimes been excluded from this conversation is the decimation of traditional ways of life facilitated by colonialism, the creation of "Indian reserves", and the forced migration of Indigenous peoples onto uneconomical land. But regardless of whether Indigenous persons choose to live in remote, rural areas or if they have been forced to, this hypothesis does not explain the employment and income disparity between Indigenous peoples and non-Indigenous peoples who both reside in remote areas of Canada.

Non-Indigenous Canadians earn $7,083 more than the Indigenous population in urban areas and $4,492 more than the Indigenous population in remote areas (Wilson & Macdonald, 2010). Furthermore, the non-Indigenous population in rural, remote areas earns $2,000 more than the urban Indigenous population (Wilson & Macdonald, 2010).

Indigenous populations in remote areas have sources of non-monetary income from traditional ways of life such as hunting, trapping, gathering and gardening that may make up for some of the earning disparity. For example, a study on the Mitchikabibikok Inik, the Algonquins of Barriere Lake, found that "the 90 percent unemployment rate [in the community] is partly offset by reliance on the traditional economy. In a given year, the land provided the community with 60,000 kilograms of edible meat (780 kilograms per household and 130 kilograms per person). On average, each household harvested meat at a value of $6,623. Families burned an average of 10.5 face cords of wood, which gives a fuel value of $48,000. In addition, non-meat resources from the bush added at least $845 per household. The estimated value of goods used by the Algonquin economy was $575,245 a year from the land base", by the 792 members of the Algonquin First Nation (Algonquin of Barrier Lake, 2001, as cited in United Nations Environment Programme, 2003) (Indigenous and Northern Affairs Canada, 2017).

The resources extracted from the natural environment by Indigenous communities in remote areas are limited in the compensatory benefits they provide since the sale of wild meat is illegal in Canada, for example. And non-monetary income for the remote Indigenous population in Canada is dwindling with degradation of the natural environment and changing regulations around hunting and fishing (Wilson & Macdonald, 2010). Plus, the cost of living in isolation is high and increasing due to transported food prices. The Indigenous population in urban areas is at a loss as well;

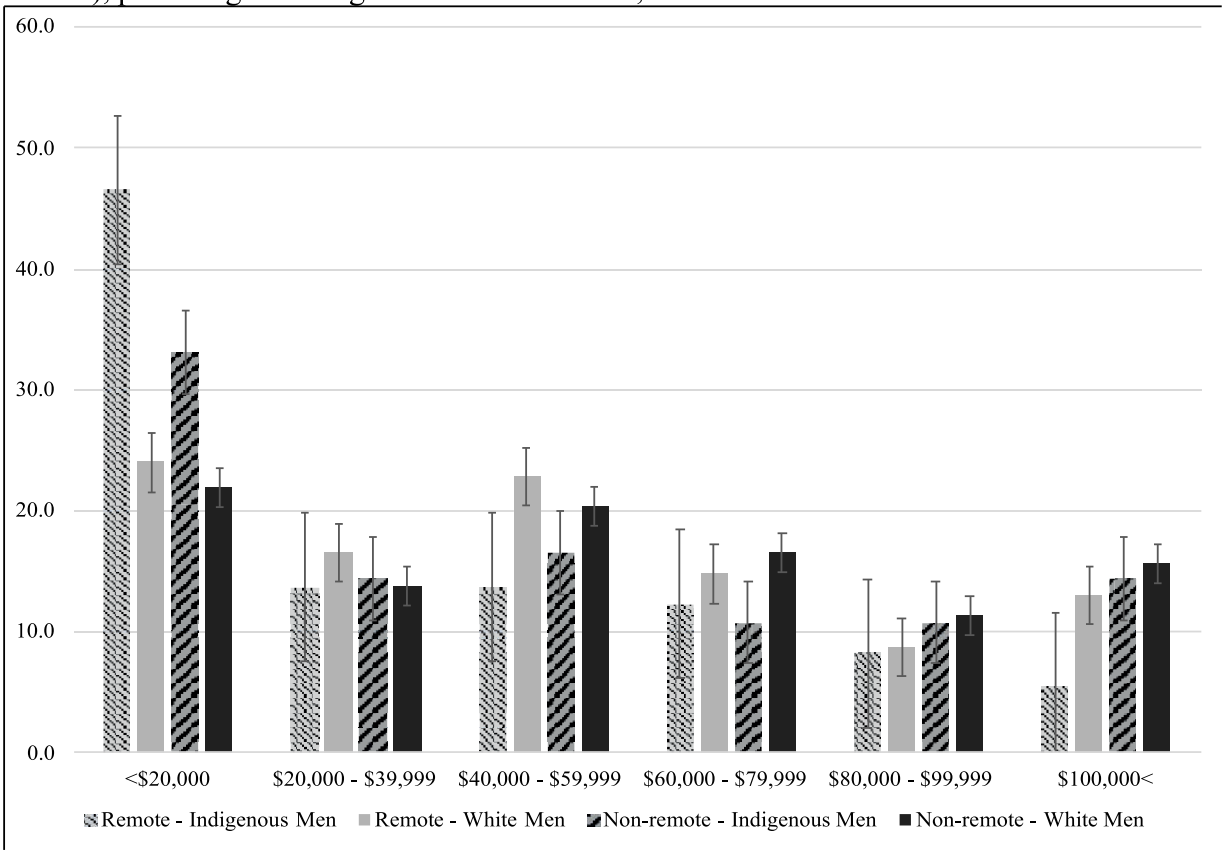
they are unlikely to benefit from the natural environment and they face higher costs of living in areas other than food.

The 2014 GSS data shows the gap in earnings between Indigenous men and white men in remote areas to be $15,797, compared to $8,668 in non-remote areas (Figure 2.3). Furthermore, Figure 2.3 shows that 46.58 percent of Indigenous men living in remote areas of Canada earned less than $20,000 in 2014, compared to 23.99 percent of white men.

Both Indigenous and white men have lower earnings in remote areas than in urban areas in the GSS data. Figure 2.3 shows 47.48 percent of Indigenous men in non-remote areas and 60.28 percent in remote areas earn less than $40,000 per year (see Figure 2.3). For white men, 35.73 percent in non-remote areas and 40.53 percent in remote areas earn less than $40,000 annually (Figure 2.3).

When observing Indigenous women alone, there is little difference in earnings between those living in remote and non-remote areas (Figure 2.4). But the Indigenous–white earnings gap for women in urban areas is larger than in rural areas. The earnings gap in urban areas for women is $7,309 and $5,756 in rural areas (Figure 2.4). Figure 2.4 shows 56.13 percent of Indigenous women in non-remote areas and 60.28 percent of Indigenous women in remote areas earn less than $40,000 annually. For white women, 47.3 percent in non-remote areas earn less than $40,000 while 56.16 percent in remote areas earn the same (Figure 2.4).

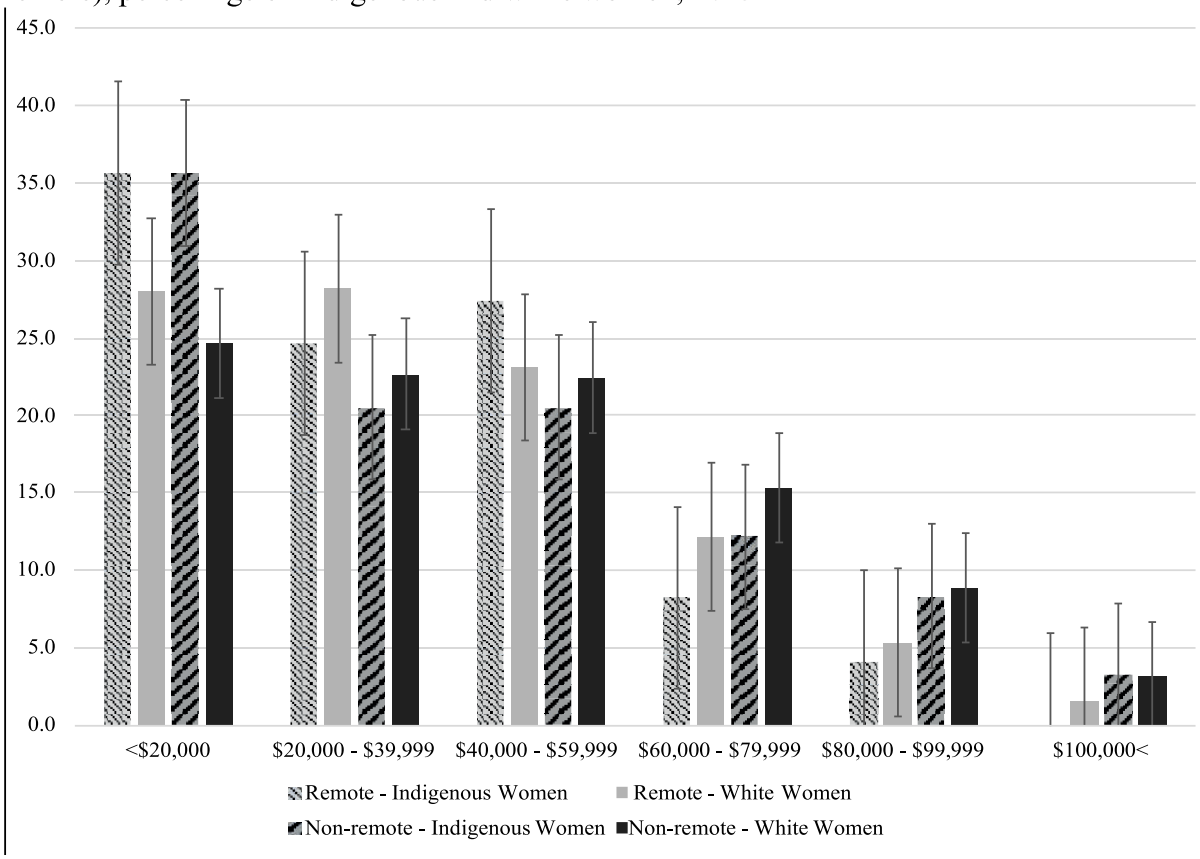
Figure 2.3 – Mean annual employment income by geographical location (remote and non-remote), percentage of Indigenous and white men, 2013



Notes: Income groups are in Canadian dollars, author's calculations, General Social Survey, Cycle 28 (Statistics Canada, 2014)

Kuhn and Sweetman (2002) suggest that Indigenous peoples who live off-reserve and outside of Canada's Territories experience preferable labour market outcomes as the Territories and many reserves, where a higher concentration of Indigenous peoples live, are located in remote areas, which limits accessibility to jobs. A higher proportion of Indigenous men and women in the GSS 2014 sample live in urban areas and those who do have higher earnings than Indigenous peoples living in remote areas. Furthermore, using traditional human capital variables to analyse the earnings gap in remote areas may be distorting as non-monetary sources income are not considered.

Figure 2.4 – Mean annual employment income by geographical location (remote and non-remote), percentage of Indigenous and white women, 2013



Notes: Income groups are in Canadian dollars, author's calculations, General Social Survey, Cycle 28 (Statistics Canada, 2014)

2.7 SUMMARY

The 2014 GSS data on income and education levels of Indigenous peoples in Canada relative to the white population is consistent with the economics literature on the earnings and educational attainment gaps: Indigenous women have higher levels of education than Indigenous men, but still lag behind the white population. Income disparity exists for both Indigenous women and men at all education levels and the earnings gap is greatest between Indigenous and white men living in remote areas.

The following chapter introduces economic theories of discrimination within the context of the Indigenous–white earnings gap in Canada. In Chapter 4, I discuss self-

reported discrimination and address who perceives discrimination, why they might perceive it and how data on perceived discrimination might help researchers better understand the phenomenon of labour market discrimination against Indigenous peoples in Canada.

CHAPTER 3 THEORIES OF DISCRIMINATION

Neo-classical economic theory suggests that when markets are perfectly competitive, and businesses have all necessary information regarding employees' productivity, an employee's earnings equal the value of their marginal product. However, these conditions seldom hold, and productivity is not a trivial measurement: an individual's earnings depend on their level of education, work experience and other external factors like geographical location. But when two individuals are considered identical in these respects, they may not have identical labour market outcomes. Why? Person A may be highly career motivated and an excellent team member, and person B may be lazy and difficult to get along with; then, we would expect person A's earnings to be higher than person B's. Similarly, two identical persons (in terms of education, work experience and geographic location) may have different earnings due to discrimination.

The work of Gary Becker (1959), reviewed in the following section, lays a theoretical foundation for economics research on labour market discrimination. Becker's (1959) theories contribute to our understanding of how labour market discrimination affects an economy or society, but they cannot fully explain the phenomenon of labour market discrimination. Other theories, discussed later, help shed light on why labour market discrimination is observed today despite antidiscrimination laws.

Discrimination is a complex subject; the ways in which it is observed or perceived can differ across individuals and settings. Furthermore, discrimination is not confined to the labour market; discrimination in other domains can also affect labour market outcomes. Institutionalized discrimination, for example, has contributed to the lower employment rates and earnings of Indigenous peoples in Canada today. Later in this chapter, I provide a discussion of how labour market discrimination affects Indigenous peoples and the

Canadian economy as a whole. The relationship between self-reported labour market discrimination and wage discrimination as documented in the literature is also reviewed.

3.1 BECKER AND NEO-CLASSICAL ECONOMICS

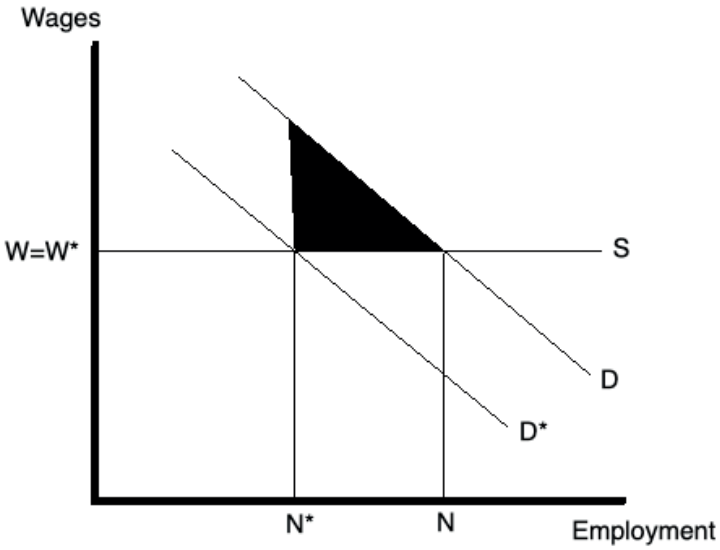
Gary Becker (1959) first analyzed labour market discrimination within the framework of trade economics. Becker (1959) observes racial groups as if they are countries and the labour market as if it is the international commodity market. In his analogy, discrimination acts as a tariff does, preventing entry into the labour market for Black people in the US. In a labour market without discrimination, each racial groups' utility is maximized if the marginal productivity of both goods (or labour) is equal. Like a tariff in the case of an abundant good and a scarce one, discrimination causes unequal marginal productivities between the two racial groups (Becker, 1959). Economic productivity is then lowered as resources are not efficiently allocated.

Figures 3–3.2 illustrate Becker's theory of labour supply and labour demand for two groups when there is discrimination in the labour market. Figure 3 shows the case of perfectly elastic Indigenous labour supply.[6] Discrimination shifts the demand for Indigenous labour from D to D* since supply of Indigenous labour decreases as demand for Indigenous labour decreases (Figure 3). In this case, Indigenous wages stay the same as white wages[7] (W=W*) but Indigenous employment falls from N to N* (Figure 3). The shaded triangle in Figure 3 gives the loss in producer surplus due to discrimination.

[6] Assuming Indigenous peoples are the discriminated against group

[7] Assuming white peoples are not discriminated, and their wages are equal to their productivity

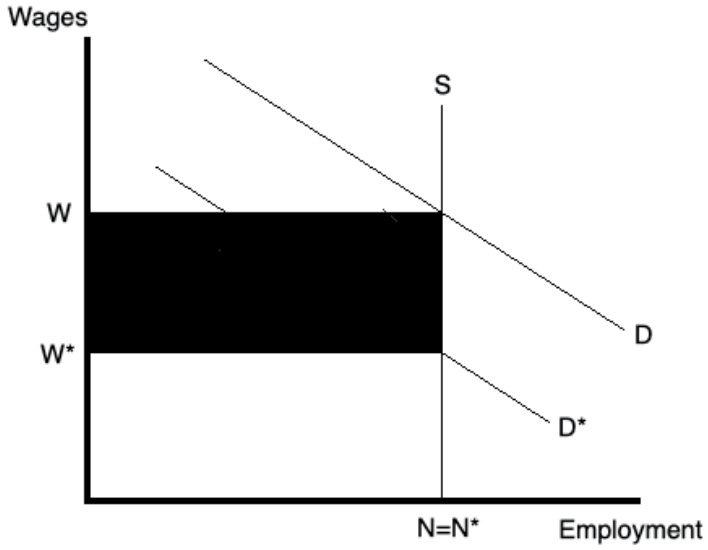
Figure 3 – Discrimination shifts the Indigenous labour demand curve downwards with perfectly elastic Indigenous labour supply



Notes: Authors illustrations based on Becker (1959). A shift in the demand curve from D to D* causes a fall in Indigenous employment from N to N* and wages stay the same when Indigenous labour supply is perfectly elastic.

When we assume the supply of Indigenous labour is perfectly inelastic in Figure 3.1, the decrease in demand for Indigenous labour from D to D* results in a decrease in Indigenous wages from W to W* (Figure 3.1). Indigenous wages are then not equal to the value of their marginal productivity, and this difference is shown as the shaded rectangle in Figure 3.1. This difference means Indigenous workers are more productive than their wages imply, and the employer ends up with a surplus, or more profit.

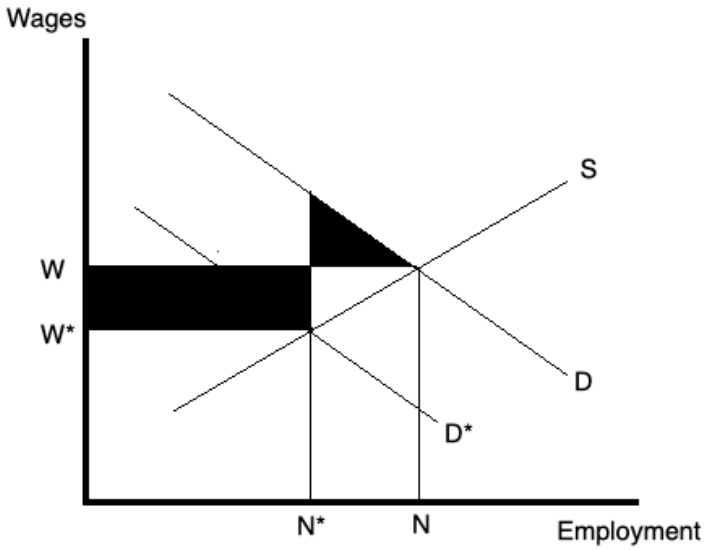
Figure 3.1 – Discrimination shifts the Indigenous labour demand curve downwards with perfectly inelastic Indigenous labour supply



Notes: Authors illustrations based on Becker (1959). A shift in the demand curve from D to D* causes a fall in Indigenous wages from W to W* and Indigenous employment stays the same when Indigenous labour supply is perfectly inelastic.

As the real-world labour market likely consists of discriminating employers and non-discriminating employers, the supply of Indigenous labour is not likely to be perfectly elastic or inelastic (Becker, 1959). Figure 3.2 shows the case of Indigenous labour supply falling in between perfect elasticity and perfect inelasticity. In this case, the fall in demand for Indigenous labour from D to D* causes a fall in Indigenous wages and employment, and the effect on producers depends on the elasticity of Indigenous labour supply (Figure 3). If discriminating firms and non-discriminating firms act differently, though, what happens to the demand and supply of Indigenous labour and what happens to Indigenous wages?

Figure 3.2 – Discrimination shifts the Indigenous labour demand curve downwards in a labour market with neither perfectly elastic or perfectly inelastic Indigenous labour supply



Notes: Authors illustrations based on Becker (1959). A shift in the demand curve from D to D* causes a fall in Indigenous employment from N to N* and a fall in Indigenous wages from W to W* when Indigenous labour supply is neither perfectly elastic or perfectly inelastic.

According to neo-classical economics, in a perfectly competitive market, firms do not control prices and those who do not operate efficiently will incur losses. In a perfectly competitive market with labour market discrimination against Indigenous workers, non-discriminating firms gain by hiring Indigenous workers at wages less than the value of their marginal product. Discriminating firms, on the other hand, lose their producer surplus and may be forced to shut down. But assuming all firms want to maximize their profits, overall demand for Indigenous labour will increase. Indigenous wages will then rise until they reach equality with white wages. What neo-classical economics fails to explain is why marginalized groups earn lower wages and why labour market discrimination has persisted.

3.2 WHY DOES DISCRIMINATION STILL EXIST IN THE LABOUR MARKET?

Labour market discrimination can affect how one's earnings reflect one's productivity. For example, a person may be denied entry or promotion into or within the labour market because of race. But discrimination outside the labour market can affect one's earnings as well: racial discrimination by the public or the consumer can influence a business' choice to hire. Discrimination is an elusive concept, and the labour market has long been a domain where discrimination takes place. This section reviews five theories of why labour market discrimination persists.

1. Gains to employers. As Figures 3–3.2 suggest, firms can profit from discrimination. Employers can force the wages paid to Indigenous workers down by hiring fewer Indigenous workers. If the shaded triangle in Figure 3.2 is larger than the shaded triangle in Figure 3, firms are gaining more from paying lower wages to Indigenous workers than they are losing from operating inefficiently (Becker, 1959). It could be expected that if this occurs repeatedly in the labour market, discrimination could persist over time.

2. Discrimination by consumers. Discrimination by employers is not the only source of labour market discrimination: if white consumers or white employees demand segregation from Indigenous workers or consumers, for example, firms may not hire Indigenous workers. Firms might have to hire less productive white workers to replace the Indigenous workers, though, which increases business costs. And the increased costs would then likely be passed on to consumers through increased prices. In summary, when the consumer is the source of labour market discrimination, the marginal benefit of being segregated from Indigenous peoples must be higher than the marginal cost of paying increased prices for labour market discrimination to continue (Becker, 1971).

3. Statistical versus taste discrimination. Becker's (1971) later work distinguished between taste discrimination and statistical discrimination. In cases of taste discrimination, the utility of consumers or employers is negatively affected due to interaction with a certain group. Discriminating against someone because of something you can observe about them, like race or sex, is statistical discrimination. Statistical discrimination comes into play in the case of hiring since employers often do not have perfect information about a potential hire's productivity. When employers do have information about an employee's race or gender, though, they may use this information as an indicator of productivity (Becker, 1971).

If a man and a woman are identical in terms of education level and years of work experience, an employer may hire the man since on average, the men employed by the firm are more productive as they do not take maternity leaves, for example. And if the employer does hire the woman, they may offer her a lower wage because of this perceived lower productivity of women. Labour market discrimination can, therefore, persist due to statistical discrimination.

4. Crowding hypothesis. Even if firms do not have perfect information about productivity, they may discriminate by separating workers into categories and assigning them to tasks based on prejudgments (Bergman, 1971). This kind of discrimination may not be intentional but can partly explain why discrimination still exists in the labour market. Discriminating by gender in the hiring process based on what constitutes a "man's job" or a "woman's job" is a well-known example of the crowding hypothesis (Bergman, 1971). Similarly, if employers hire Indigenous workers to do the lowest paying jobs within the firm while white workers are represented in all business units, whites will have higher earnings on average.

5. Discrimination goes undetected. In the neo-classical model, it is obvious which firms discriminate and which firms do not due to their varying levels of efficiency. But when firms have market power, i.e. control over prices, discrimination may go undetected (Shepherd, 1969). If an employer discriminates against a group based on a one hiring manager's tastes, for example, the discrimination may not be recognized if the return on capital is sufficient. Specifically, if a firm is not maximizing their profits because of discrimination but they are performing better than their competitors, there may not be any reason to question a manager's hiring or compensation schemes (Shepherd, 1969). Sheppard (1969) found when market power increases, the percentage of minority workers employed in high level positions decreases. This implies that as firms gain market power, they can more easily get away with discrimination and the discrimination is simultaneously more difficult to detect.

Labour market discrimination can take different forms: refusal to hire or promote, unequal pay, fewer benefits, or workplace segregation. And it can come from multiple sources: consumers, employers, and even non-discriminated workers. Not only is labour market discrimination difficult to measure, but it can go undetected when firms have market power. Neo-classical economic models cannot tell us why discrimination in the labour market has persisted, and antidiscrimination policies and laws have failed to stop it. So, what does this mean for the Canadian society as a whole?

3.3 WHAT DOES LABOUR MARKET DISCRIMINATION MEAN FOR THE CANADIAN ECONOMY?

As described above, discrimination can lead to inefficiency for firms and lower earnings for the discriminated group and hence, lower purchasing power. Inefficiency, in turn, can lead to a loss in consumer welfare due to higher prices, as well as lower productivity.

Loss in social welfare and lower output can, therefore, be seen as consequences of labour market discrimination in Canada. And not only has labour market discrimination been linked to slower economic growth, but negative externalities for a society may surface due to labour market discrimination.

If Indigenous peoples in Canada lose purchasing power because of wage discrimination or lower demand for their labour, aggregate demand in Canada may also be affected. If Indigenous peoples have a higher marginal propensity to consume than white people, aggregate demand will fall if Indigenous peoples are discriminated against at work.[8] On the other hand, aggregate demand may increase and inflation could occur if Indigenous peoples have a lower marginal propensity to consume than white people. In either case, the Canadian economy is affected by the disequilibria of aggregate demand and aggregate supply. And at the same time, if the purchasing power of Indigenous peoples in Canada is compromised, so is their standard of living.

It is detrimental to an entire society when a discriminated against group is more likely to be impoverished or fall into poverty because of lower wages or work unavailability. Firstly, government transfers increase when more people are living in poverty. And second, negative externalities like high crime rates could be a result of labour market discrimination; a person who steals because they cannot afford to eat would not necessarily steal if they were not in destitution. Moreover, not only does the nation need to spend more on security and law enforcement, but there is a loss in social welfare due to high crime rates as well.

[8] Assuming Indigenous peoples would earn the same as the white, or white population if there

was no discrimination

Another way of interpreting the effects of labour market discrimination on an economy is observing the potential misallocation of talent across occupations. Hsieh et al. (2013) study the long-run macroeconomic consquences of the misallocation of talent in the US measured by the occupational distribution of Black women and men relative to white men since the 1960s. Hsieh et al. (2013) find that the changing occupational distribution of Black and white people over the last 50 years contributed 15 to 20 percent of the nation's growth in aggregate output. In other words, the authors suggest that the US experienced economic growth due to the increase in high-skilled occupations performed by Black women and men since the 1960s when they were disturbingly underrepresented.

Discrimination in the criminal court system may contribute to the overrepresentation of Indigenous people in the Canadian prison system. At the same time, if an Indigenous person feels they are treated differently than the average person in the education system, their perception of treatment could affect their decision to attend school. As such, discrimination can take different forms, direct labour market discrimination like wage discrimination being one of these forms, and perceived discrimination being another.

CHAPTER 4 SELF-REPORTED DISCRIMINATION

It is not common for economists to observe self-reported data when studying earnings or employment gaps. And it is not clear whether self-reported discrimination is the result of an outcome, such as low educational attainment, rather than the cause. Perceived discrimination can be defined as feeling mistreated or differently treated than a mainstream group or society (Biddle *et al*., 2013). Biddle *et al.* (2013) suggest, "there is a normative component [in perceived discrimination data] that involves a complex interaction between societal standards and psychological processes". In other words, how someone evaluates mistreatment or different treatment depends on how they think they ought to be treated and also how they perceive others being treated. This chapter discusses who perceives discrimination, the factors associated with feeling discriminated against and the relationship between perceived discrimination and wage discrimination. I then introduce the self-reported discrimination data found in the 2014 GSS.

4.1 WHO PERCEIVES DISCRIMINATION?

Data on perceived discrimination can assist researchers in understanding how and when a given group is discriminated against, but heterogeneity bias can exist in self-reported data since those who report discrimination once are more likely to report it across employers and overtime (Johnson and Neumark, 1997; Neumark and McLennan, 1995). Due to these potential biases, it is important to observe and review the common characteristics amongst those who perceive discrimination.

Marginalized peoples such as persons in 2SLGBTQQIA communities, persons who are differently abled, racial minorities and women are most likely to experience discrimination, but this does not mean only marginalized people, or that all marginalized people perceive discrimination. Individuals across socioeconomic groups, regardless of

race, sex, gender, identity, sexuality or ability may report discrimination for different reasons. A high-status person, or one with privilege, may report discrimination when there is an unwanted outcome to an event they do not have control over (Crocker and Major, 1989; Kobrynowicz and Branscombe, 1997). A person belonging to a minority group that typically experiences discrimination, on the other hand, may underreport discrimination to avoid potential penalties for doing so (Crosby, 1984; Bobo and Suh, 2000). For example, a success-driven person may not perceive or report discrimination if it could affect their individual mobility (Major, Gramzow *et al*. 2002).

Individuals who experience direct labour market discrimination and potentially perceive discrimination as well, often belong to a group that has been oppressed historically. Women earn $0.60-$0.80 for every dollar earned by men after centuries of fighting for rights and equality (Blau *et al*., 2014). And Black people in the US earn lower wages than white people long after the abolishment of slavery (Hsieh *et al.*, 2013). In the case of Indigenous people in Canada, historically being forced to live in isolated communities and being forced to assimilate has affected labour market outcomes today.

4.2 WHAT FACTORS ARE ASSOCIATED WITH PERCEIVED DISCRIMINATION?

It could be expected that factors such as ill-health, depression and low self-esteem are associated with perceived discrimination. Paradies, (2006) and Gee and Walsemann (2009), for example, suggest that people are more likely to have poor health as a result of perceived discrimination rather than poor health leading to perceived discrimination. As such, attempting to mobilize in an environment where one feels discriminated against can take a toll on their health.

Group ideology is also said to be a factor associated with discrimination. Specifically, the more group ideology is embraced, the more likely a person is to perceive discrimination (Major, Gramzow *et al*. 2002). Group identity provides protection and comradery for members of stigmatized groups, and it can also help sustain self-esteem. This has been identified across racial minorities groups and women. Feminists, for example, are more likely to perceive discrimination than women who seek acceptance (Major, Quinton *et al*. 2003).

Another factor related to perceived discrimination is visibility. The extent to which an individual visibly belongs to a minority group can directly affect whether one feels discriminated against, and likely whether one is discriminated against. Banerjee (2008) finds visible minorities are more likely to report feeling discriminated against than non-visible minorities in Canada. The role of visibility in perceiving discrimination is particularly important in the case of Indigenous people of Canada as some Indigenous persons may not be visibly part of an Indigenous group.

4.3 PERCEIVED DISCRIMINATION AND WAGE DISCRIMINATION

Mixed conclusions have been drawn regarding the relationship between self-reported discrimination and wage discrimination. Hampton and Heywood (1993) and Coleman, Darity *et al.* (2008) suggest a strong positive correlation exists between self-reported discrimination and wage discrimination while Kuhn (1987), Barbezat and Hughes (1990) and Hallock *et al.* (1998) find there is a weak relationship between the two. The strength of the relationship between wage discrimination and perceived discrimination indeed depends on how self-reported discrimination data is collected and how wage discrimination is measured.

One possible explanation for a weak relationship is that perceived discrimination affects labour supply, not just wages. Goldsmith *et al*. (2004) introduce cognitive dissonance into the classical theory of labour supply to capture what happens when an individual perceives discrimination. Once discriminated against, an individual may believe their desired career is unattainable and change their expectations about what kind of work they can do (Goldsmith *et al*., 2004). This suggests some may change their occupation due to perceived discrimination or they may become discouraged and not work at all.

Another explanation is that employees do not report wage discrimination because they are not aware they are being discriminated against. Others may perceive discrimination in the workplace but remain at their job if it is not affecting their wages. Through analyzing the relationship between perceived discrimination and statistically measured wage discrimination, Hallock *et al.* (1998) suggest persons who are differently abled and women who report discrimination in the workplace perceive discrimination along dimensions other than pay. However, Hallock *et al.* (1998) also find those who perceive workplace discrimination also feel their pay is inadequate.

Asymmetric information between employers and employees can also affect perceived discrimination. Kuhn (1987) finds female employees who experience statistically measured salary discrimination are less likely to report discrimination. Barbezat and Hughes (1990) suggest that this can be partially explained by the availability and quality of information, employers' preferences and the costs of discriminating. More specifically, they suggest wage or salary discrimination is more likely to occur when there is a smaller risk of detection, and hence, employees have less accurate information.

The framing of workplace discrimination questions can affect whether we observe a correlation between wage discrimination and self-reported discrimination. Hampton and Heywood (1993) aim to understand how female physicians perceive the gender wage gap by asking direct questions about wage discrimination. The authors find that female physicians, controlling for labour market attachment and other factors, do perceive gender discrimination and have an accurate idea of how it is reflected in their wages (Hampton and Heywood, 1993).

Coleman, Darity *et al.* (2008) look at the validity of perceived discrimination and investigate the moral hazard effect that can arise when antidiscrimination laws are in place. They find statistical evidence of wage discrimination, controlling for human capital factors, against female and male black workers in the US who reported discrimination in the workplace. Coleman, Darity *et al.* (2008) also suggest there is little evidence in their study to support the moral hazard effect, that antidiscrimination laws deter employers from hiring black workers out of fear of discrimination charges.

When questions asked about discrimination in the workplace are too general or broad, a relationship between wage discrimination and perceived discrimination may not be present. But some others find that wage discrimination and perceived discrimination go hand-in-hand. I ask whether self-reported discrimination data could be helpful in measuring and decomposing the earnings gap between a marginalized and majority group. The following section introduces the self-reported discrimination data from the 2014 GSS reported by Indigenous and white persons in Canada.

4.4 THE 2014 GSS: SELF-REPORTED DISCRIMINATION

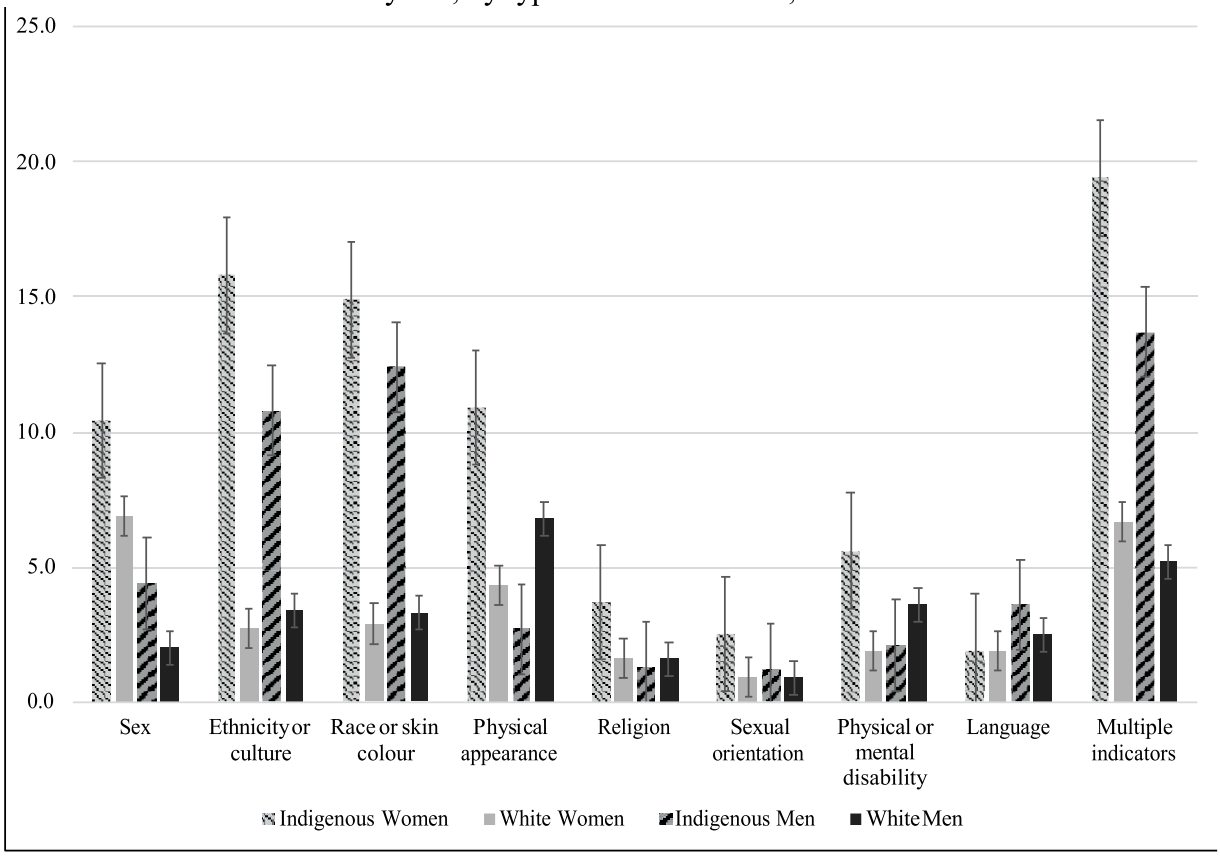
Empirical literature in economics often focuses on the effects of employer discrimination towards employees on labour market participation and wages (Blinder, 1973; Oaxaca, 1973; Arrow, 1998). This work has provided insight to the extent of labour market discrimination, but is limited in its explanation as discrimination is not actually observed. The 2014 GSS data provides an opportunity to compare how Indigenous peoples in Canada perceive discrimination relative to white Canadians. Additionally, the 2014 GSS is a confidential survey, suggesting reports of discrimination would not affect individual mobility in the labour market. This sections discusses perceived discrimination by type of discrimination, place or situation, by region of Canada, and by geographical remoteness.

1. Discrimination by type or reason. Apart from income and education disparity, the data also shows that Indigenous peoples more often feel they are victims of discrimination compared to white peoples (Figures 4 and 4.1). The 2014 GSS asked respondents, "In the past five years, have you experienced discrimination or been treated unfairly by others in Canada because of your: sex, ethnicity or culture, race or skin colour, physical appearance, religion, sexual orientation, physical or mental disability?" (Statistics Canada, 2014). Indigenous persons answered "Yes" more often than white persons to all questions (Figure 4). Indigenous persons were also more likely to have perceived discriminated for more than one reason (Figure 4).

Indigenous women were more likely than the white population and more likely than Indigenous men to report feeling discriminated against for each reason surveyed (Figure 4). Furthermore, Indigenous women were more than twice as likely to report feeling

discriminated against because of their ethnicity or culture, race or skin colour, physical appearance, religion, sexual orientation and because of a disability than white women.

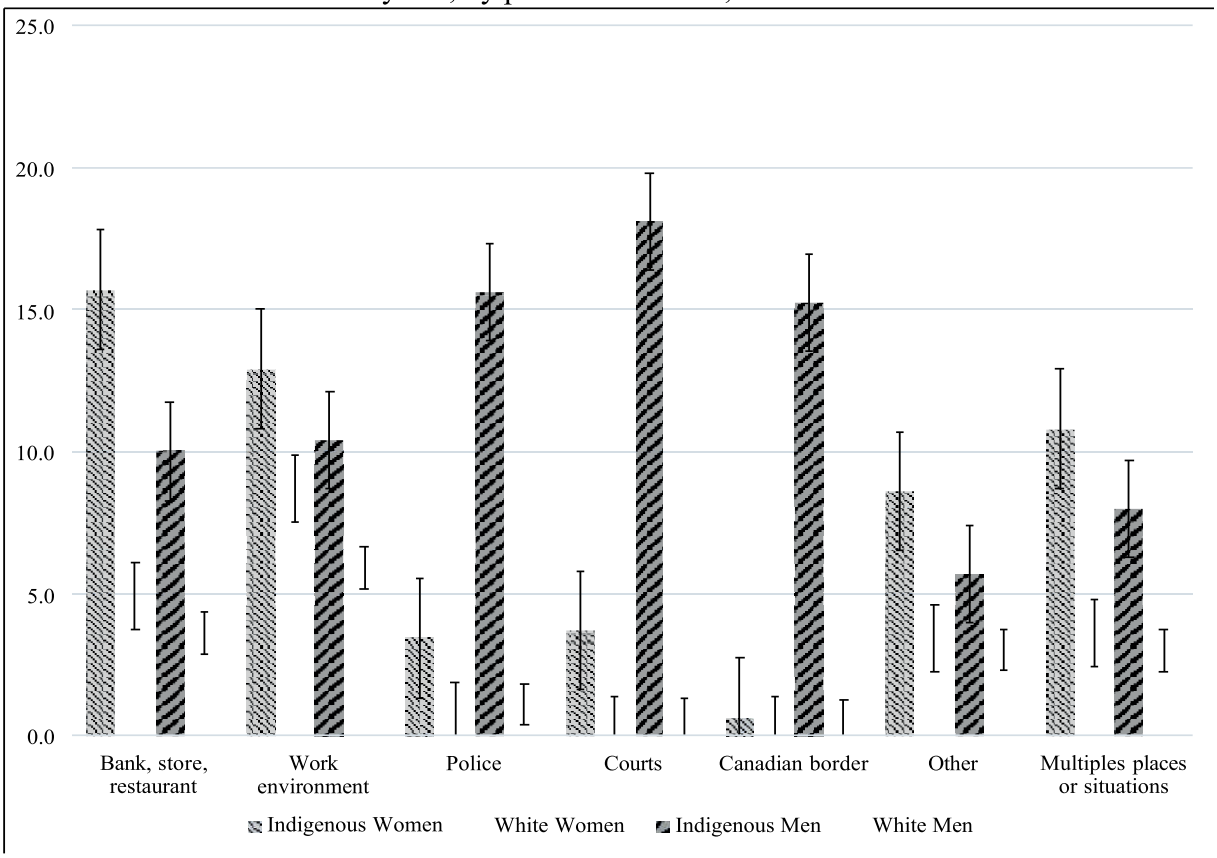
Figure 4 – Percentage of Indigenous and white men and women who reported experiencing discrimination in the last five years, by type of discrimination, 2013



Notes: Author's calculations, General Social Survey, Cycle 28 (Statistics Canada, 2014)

2. Discrimination by situation or place. Figure 4.1 shows the percentage of respondents who stated they were discriminated against in a particular situation by others in Canada, broken up by Indigenous and white women and men. Again, Indigenous men and women said they had been discriminated against more frequently in every area. Nearly 13 percent of Indigenous women and 10.4 percent of Indigenous men stated they had been discriminated against in a bank, store or restaurant in the last five years, while 8.7 percent and 5.9 percent of white women and men said the same (Figure 4.1).

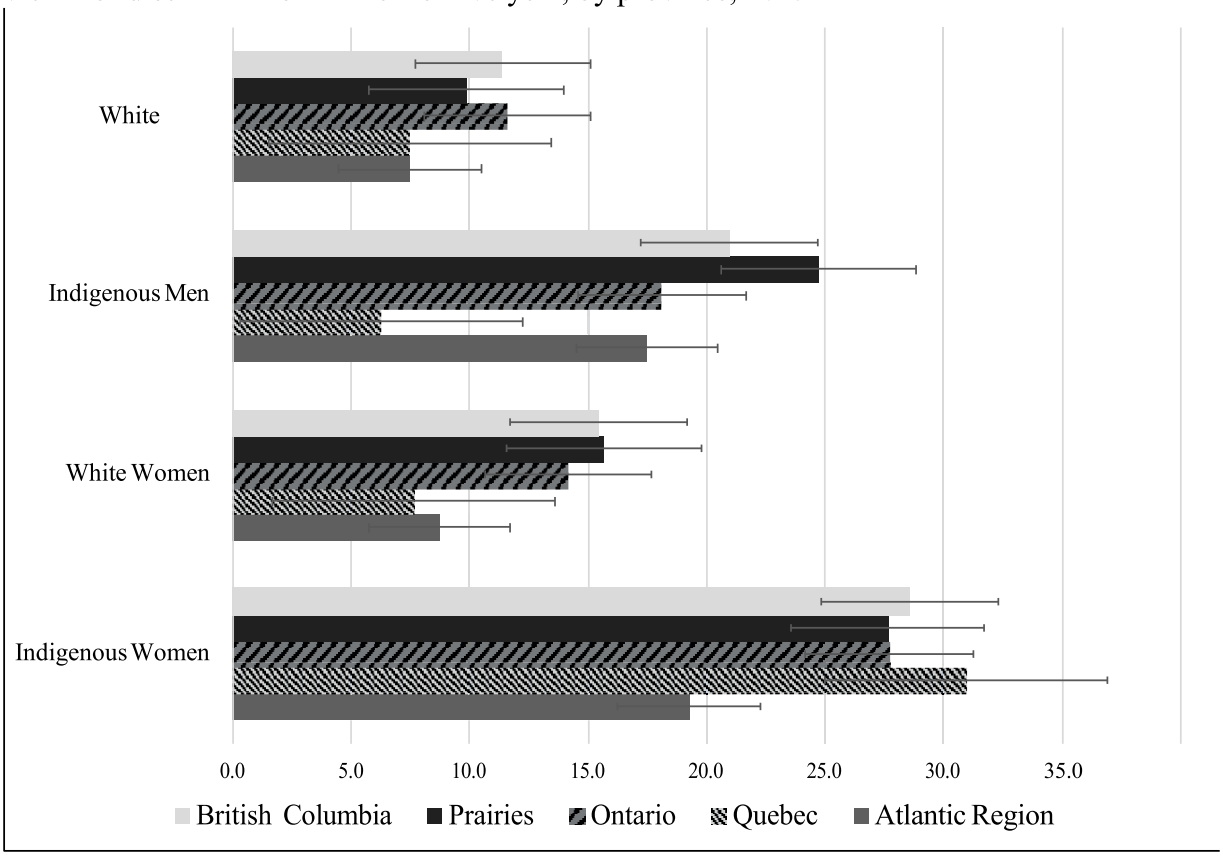
Figure 4.1 – Percentage of Indigenous and white men and women who reported experiencing discrimination in the last five years, by place or situation, 2013



Notes: Author's calculations, General Social Survey, Cycle 28 (Statistics Canada, 2014)

Strikingly, 18.11 percent of Indigenous men perceived discrimination in court while less than one percent of white women and men perceived discrimination in the legal system (Figure 4.1). Additionally, 15.61 percent and 15.22 percent of Indigenous men had felt discriminated against by the police and at the Canadian border, respectively (Figure 4.1). But this depends, of course, on whether an individual has been in court, came in contact with the police or crossed an international border. Men are more likely to have appeared in court in general, but a notable percentage of Indigenous women still stated they felt discriminated against by the police and in court as well (Figure 4.1).

Figure 4.2 – Percentage of Indigenous and white men and women who reported being a victim of discrimination in the last five year, by province, 2013

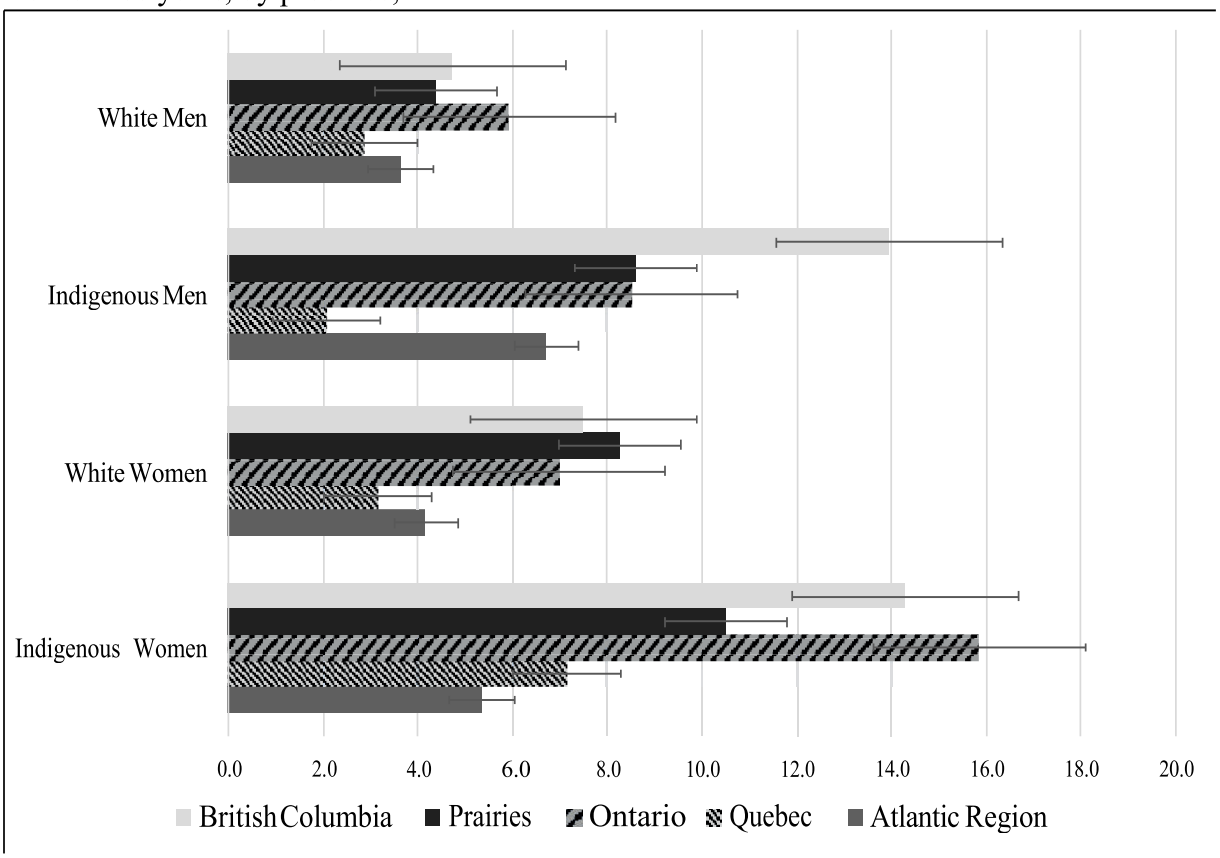


Notes: Author's calculations, General Social Survey, Cycle 28 (Statistics Canada, 2014)

3. Discrimination by region. The 2014 GSS shows some regional variation in Indigenous self-reported discrimination (Figure 4.2). Between 27 and 31 percent of Indigenous women stated they were victims of discrimination in the last five years in British Columbia, the Prairie provinces, Ontario and Quebec and between 18 and 25 percent of Indigenous men perceived discrimination in British Columbia, the Prairies, Ontario and the Atlantic provinces (Figure 4.2). Interestingly, fewer Indigenous women perceived discrimination in the Atlantic provinces and fewer Indigenous men experience discrimination in Quebec (Figure 4.2). Indigenous men even reported discrimination less often than white men and women in Quebec.

Indigenous women were also more likely to have perceived discrimination in the past five years in the work environment in all regions, except for the Atlantic region (Figure 4.3). Indigenous men reported far more workplace discrimination in British Columbia than other parts of Canada (Figure 4.3). Figure 4.3 shows that Indigenous women who reported feeling discriminated against when applying for a job or a promotion are concentrated in Ontario and British Columbia. On the contrary, 7.15 percent of Indigenous women experienced workplace discrimination in Quebec while just 2 percent of Indigenous men in Quebec felt the same (Figure 4.3).

Figure 4.3 – Percentage of Indigenous and white men and women who reported being a victim of discrimination in the work environment (when applying for a job or a promotion) in the last five years, by province, 2013



Notes: Author's calculations, General Social Survey, Cycle 28 (Statistics Canada, 2014)

4. Labour market discrimination and other forms of discrimination. Biddle et al. (2013) find Indigenous Australians who reported feeling discriminated against in the labour market were more likely to report discrimination because of other reasons and in other situations. For example, 38 percent of Indigenous Australians who reported labour market discrimination also said they felt discriminated against by police, security personnel, lawyers or in court. Yet only 9 percent of Indigenous Australians who did not feel discriminated against in the labour market experienced discrimination by police, etc. Discrimination reported by Indigenous Canadians in the 2014 GSS resembles that of Indigenous Austrailians.

Table 4 shows Indigenous men who reported feeling discriminated against in the labour market were over ten times more likely to report feeling discriminated against for multiple reasons. Additionally, 46.2 percent of Indigenous men who reported labour market discrimination also reported experiencing discrimination in a bank, store or restaurant (Table 4).

The 2014 GSS data also suggests women who reported labour market discrimination were significantly more likely to state they experienced discrimination in other forms. 78.6 percent of Indigenous women who experienced labour market discrimination stated they felt discriminated against on multiple accounts (Table 4.1). And 57 percent of Indigenous women who felt discriminated against when applying for a job or a promotion experienced discrimination or unfair treatment in multiple situations (Table 4.1).

Table 4 – Proportion of Indigenous men who reported feeling discrimination against in the previous five years by reported labour market discrimination, 2013

	Indigenous Men	
	No reported labour market discrimination	**Reported labour market discrimination**
Discriminated because of sex	0.018	0.269
Discriminated because of ethnicity or culture	0.058	0.539
Discriminated because of race or skin colour	0.067	0.615
Discriminated because of physical appearance	0.036	0.346
Discriminated because of religion	0.009	0.077
Discriminated because of sexual orientation	0.009	0.039
Discriminated because of physical or mental disability	0.018	0.192
Discriminated because of language	0.013	0.231
Discriminated because of other reasons	0.005	0.077
Discriminated because of multiple reasons	0.076	0.654
Experienced discrimination - Bank, store, restaurant	0.058	0.462
Experienced discrimination - Police	0.018	0.231
Experienced discrimination - Courts	0.009	0.077
Experienced discrimination - Canadian border	0.005	0.077
Experienced discrimination - Other	0.057	0.039
Discrimination or unfair treatment - Multiple places	0.027	0.539
Number of observations	223	46

Notes: Author's calculations, General Social Survey, Cycle 28 (Statistics Canada, 2014)

Table 4.1 – Proportion of Indigenous women who reported feeling discrimination against in the previous five years by reported labour market discrimination, 2013

	Indigenous Women	
	No reported labour market discrimination	**Reported labour market discrimination**
Discriminated because of sex	0.046	0.500
Discriminated because of ethnicity or culture	0.099	0.575
Discriminated because of race or skin colour	0.085	0.585
Discriminated because of physical appearance	0.060	0.450
Discriminated because of religion	0.028	0.098
Discriminated because of sexual orientation	0.021	0.050
Discriminated because of age	0.021	0.075
Discriminated because of physical or mental disability	0.028	0.244
Discriminated because of language	0.004	0.125
Discriminated because of other reasons	0.011	0.024
Discriminated because of multiple reasons	0.101	0.786
Experienced discrimination - Bank, store, restaurant	0.120	0.405
Experienced discrimination - Police	0.014	0.175
Experienced discrimination - Courts	0.018	0.171
Experienced discrimination - Canadian border	0.004	0.024
Experienced discrimination - Other	0.078	0.143
Discrimination or unfair treatment - Multiple places	0.039	0.571
Number of observations	282	52

Notes: Author's calculations, General Social Survey, Cycle 28 (Statistics Canada, 2014)

5. Discrimination and employment. According to the 2014 GSS data, Indigenous self-reported discrimination varies by employment and occupation type. Indigenous men who had seasonal, casual or term employment were 4.4 percentage points more likely to have experienced discrimination in the last five years than regular employees with no set termination date (Table 4.2). Those in professional occupations were 4 percentage points more likely to report discrimination than Indigenous men in non-professional occupations (Table 4.2). Additionally, seasonally, casually or term employed Indigenous men were 8.8 percentage points more likely to report feeling discriminated against because of their race or skin colour than regularly employed Indigenous men (Table 4.2).

Table 4.2 – Proportion of Indigenous men who reported feeling discrimination against in the previous five years by employment type, 2013

	Indigenous Men			
	Seasonal, term or casual employee	Regular employee (no termination date)	Non-professional occupation	Professional occupation
Has been a victim of discrimination in the last 5 years	0.241	0.197	0.183	0.222
Discriminated because of sex	0.035	0.059	0.064	0.032
Discriminated because of ethnicity or culture	0.138	0.099	0.096	0.127
Discriminated because of race or skin colour	0.207	0.119	0.136	0.127
Discriminated because of physical appearance	0.069	0.046	0.056	0.032
Discriminated because of religion	0.000	0.020	0.016	0.016
Discriminated because of sexual orientation	0.035	0.013	0.016	0.016
Discriminated because of physical or mental disability	0.000	0.027	0.016	0.032
Discriminated because of language	0.000	0.046	0.024	0.048
Discriminated because of other reasons	0.000	0.013	0.008	0.016
Discriminated because of multiple reasons	0.172	0.127	0.120	0.159
Experienced discrimination - Bank, store, restaurant	0.069	0.099	0.087	0.111
Experienced discrimination - Work environment	0.069	0.125	0.079	0.159
Experienced discrimination - Police	0.035	0.033	0.040	0.016
Experienced discrimination - Courts	0.000	0.012	0.016	0.000
Experienced discrimination - Canadian border	0.000	0.020	0.016	0.016
Experienced discrimination - Other	0.138	0.026	0.048	0.032
Discrimination or unfair treatment - Multiple places	0.069	0.086	0.079	0.079
Number of observations	39	152	125	63

Notes: Author's calculations, General Social Survey, Cycle 28 (Statistics Canada, 2014)

Table 4.3 also shows discrimination in the work environment was 5.6 percentage points higher for regularly employed Indigenous men than seasonally, casually or term employed Indigenous men. Labour market or work environment discrimination was also

7.9 percentage points higher for Indigenous men in professional occupations relative to non-professional. Thus, Indigenous men who are seasonally and casually employed were most likely to report discrimination in the last five years but not necessarily in the workplace. This could mean Indigenous men who are most likely to perceive discrimination have found work arrangements they do not feel discriminated in. Discrimination against Indigenous men in the workplace, then, is concentrated amongst those who are regularly employed with no set termination date and those who hold a professional occupation.

Indigenous women, on the other hand, were more likely to report discrimination when in non-professional occupations relative to professional occupations, both in the work environment and on multiple accounts (Table 4.3). But unlike Indigenous men, Indigenous women with seasonal, casual or term employment were nearly twice as likely to experience discrimination in the workplace than regularly employed Indigenous women (Table 4.3). This suggests that perceived workplace discrimination could be linked to labour market deattachment for Indigenous women, as those who are seasonally or casually employed spend less time working than a regularly employed person.

Table 4.3 – Proportion of Indigenous women who reported feeling discrimination against in the previous five years by employment type, 2013

	Indigenous Women			
	Seasonal, term or casual employee	Regular employee (no termination date)	Non-professional occupation	Professional occupation
Has been a victim of discrimination in the last 5 years	0.261	0.269	0.329	0.234
Discriminated because of sex	0.130	0.094	0.123	0.078
Discriminated because of ethnicity or culture	0.217	0.137	0.155	0.134
Discriminated because of race or skin colour	0.217	0.136	0.167	0.134
Discriminated because of physical appearance	0.174	0.077	0.113	0.079
Discriminated because of religion	0.000	0.030	0.056	0.024
Discriminated because of sexual orientation	0.000	0.036	0.069	0.008
Discriminated because of physical or mental disability	0.000	0.018	0.014	0.016
Discriminated because of language	0.000	0.024	0.014	0.024
Discriminated because of other reasons	0.000	0.006	0.028	0.000
Discriminated because of multiple reasons	0.217	0.159	0.233	0.134
Experienced discrimination - Bank, store, restaurant	0.174	0.129	0.137	0.125
Experienced discrimination - Work environment	0.217	0.117	0.164	0.102
Experienced discrimination - Police	0.091	0.018	0.027	0.032
Experienced discrimination - Courts	0.087	0.024	0.028	0.039
Experienced discrimination - Canadian border	0.000	0.000	0.000	0.000
Experienced discrimination - Other	0.000	0.077	0.096	0.055
Discrimination or unfair treatment - Multiple places	0.174	0.071	0.082	0.087
Number of observations	43	173	72	127

Notes: Author's calculations, General Social Survey, Cycle 28 (Statistics Canada, 2014)

6. Discrimination and geographical remoteness. Biddle, Howlett, Hunter, and Paradies (2013) find 28.5 and 27.3 percent of Indigenous Australians in non-remote and remote areas, respectively, reported feeling discriminated against. And discrimination reported by Indigenous men in Canada does not vary significantly between remote and non-remote areas either: 20.9 percent of Indigenous men in non-remote areas reported themselves as a victim of discrimination in the last five years and 20.4 percent of Indigenous men in remote areas reported the same (Table 4.4). But Indigenous men in non-remote areas were more likely to report feeling discriminated against because of their race ethnicity or culture, physical appearance or a mental or physical disability (Table 4.4).

Table 4.4 – Proportion of Indigenous persons who reported feeling discriminated against in the previous five years by remoteness and sex, 2013

	Indigenous Men		Indigenous Women	
	Remote	Non-remote	Remote	Non-remote
Has been a victim of discrimination in the last 5 years	0.204	0.209	0.243	0.320
Discriminated because of sex	0.022	0.057	0.084	0.114
Discriminated because of ethnicity or culture	0.087	0.123	0.113	0.179
Discriminated because of race or skin colour	0.120	0.127	0.094	0.175
Discriminated because of physical appearance	0.044	0.082	0.076	0.125
Discriminated because of religion	0.022	0.013	0.038	0.037
Discriminated because of sexual orientation	0.000	0.019	0.028	0.023
Discriminated because of physical or mental disability	0.019	0.065	0.028	0.069
Discriminated because of language	0.044	0.032	0.010	0.023
Discriminated because of other reasons	0.022	0.006	0.000	0.018
Discriminated because of multiple reasons	0.120	0.147	0.131	0.225
Experienced discrimination - Bank, store, restaurant	0.075	0.114	0.150	0.161
Experienced discrimination - Work environment	0.097	0.108	0.084	0.151
Experienced discrimination - Police	0.033	0.044	0.047	0.028
Experienced discrimination - Courts	0.011	0.019	0.028	0.041
Experienced discrimination - Canadian border	0.000	0.019	0.000	0.009
Experienced discrimination - Other	0.077	0.045	0.075	0.092
Discrimination or unfair treatment - Multiple places	0.065	0.089	0.084	0.120
Number of observations	91	157	107	219

Notes: Author's calculations, General Social Survey, Cycle 28 (Statistics Canada, 2014)

Table 4.4 also reports 9.7 percent and 10.8 percent of Indigenous men in remote and non-remote areas reported feeling discriminated against in the work environment when applying for a job or a promotion. Indigenous men in non-remote areas were more likely to report discrimination in other situations or places, such as a bank, store or restaurant and for multiple reasons (Table 4.4). Similarly, Biddle et al. (2013) suggest Indigenous Austrailians perceive slightly more discrimination by members of the public, such as doctors, lawyers, teachers and government officials in non-remote areas.

Indigenous women were also more likely to report feeling discriminated against in urban areas, despite reporting higher earnings in urban areas relative to rural areas. In Table 4.4, 32 percent of Indigenous women in non-remote areas reported discrimination in the last five years compared to 24.3 percent in remote areas. And similar to Indigenous Australians, non-remote Indigenous women were more likely to report workplace discrimination relative to remote Indigenous women.

As discussed above, Indigenous peoples are more likely to reside in rural areas due to the geographical remoteness of many reserves and Indigenous communities. Although the GSS was not conducted on reserves, it is possible that the GSS Indigenous sample perceived less discrimination in remote areas because they are more likely to work for or along side other Indigenous peoples. Indigenous peoples living in remote areas of Canada may also interact with other Indigenous peoples in public more often than Indigenous peoples in urban centres would.

4.5 SUMMARY

Labour market discrimination is often defined in economics as the differences in earnings or employment between persons of equal productivity. Discrimination, then, cannot be measured without estimating productivity. In order to estimate an individual's productivity, economists use models of human capital where human capital is measured based on education and number of years of work experience. But years of education and work experience are proximate measures of human capital and are subject to measurement error: they do not give a perfect estimation of how much one earns or ought to earn. Theories of human capital acknowledge, therefore, that an individual's wage is also dependent on external influences such as discrimination, 'measured' as an unexplained residual.

There are three approaches to analyzing labour market discrimination commonly used by economists. Directly measuring statistical discrimination through observing wages is one approach (e.g. calculate how much women earn compared to men in the same position with the same human capital characteristics) but may require firm or industry level data as well as data on individuals' productivity. Another approach is randomized

control trials or field experiments (e.g. submitting identical resumes to job postings and only changing the name to test whether an employer discriminates against women or people of colour based on name (Oreopoulos, 2011)). This method is gaining popularity but tends to be costly to carry out. The third approach, used in this study and introduced in the following chapter, is the Oaxaca (1973) decomposition method. This method can help researchers statistically understand the relationship between human capital characteristics and the gap in labour market outcomes between two groups.

CHAPTER 5 EMPIRICAL APPROACH

When the Oaxaca (1973) decomposition methodology is employed, labour market outcomes, in this case, earnings, are regressed against human capital characteristics that are thought to be deterministic of one's wage. An explanatory variable describing an observable trait that should not be predictive of productivity, such as race or gender, is also included. The objective of using this approach is to assess how much of the gap in labour market outcomes between a base group and a group that is hypothesized to experience labour market discrimination can be explained by human capital variables. The residual, or portion of the gap that cannot be explained by human capital characteristics is interpreted as discrimination (or other omitted variables).

Using the Oaxaca (1973) decomposition method to analyze the Indigenous–white earnings gap in Canada with the 2014 GSS data, I compare the model used by Feir (2013) to a pared-down model that excludes disability, language, type of work and household composition variables. This comparison could be telling of how much of the earnings gap between Indigenous and white persons comes from labour market discrimination based on race or ethnicity since characteristics such as living with a disability could also be a marker for discrimination. Furthermore, type of work such as part-time positions as opposed to permanent positions could be an outcome of discrimination while household composition may be irrelevant to productivity.

To analyze the relationship between wage discrimination and self-reported labour market discrimination, I obtain the human capital coefficients for white women and men by running earnings regressions. I then use the white groups' coefficients to predict the annual earnings of Indigenous women and men. This nuanced approach to examining labour market discrimination aims to help us understand whether individuals who report

discrimination in the labour market earn less than their predicted wage, as given by the non-discriminated group's returns to human capital.

5.1 SUMMARY STATISTICS

The relevant socio-demographic questions for the analysis of the Indigenous–white earnings gap in the GSS 2014 pertain to an individual's Indigenous identity, education, household composition, disability, language, perception of discrimination, participation in the labour market and the corresponding outcomes, as well as other characteristics that are considered to be deterministic of one's earnings such as geography.

Table 5 shows the weighted summary statistics for the four subgroups analyzed in this study: Indigenous women and men and white women and men. In the white samples of men and women, 4252 and 4426 observations remain, respectively (Table 5). For Indigenous men the sample size is 211 and 228 for Indigenous women (Table 5). Table 5 shows the average annual earnings for the Indigenous and white groups: Indigenous men earn a similar annual income to white women, on average, while Indigenous women lag behind white women by $6,408 (Table 5). White men earn $57,088 per year, on average, making the annual earnings gap for men $12,477. The gap in real weekly earnings is less polarized than the annual gaps at $184 for the sample of Indigenous–white men and $266 for women.

This study looks at individuals who are over 25 to avoid observing the earnings of those who may still be in school. And the returns to education vary across the four subgroups: both Indigenous and white men have higher earnings but lower levels of education than women in the same group. Indigenous men have the lowest average level of education followed by Indigenous women and white men, while white women reported the highest education levels (Table 5). Table 5 shows 11 percent of Indigenous

men reported less than a high school diploma as their highest level of education and 6 percent of Indigenous women reported the same. White men have only slightly higher levels of education than Indigenous women, with 5 percent reporting less than high school. At high levels of education, 38 percent of white women have a bachelor's degree or higher relative to 23 percent of Indigenous women. For men, non-minorities are nearly twice as likely to have a bachelor's degree or higher than Indigenous.

The average age across the sampled groups is 39 to 41 and 64 to 71 percent of persons are married or common law. Approximately half reported that at least one child under 18 resides in their household, but Indigenous women are less likely to be married or common law than white women and are just as likely to have children in their household (Table 5). 43 percent of Indigenous and white women reported a child under 5 in their household while Indigenous men are four percentage points more likely to have a young child than white men.

Years of potential work experience are close for the comparison groups, but Indigenous men are ten percentage points less likely to have employment with no set termination date[9] (i.e. be a regular employee rather than a seasonal or contract worker). Indigenous persons are more likely to speak English, but the Indigenous sample for Quebec is 17 percentage points smaller than the white sample for Quebec (Table 5). Indigenous people, though, are less likely to speak both English and French. Furthermore, out of the four sample groups, Indigenous women are most likely to have disability status and to report a disability (Table 5).

[9] In Table 5, *Regular Employee* equals one if the individual is an employment situation with not set termination date and equals zero if they are in a seasonal or contract employment situation; this variable is

referred to as “employment conditions” later in the study

Table 5 – Weighted summary statistics for Indigenous and white men and women, 2013

	Women		Men	
	Indigenous	**White**	**Indigenous**	**White**
Age	41.25	39.50	39.10	38.77
Education (years)	13.73	14.52	13.11	13.92
Less than high school (%)	0.06	0.03	0.11	0.05
Bachelor degree or higher (%)	0.23	0.38	0.14	0.26
Real annual income	$38,050.75	$44,459.15	$44,611.67	$57,088.88
Real annual income gap		$6,408.40		$12,477.21
Real weekly income	$763.90	$1,030.00	$1,002.35	$1,186.69
Real weekly income gap		$266.09		$184.34
Number of weeks worked	49.78	48.36	47.06	49.44
Married or common law (%)	0.64	0.70	0.71	0.69
Child under 18 in household (%)	0.52	0.52	0.51	0.48
Child under 5 in household (%)	0.43	0.43	0.46	0.42
Speaks English (%)	0.93	0.87	0.98	0.90
Work experience (years)	21.52	18.98	19.99	18.86
Regular employee (%)	0.88	0.89	0.81	0.91
Seasional employee (%)	0.00	0.02	0.04	0.03
Casual employee (%)	0.06	0.05	0.07	0.02
Term employee (%)	0.06	0.04	0.08	0.03
Professional occupation (%)	0.94	0.96	0.56	0.63
Experienced workplace discrimination (%)	0.10	0.09	0.13	0.06
Speaks English and French (%)	0.12	0.25	0.18	0.24
Disability status (%)	0.31	0.22	0.24	0.15
Reported a disability (non-status) (%)	0.29	0.18	0.19	0.13
Lives in metropolitan area (%)	0.69	0.84	0.68	0.85
Atlantic region (%)	0.12	0.09	0.11	0.08
Quebec (%)	0.11	0.28	0.10	0.27
Ontario (%)	0.16	0.36	0.24	0.36
Prairie (%)	0.43	0.17	0.36	0.18
BC (%)	0.18	0.10	0.19	0.11
Number of observations	228	4426	211	4252

Table notes: This table reports the summary statistics for the four groups analyzed in this study who are between 25-54 years old and whose major source of income was from salaries and wages. These statistics are reported using the Statistics Canada weighting factor for individual respondents. This weighting factor gives the number of persons in the population each sampled individual represents (Statistics Canada, 2014).

Lastly, Indigenous men are 17 percentage points less likely to live in a metropolitan area than non-minorities and Indigenous women are 15 percentage points less likely to live in a metropolitan area (Table 5). The majority of the Indigenous sample resides in

the western provinces and Ontario while most of the white population live in the Quebec and Ontario (Table 5). The following section explains the methodology used to analyze the annual earnings gaps between Indigenous and white women and men. I also describe how the variables introduced in the summary statistics are constructed within the analysis.

5.2 OAXACA DECOMPOSITION METHOD

If an Indigenous person and a non-Indigenous person are identical in terms of their observed "productivity enhancing" characteristics, do they earn the same annual income? The Oaxaca method uses the characteristics of the two groups relating to human capital to decompose the earnings gap into an explained portion and an unexplained portion.

The Oaxaca method first requires an estimation of the earnings equation for each group. I use the log of annual earnings as a measure of labour market outcomes. I estimate separate earnings equations for Indigenous men, white men, Indigenous women and white women using Feir's (2013) model (equation 1 and 2) and a pared-down model that excludes variables that are not necessarily related to worker productivity (equation 3 and 4):

(1) $Ln\ Annual\ Earnings_I = f(Education, Experience, Disability, Household\ Composition, Language, Geography, Type\ of\ Work, Number\ of\ Weeks\ Worked)$

(2) $Ln\ Annual\ Earnings_W = f(Education, Experience, Disability, Household\ Composition, Language, Geography, Type\ of\ Work, Number\ of\ Weeks\ Worked)$

(3) $Ln\ Annual\ Earnings_I = f(Education, Experience, Geography)$

(4) $Ln\ Annual\ Earnings_W = f(Education, Experience, Geography)$

Where: the notation *I* refers to Indigenous women and men and *W* refers to white women and men; education is the years of education attained ranging from less than high school (10 years) to doctorate (24 years). Experience uses age as a proxy for the years of potential work experience[10], the years of potential work experience squared is also included. Disability is represented by a dummy variable for disability status and a dummy variable for whether the individual reported a disability.[11]

Household composition includes a dummy variable for whether an individual is married or common law, whether they have a child under 18 living in their household, a child under five residing in their home and dummy variables for the number of children under 14 in the household. Language is represented by two dummy variables, one for whether the individual speaks English and one for whether the individual speaks both French and English.

Geography includes a dummy variable for whether an individual lives in a Census Metropolitan Area (CMA)[12] or in a rural/small population centre[13] and province indicators. Type of work is represented by a dummy variable equal to one if the individual is in a professional occupation and a dummy variable that equals one if the individual is a regular employment with no set termination date, as opposed to a seasonal or contract worker. And lastly, number of weeks worked is a continuous variable ranging from 0 to 52 representing the number of weeks an individual was employed in the previous year.

[10] Potential experience = age-years of education-6
[11] Individuals reported a seeing, hearing, physical, mental or learning disability
[12] A Census Metropolitan Area consists of one or more neighbouring municipalities situated around a core and it must have a total population of at least 100,000 of which 50,000 or more live in the core
[13] Individuals living anywhere in Prince Edward Island are considered to be residing in a rural/small

population centre

The Oaxaca method will be used to estimate a coefficient for each group based on the means of the aforementioned characteristics. The earnings gap between the white groups and the Indigenous groups are estimated by:

(5) $LnY_W = X_W\beta_W$

(6) $LnY_I = X_I\beta_I$

(7) $\Delta_O = Y_W - Y_I$

$= X_W\beta_W - X_I\beta_I$

$= (X_W - X_I)\beta_W + X_I\beta_W - X_I\beta_I$

$= (X_W - X_I)\beta_W + X_I(\beta_W - \beta_I)$

(8) $\Delta_O = \Delta_X + \Delta_S$

Where: LnY_W and LnY_I are the estimated log annual earnings for white men and women and Indigenous men and women, respectively. X_W and X_I, represent the independent variables or the characteristics described above for each group; and β_W and β_I are the estimated coefficients of the independent variables in the OLS regressions. The coefficients, β_W and β_I, represent the percentage change in earnings for a marginal change in the independent variables, X_W and X_I.

In equation (7), Δ_O represents the earnings differences between white and Indigenous persons. The first expression in the right hand side of the solved equation (7), $(X_W - X_I)\beta_W$ equals Δ_X, or the explained difference in earnings as it reflects the difference in the distribution of X between the white and Indigenous groups. The expression $(X_W - X_I)\beta_W$ or Δ_X is also known as the composition effect. The second expression in the right hand side of equation (7), $X_I(\beta_W - \beta_I)$ represents Δ_S, or the unexplained difference in earnings

between the white and Indigenous groups. The expression $X_I(\beta_W - \beta_I)$ or Δs is also known as the wage structure effect.

The expressions Δx and Δs can be translated into the percentage of the earnings gap that can be explained by differences in characteristics and the percentage that is unexplained, due to discrimination or due to unobserved factors:

(9) $$\eta_E = \Delta x / \Delta o$$

(10) $$\theta_U = \Delta s / \Delta o$$

Where η_E is the percentage of the earnings gap between white and Indigenous persons that is explained by differences in the distribution of characteristics or the composition effect and θ_U is the wage structure effect, or the percentage of the gap that is unexplained. I test the hypothesis that θ_U is greater than zero in both the men's and women's earnings gap. I further test that θ_U in the pared-down model is greater than θ_U in Feir's (2013) model, as including number of weeks worked, disability, type of work and household composition variables may reduce the size of the unexplained portion of the gap that is said to be due to discrimination, but may also cause an underestimation of discrimination against Indigenous persons in the labour market. Indigenous persons, for example, may be overrepresented in lower paying occupations because of discrimination. And by including type of work in the Oaxaca decomposition, we assume an individual's employment type reflects their productivity when it may reflect discrimination.

It is assumed in this model that Indigenous persons, whether men or women, face an earnings penalty in annual earnings. White Canadians, therefore, represent the true earnings or what one earns if they are not discriminated against in the labour market. Although this analysis intends to capture racial or ethnic labour market discrimination, it

is possible some individuals in the white group do experience discrimination because of disability, gender or sexual orientation, for example.

5.3 PREDICTED EARNINGS AND DISCRIMINATION

In the previously discussed Oaxaca decomposition approach, it is hypothesized that Indigenous persons experience labour market discrimination and it is assumed that white persons do not experience discrimination. The earnings of an Indigenous person, then, would equal the earnings of a white person with the same human capital if the Indigenous person did not experience discrimination. But if Indigenous peoples' are predicted to earn more than they actually do, is it because of discrimination? And if so, do they perceive this discrimination?

To obtain the human capital coefficients for white women and men, I use the log earnings regressions given by equations (11) through (14). Equations (11) and (12) are the pared-down model earnings regressions and equations (13) and (14) are the Feir (2013) model earnings regressions, for white women and white men respectively:

(11) $$LnEarnings_{WW} = \beta_{0WW} + \beta_{1WW}Education_{WW} + \beta_{2WW}Experience_{WW} + \beta_{3WW}Geography_{WW} + u_{WW}$$

(12) $$LnEarnings_{WM} = \beta_{0WM} + \beta_{1WM}Education_{WM} + \beta_{2WM}Experience_{WM} + \beta_{3WM}Geography_{WM} + u_{WM}$$

(13) $$LnEarnings_{WW} = \beta_{0WW} + \beta_{1WW}Education_{WW} + \beta_{2WW}Experience_{WW} + \beta_{3WW}Geography_{WW} + \beta_{4WW}Disability_{WW} + \beta_{5WW}Household\ Composition_{WW} + \beta_{6WW}Language_{WW} + \beta_{7WW}Type\ of\ Work_{WW} + \beta_{8WW}Number\ of\ Weeks\ Worked_{WW} + u_{WW}$$

(14) $$LnEarnings_{WM} = \beta_{0WM} + \beta_{1WM}Education_{WM} + \beta_{2WM}Experience_{WM} + \beta_{3WM}Geography_{WM} + \beta_{4WM}Disability_{WM} + \beta_{5WM}Household\ Composition_{WM} + \beta_{6WM}Language_{WM} + \beta_{7WM}Type\ of\ Work_{WM} + \beta_{8WM}Number\ of\ Weeks\ Worked_{WM} + u_{WM}$$

Where WW denotes white women and WM denotes white men. β_{1WW} through β_{8WW} give the effect on white women's log earnings if education, work experience, geography, disability status, household composition, language, type of work and number of weeks worked increase by one. β_{1WW} for example, equals the change in log earnings for white women resulting from one additional year of education, while β_{4WW} equals the change in white women's log earnings if the dummy variable for disability status changes from zero to one, where it equals zero if an individual did not report a disability and one if they did.

$\beta_{1WW} - \beta_{8WW}$ and $\beta_{1WM} - \beta_{8WM}$ are then used to predict the log earnings for Indigenous women and Indigenous men, respectively. Equations (15) and (16) are the pared-down model predicted log earnings equations and equations (17) and (18) are the Feir (2013) model predicted log earnings equations:

(15) $$PLnEarnings_{SIW} = \hat{\beta}_{0WW} + \hat{\beta}_{1WW}Education_{IW} + \hat{\beta}_{2WW}Experience_{IW} + \hat{\beta}_{3WW}Geography_{IW}$$

(16) $$PLnEarnings_{SIM} = \hat{\beta}_{0WM} + \hat{\beta}_{1WM}Education_{IM} + \hat{\beta}_{2WM}Experience_{IM} + \hat{\beta}_{3WM}Geography_{IM}$$

(17) $$PLnEarnings_{SIW} = \hat{\beta}_{0WW} + \hat{\beta}_{1WW}Education_{IW} + \hat{\beta}_{2WW}Experience_{IW} + \hat{\beta}_{3WW}Geography_{IW} + \hat{\beta}_{4WW}Disability_{IW} + \hat{\beta}_{5WW}Household\ Composition_{IW} + \hat{\beta}_{6WW}Language_{IW} + \hat{\beta}_{7WW}Type\ of\ Work_{IW} + \hat{\beta}_{8WW}Number\ of\ Weeks\ Worked_{IW}$$

(18) $$PLnEarnings_{SIM} = \hat{\beta}_{0WM} + \hat{\beta}_{1WM}Education_{IM} + \hat{\beta}_{2WM}Experience_{IM} + \hat{\beta}_{3WM}Geography_{IM} + \hat{\beta}_{4WM}Disability_{IM} + \hat{\beta}_{5WM}Household\ Composition_{IM} + \hat{\beta}_{6WM}Language_{IM} + \hat{\beta}_{7WM}Type\ of\ Work_{IM} + \hat{\beta}_{8WM}Number\ of\ Weeks\ Worked_{IM}$$

Where $PLnEarnings_{SIW}$ is the predicted log earnings for each Indigenous woman and $PLnEarnings_{SIM}$ is the predicted log earnings for each Indigenous man given by their

human capital characteristics and the coefficients from the white groups' log earnings regressions. And the difference between predicted and actual earnings gives a measurement of wage discrimination.

To explore the relationship between wage discrimination and self-reported labour market discrimination as given by the 2014 GSS, I look at what individuals reported labour market discrimination versus what individuals earn less than their predicted wage. A positive relationship between self-reported labour market discrimination and higher predicted earnings would suggest there is some overlap in statistically measured wage discrimination and self-reported labour market discrimination. Chapter 6 first presents the Oaxaca (1973) decomposition results for the Feir (2013) Indigenous–white earnings gap model and the pared-down model. I then discuss the results of the predicted earnings and self-reported discrimination analysis.

CHAPTER 6 RESULTS

This chapter is laid out as follows: Section 6.1 and 6.2 explain the Oaxaca (1973) decomposition results for the annual earnings gap between Indigenous and white men and Indigenous and white women, respectively. Section 6.3 presents the results of the predicted earnings and discrimination analysis. I then provide the limitations to my data and analysis in Section 6.4.

6.1 ANNUAL EARNINGS GAP: INDIGENOUS–WHITE MEN

Results for equations (5) through (10) in Chapter 5 for men are shown in Table 6. Results for equation (7), $\Delta_O = (X_W - X_I)\beta_W + X_I(\beta_W - \beta_I)$, is given by the Indigenous–white log annual earnings gap at the top of Table 6. I find that the differences in characteristics, $(X_W - X_I)\beta_W$ or Δ_X, and the differences in returns to characteristics, $X_I(\beta_W - \beta_I)$ or Δ_S, are statistically significant at the 99 percent confidence level in the men's annual earnings gap Oaxaca decomposition analysis (middle section of Table 6).

My results indicate that 49.2 percent of the annual earnings gap between the white and Indigenous samples of men can be explained by differences in human capital characteristics between the two groups and 50.8 percent of the gap is unexplained, or due to discrimination against Indigenous men when Feir's (2013) model is employed using the 2014 GSS data (Table 6). A smaller portion of the men's annual earnings can be explained by differences in characteristics using the pared-down model. That is, when education, work experience and geography only are observed, 44.2 percent of the men's annual earnings gap is explained and 55.8 percent of the gap is due to discrimination or other unobserved factors. I reject the null hypothesis that θ_U is equal to zero for the men's annual earnings gap for both the Feir (2013) model and the pared-down model.

Additionally, I reject the null hypothesis that θ_U in the pared-down model is equal to or less than θ_U in the Feir (2013) model.

Table 6 – Oaxaca decomposition results, annual earnings, Indigenous–white men, 2013

Indigenous–White Men Annual Earnings Gap		
Earnings gap	**Feir (2013) Model**	**Pared-down Model**
Ln annual earning gap	0.708***	0.792***
	(0.221)	(0.217)
Oaxaca decomposition		
White men ln annual earnings	10.08***	9.766***
	(0.0384)	(0.0405)
Indigenous men ln annual earnings	9.368***	8.974***
	(0.218)	(0.213)
Differences in characteristics	0.347*	0.350**
	(0.186)	(0.161)
Differences in returns	0.552***	0.676***
	(0.214)	(0.215)
% explained	49.2	44.2
% unexplained	50.8	55.8

Table notes: Standard errors in parentheses. The asterisks represent p-values or statistical confidence levels where ***=p<0.01; 99% confidence, **=p<0.05; 95% confidence, *=p<0.1; 90% confidence. This table shows the results of the Oaxaca decomposition given by equations (9) through (13) for the white and Indigenous samples of men. The ln annual and ln weekly earning gap coefficient in the first section are the results of $LnEAn_{NM}$-$LnEAn_{I}$ and $LnEWk_{NM}$-$LnEWk_{I}$ and the differences in characteristics for annual and weekly earnings are the results of Z_{NM}– Z_{I} in equations (9) and (10). The differences in returns is β_{NM} in these equations. The unexplained portion of the gap is calculated as the differences in returns/annual or weekly log earning gap and the explained portion of the gap is one minus the unexplained portion.

Using Feir's (2013) model, the men's annual earnings gap regression results show that year of education, employment type, number of weeks worked, living in a metropolitan area, marital status, having children and geography have a statistically significant effect on the earnings of non- minority and Indigenous men (Appendix A – Table A1). But the effect of work experience, language and disability status on annual earnings are not significant for men (Appendix A – Table A1). Given the large gaps in Indigenous and white men's earnings across levels of education and geographical location presented in

Chapter 2, it is expected that these factors would play an important role in explaining the earnings gap. But on the other hand, including secondary variables in the Oaxaca decomposition analysis such as weeks worked and employment type changes the interpretation of β^{W} and, therefore, changes the size of the gap that is said to be due to discrimination.

In the economics literature before Feir (2013), number of weeks worked was not included in the Indigenous–white earnings gap analysis. Feir (2013) argues that differences in employment types between the two groups directly affects earnings through the number of weeks worked. Indigenous men in the GSS 2014 sample work just 2.38 fewer weeks than white men (Table 5), on average, relative to on-reserve Indigenous men who worked 12.93 fewer weeks in 1995 and 10.08 fewer in 2005 according to Feir (2013). It is unclear, however, if Indigenous men in Feir's (2013) analysis and in this study work fewer weeks or have non-permanent work because of discrimination or because of the seasonal nature of their job.

In the pared-down model, education, potential work experience, living in a metropolitan area, and living in the Atlantic region, Quebec, Ontario and the Prairies relative to British Colombia have a statistically significant and positive effect on the earnings of Indigenous men relative to white men (Appendix A – Table A2). The Quebec dummy coefficient is particularly positive and strong: living in Quebec increases log earnings by 78.2 percent (Appendix A – Table A2). What is more, recalling from Chapter 4, Indigenous men were nearly twice as likely to report experiencing workplace discrimination in British Columbia than all other regions of Canada and Indigenous men in Quebec reported labour market discrimination less often than white men.

The large unexplained portion of the gap suggests there may be omitted variables relating to human capital and productivity in the model (Table 6). However, traditional human capital measures such as education and work experience have failed to fully explain the lower earnings of Indigenous peoples in Canada historically. Economists have attributed this phenomenon to what is known as the contact or assimilation hypothesis (Kuhn and Sweetman, 2002). Testing the contact hypothesis is beyond the scope of this study, however, it is reasonable assume that some portion of the Indigenous sample observed have had contact with the majority culture (e.g. has Indigenous ancestry only, married a non-Indigenous person, lived in a city with a low Indigenous population) as the 2014 GSS data was not collected on-reserves or in the Territories and the sample is made up of those who self-identified as Indigenous.

Further speaking to the large portion of the gap due to discrimination as given by the pared-down and Feir (2013) Oaxaca (1973) decompositions, Table A1 and A2 in Appendix A show labour market discrimination is associated with a 62.7 percent and 64 percent decrease in log earnings for Indigenous men in the Feir (2013) regressions and pared-down regressions, respectively. The following section introduces the Indigenous–white women Oaxaca (1973) decomposition results.

6.2 ANNUAL EARNINGS GAP: WHITE–INDIGENOUS WOMEN

Indigenous women earn $38,051 annually while white women earn $44,459, on average, according to the GSS 2014, as of 2013 (Table 5). But when all observable human capital characteristics in Feir's (2013) model are accounted for, the log annual earnings gaps for women is insignificant (Table 6.1). This means that if Indigenous women had the same

characteristics as white women, the earnings gap ($\Delta_O = (X_W - X_I)\beta_W + X_I(\beta_W - \beta_I)$) would

be insignificant when Feir's (2013) model is employed. I do not reject the null hypothesis that θ_U is equal to zero for women in the annual earnings gap analysis using the same human capital characteristics as Feir (2013).

These findings are consistent with the recent literature suggesting that the earning gap for white and Indigenous women is narrowing. As mentioned, Wilson and Macdonald (2010) even find that when Indigenous women and non-Indigenous women have the same level of education Indigenous women earn more. George and Kuhn (1994), DeSilva (1999) Kuhn and Sweetman (2002), MacDonald and Wilson (2010) Pendakur and Pendakur (2011) and Feir (2013) suggest the real earnings gap and the portion of the earnings gap that is said to be due to discrimination is smaller for women than for men, perhaps because white women are expected to face some labour market discrimination as well.

But as put forth in Chapter 2, Indigenous women are far less likely to have employment than white women, white men and Indigenous men. Could the inclusion of employment type characteristics and the number of weeks worked be misinterpreted as explanations for the gap in earnings between Indigenous and white women when Indigenous women are less attached to the labour market because of discrimination?

When employing the pared-down model, I find the log annual earnings gap for Indigenous and white women is statistically significant (top of Table 6.1). Additionally, I find the differences in returns to education, work experience and geography to be significant in the pared-down model (middle of Table 6.1). Furthermore, only 13.7 percent of the earnings gap is found to be explained by differences in these characteristics while 86.3 percent is thought to be due to discrimination or unobserved factors. Therefore, I reject the null hypothesis that θ_U is equal to zero using the pared-

down Oaxaca decomposition analysis. I also reject the null hypothesis that θ_U in the pared-down model is equal to or less than θ_U in the Feir (2013) model.

Table 6.1 – Oaxaca decomposition results, annual earnings, Indigenous–white women, 2013

Indigenous–White Women Annual Earnings Gap		
Earnings gap	**Feir (2013) Model**	**Pared-down Model**
Ln annual earning gap	0.194	0.600***
	(0.181)	(0.203)
Oaxaca decomposition		
White women ln annual earnings	9.898***	9.588***
	(0.0355)	(0.0385)
Indigenous women ln annual earnings	9.704***	8.987***
	(0.177)	(0.199)
Differences in characteristics	0.0767	0.0510
	(0.175)	(0.163)
Differences in returns	0.0525	0.410**
	(0.181)	(0.202)
% explained	67.8	13.7
% unexplained	32.2	86.3

Table notes: Standard errors in parentheses. The asterisks represent p-values or statistical confidence levels where ***=p<0.01; 99% confidence, **=p<0.05; 95% confidence, *=p<0.1; 90% confidence. This table shows the results of the Oaxaca decomposition given by equations (9) through (13) for the white and Indigenous samples of women. The ln annual and ln weekly earning gap coefficient in the first section are the results of $LnEAn_{NM}$-$LnEAn_{I}$ and $LnEWk_{NM}$-$LnEWk_{I}$ and the differences in characteristics for annual and weekly earnings are the results of Z_{NM}– Z_{I} in equations (9) and (10). The differences in returns is β_{NM} in these equations. The unexplained portion of the gap is calculated as the differences in returns/annual or weekly log earning gap and the explained portion of the gap is one minus the unexplained portion.

In Chapter 2, I show Indigenous women have similar earnings in remote and non-remote areas but the gap in earnings between Indigenous and white women is larger in urban centres than in rural areas. I also show in Chapter 4 that 32 percent of Indigenous women living in urban centres reported workplace discrimination relative to 24.3 percent in remote areas. Further analyzing the labour force attachment of Indigenous women and workplace discrimination, especially in urban areas, could be of interest for future research.

Lastly, I find reporting labour market discrimination is associated with a 21.1 percent decrease in log earnings for Indigenous women in the Feir (2013) earnings regression (See Appendix B – Table B1). And reporting labour market discrimination is associated with a 35.5 percent decrease in log earnings for Indigenous women in the pared-down regression model (See Appendix B – Table B2).

6.3 PREDICTED EARNINGS AND DISCRIMINATION

This study aims to link data on perceived discrimination with data on individuals' human capital and, hence, their productivity, in order to shed new light on the gap in earnings between Indigenous people and white people in Canada. In this section, I compare the predicted earnings of Indigenous women and men using the coefficients from the white groups' earnings regression to self-reported labour market discrimination (See Appendix C). As results discussed above from the Oaxaca (1973) decomposition pared-down and Feir (2013) models varied, I analyze the predicted earnings for both models.

Out of the Indigenous women whose predicted wage is less than their actual wage using the pared-down model, 13 percent reported labour market discrimination, relative to 10 percent whose predicted earnings were greater than their actual (Table 6.3). Using Feir's (2013) model, I find the exact opposite: Indigenous women who had higher predicted earnings reported labour market discrimination (Table 6.4). For Indigenous men, 14 percent whose predicted wage was higher than their actual reported labour market discrimination when the earnings are predicted based on the pared-down model (Table 6.3) and 18 percent with higher predicted earnings reported the same when the Feir (2013) model is used (Table 6.4).

Table 6.2 – Percentage of Indigenous and white women and men who reported labour market discrimination, by predicted wage versus actual wage, using the pared-down regressions for the white groups, 2013

	Indigenous women	Indigenous men	White women	White men
Predicted wage < actual wage	0.13	0.10	0.09	0.05
Predicted wage > actual wage	0.10	0.14	0.09	0.09

Table notes: This table shows the relationship between predicted earnings and reports of labour market discrimination for Indigenous and white women and men when the pared-down regression model is used to predict their earnings (Statistics Canada, 2014).

Table 6.3 – Percentage of Indigenous and white women and men who reported labour market discrimination, by predicted wage versus actual wage, using Feir (2013) regressions for the white groups, 2013

	Indigenous women	Indigenous men	White women	White men
Predicted wage < actual wage	0.10	0.07	0.09	0.05
Predicted wage > actual wage	0.13	0.18	0.09	0.10

Table notes: This table shows the relationship between predicted earnings and reports of labour market discrimination for Indigenous and white women and men when the Feir (2013) regression model is used to predict their earnings (Statistics Canada, 2014).

Figure 6 through 6.3 show the predicted earnings and labour market discrimination response for each Indigenous individual. Self-reported labour market discrimination is polarized for Indigenous men with predicted earnings higher than actual when the pared-down model is used to predict their earnings (Figure 6). But when Feir's model is used, a notable portion of Indigenous men with higher predicted earnings also reported labour market discrimination (Figure 6.1). Similarly, labour market discrimination instances are dichotomized for Indigenous women whose predicted earnings are higher than their actual in the pared-down model but a higher concentration of Indigenous women who reported labour market discrimination have higher predicted earnings in Feir's model (Figure 6.2 and 6.3).

Figure 6 – Indigenous men, Predicted annual salary versus actual salary by reported labour market discrimination, pared-down regression model, 2013

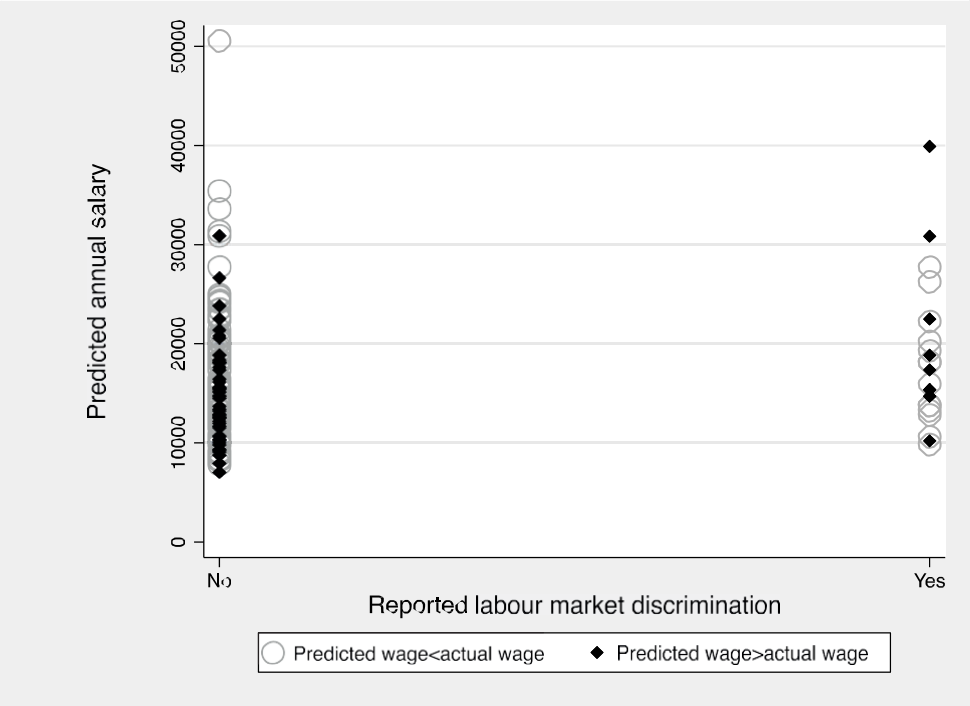


Table notes: This table shows the relationship between predicted earnings and reports of labour market discrimination for Indigenous men when the pared-down regression model is used to predict their earnings (Statistics Canada, 2014).

Figure 6.1 – Indigenous men, Predicted annual salary versus actual salary by reported labour market discrimination, Feir (2013) regression model, 2013

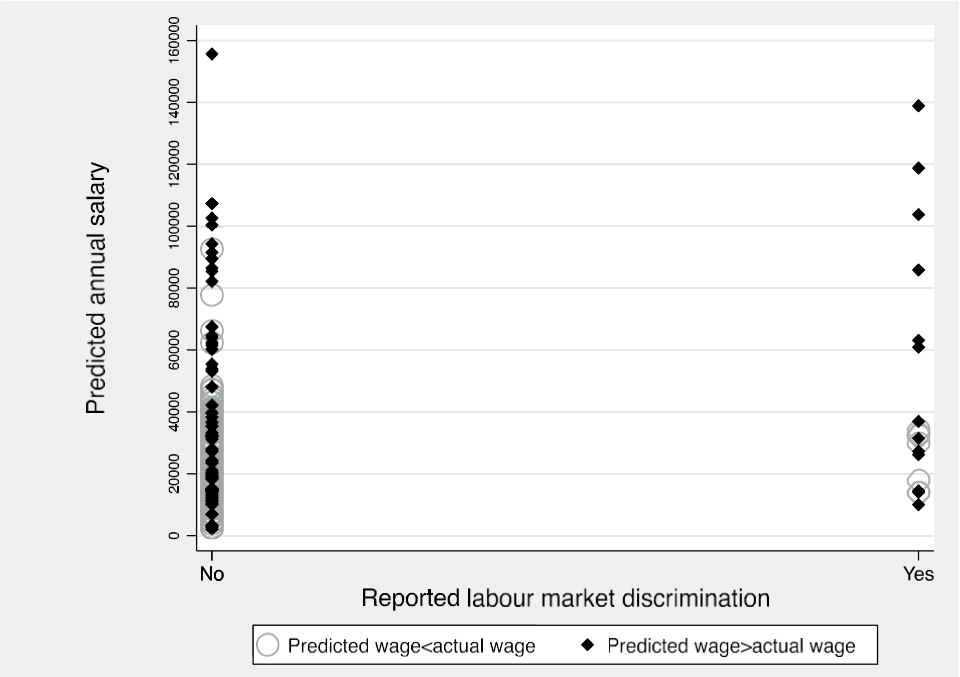


Table notes: This table shows the relationship between predicted earnings and reports of labour market discrimination for Indigenous men when the Feir (2013) regression model is used to predict their earnings (Statistics Canada, 2014).

Figure 6.2 – Indigenous women, Predicted annual salary versus actual salary by reported labour market discrimination, pared-down regression model, 2013

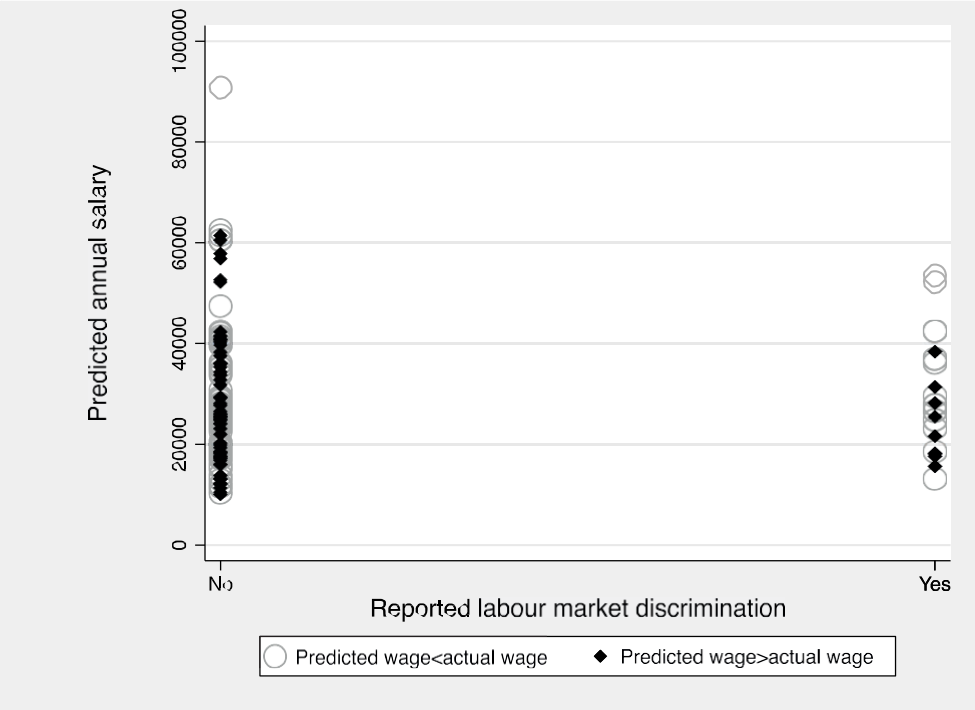


Table notes: This table shows the relationship between predicted earnings and reports of labour market discrimination for Indigenous women when the pared-down regression model is used to predict their earnings (Statistics Canada, 2014).

Figure 6.3 – Indigenous women, Predicted annual salary versus actual salary by reported labour market discrimination, Feir (2013) regression model, 2013

Table notes: This table shows the relationship between predicted earnings and reports of labour market discrimination for Indigenous men when the Feir (2013) regression model is used to predict their earnings (Statistics Canada, 2014).

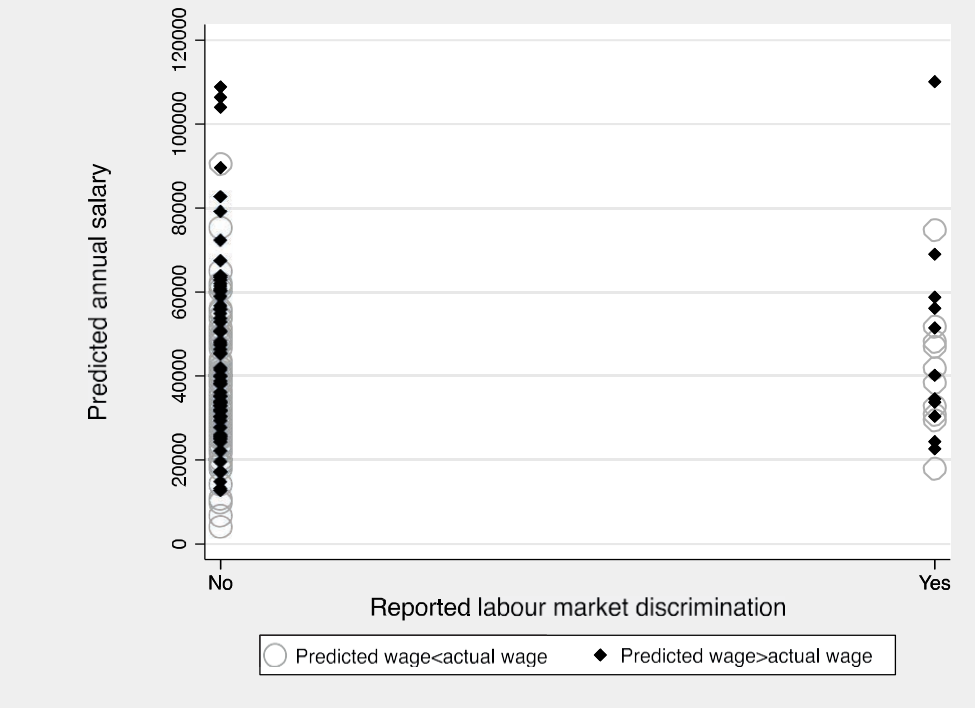


Table notes: This table shows the relationship between predicted earnings and reports of labour market discrimination for Indigenous men when the Feir (2013) regression model is used to predict their earnings (Statistics Canada, 2014).

6.4 LIMITATIONS

After reducing the sample observed in this study to those whose major source of income is salaries and wages and to those aged 25-54, the number of observations for Indigenous men and women are much smaller than the white sample. The results from this study, therefore, should not be interpreted as representative of the Indigenous population in Canada as a whole. The results are, however, consistent with the findings of the literature on the white – Indigenous earning gap. The Indigenous–white earnings gap for women is smaller than the men's gap. And the gap between Indigenous men and white men is significant and cannot be fully explained by differences in measures of human capital.

A general problem in all studies using the Oaxaca decomposition method is the bias of the coefficients in the wage regressions because of an endogeneity problem (e.g. educational attainment is correlated with level of work experience). In this study, β_W and β_I are likely biased and the predicted earnings, therefore, may not be accurate. Furthermore, the unexplained earnings gap includes many factors, and I am unable to separate labour market discrimination from other factors which are not observed in the analysis.

I am unable to distinguish between First Nations, Métis, Inuk (Inuit), Status and Non-Status Indians. Although these populations are all Indigenous, they are not one homogenous group. These populations differ in terms of individual experiences, as well as culture, identity and language (Wilson & MacDonald, 2010). Pendakur and Pendakur (2011) and Feir (2013) find the distinction between Indigenous groups to be important when comparing their earnings to non-Indigenous Canadians. Specifically, Feir (2013) suggests that the earnings gap is smaller for the Métis relative to white Canadians than for First Nations. Feir (2013) finds, though, that limiting the sample of Indigenous

persons with Indian Status does not affect the results of the decomposition analysis significantly. As the composition of the Indigenous sample in my analysis is unknown, the results may be biased if a particular Indigenous group is overrepresented.

The sample studied here does not include those living on-reserve, and the gap in labour market outcomes is most severe for on-reserve Indigenous populations. However, reserves have been thought to be discrimination-free havens for Indigenous peoples as employers and the majority of the workforce are Indigenous, much like self-employment in urban centres can act as a discrimination-free haven for immigrants. It may be appropriate, then, to focus on the off-reserve population when studying discrimination by the majority population against Indigenous persons, as I have done here.

By observing individuals who initially reported no discrimination, as those who report discrimination are more likely to report over time and across employers, Neumark and McLennan (1995) and Johnson and Neumark (1997) are able to partially control for the potential biases in self-reported data. Neumark and McLennan (1995) and Johnson and Neumark (1997) look at the changes in wages that directly follow the first time an individual reported discrimination to eliminate some of the subjectivity bias in their perceived discrimination data. But as the 2014 GSS data only captures individuals' perception of discrimination and their wages in a given year, I am unable to follow Neumark and McLennan (1995) and Johnson and Neumark (1997) and remove potential subjectivity bias.

Lastly, as I attempt to unfold the relationship between discrimination as measured by the Oaxaca (1973) decomposition analysis and self-reported labour market discrimination, it is important to consider the shortcomings of the self-reported data. One case in which an individual may have responded "yes" to the labour market

discrimination question but is being paid a wage equal to their marginal product is if within five years, the individual experienced discrimination when applying for one job or promotion, but then found an equivalent job or promotion in which they did not experience discrimination.

CHAPTER 7 CONCLUSION

This study contributes to the economics literature on the earnings gap between Indigenous and white Canadians in two ways: I compare the Oaxaca decomposition model used by Feir (2013) to a pared-down approach and I predict the annual earnings of Indigenous persons using the majority group's earnings regression and look at the relationship between predicted earnings and self-reported labour market discrimination. By comparing Feir's (2013) model to a pared-down model, I show that including secondary variables in the Oaxaca decomposition analysis may misrepresent the size of the earnings gap that is due to labour market discrimination. Through the predicted earnings and self-reported labour market discrimination analysis, I show overlap may exist between statistically measured wage discrimination against Indigenous persons in Canada and labour market discrimination perceived by Indigenous persons.

The labour market discrimination question in the 2014 GSS does not ask individuals if they specifically experienced wage discrimination but if they experienced discrimination in the workplace (when applying for a job or a promotion). Wage discrimination and discrimination in hiring are not the same, but this study suggests a relationship may exist between the two in the case of Indigenous peoples in Canada. Asking questions about wage discrimination in addition to questions about discrimination in hiring may help researchers gauge how and when Indigenous persons perceive discrimination and may provide nuanced policy directives. Additionally, asking the discriminator, whether white peoples or employers, about their contact with a marginalized group could be useful in future research on labour market discrimination against Indigenous persons.

Canada's historical goal of "fixing the Indian problem" through forced assimilation, was at its core, institutionalized discrimination. This caused societal damage through

population loss and the displacement of communities (Morrison et al., 2008). Interpersonal discrimination has also had negative impacts on the health, labour market outcomes and culture of Indigenous persons (Morrison et al., 2008). Both the presence and effects of negative attitudes by the settler population towards Indigenous peoples is a subject that has not been directly addressed within the economics literature on the earnings gap. However, it is well documented in the economics literature that Indigenous persons who have more contact with the majority culture have favourable economic outcomes, as measured by monetary income and labour force participation. When Indigenous peoples marry non-Indigenous peoples or when Indigenous peoples move away from enclaves, they acquire skills and cultural traits which lead to finding "economic success," as defined by the majority culture in North America (Kuhn and Sweetman, 2002). Assimilation threatens the preservation of traditional knowledge and culture. It is not the solution to closing the earnings gap.

The disparities in labour market outcomes between the on-reserve Indigenous population and the white population are the most severe, and this has been gaining more attention as more reserves are now taking part in the Canadian Census (Feir, 2013). On-reserve disparities are worsening as reserves suffer from "brain drain" as the fast-growing and young Indigenous populations move to cities to find employment and attend school (Feir, 2013). Off-reserve, Indigenous persons come into more contact with the settler population are more susceptible to discrimination by the majority against them. It is, therefore, important to understand the size, source, and changes of the earnings gap between off-reserve Indigenous persons and white persons in addition to the on-reserve–white gap. It may also be necessary to develop new approaches to studying the labour market experiences of Indigenous peoples that identify perceived discrimination and

negative attitudes towards Indigenous peoples as potential explanations to the earnings gap.

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APPENDIX A

Table A1 – Annual earnings gap regression results, Feir (2013) model, Indigenous–white men, 2013

	Indigenous–White Men	
	Ln annual earnings	Ln annual earnings with self-reported discrimination
Education (years)	0.106***	0.108***
	(0.0194)	(0.0194)
Potential work experience	0.0227	0.0255
	(0.0244)	(0.0244)
Potential work experience sq	-0.000122	-0.000194
	(0.000602)	(0.000601)
Number of weeks worked	0.0290***	0.0291***
	(0.00465)	(0.00464)
Regular employee	0.617***	0.614***
	(0.167)	(0.166)
Seasonal employee	0.866***	0.870***
	(0.243)	(0.242)
Professional occupation	-0.137	-0.135
	(0.0855)	(0.0854)
Disability status	-0.145	-0.141
	(0.197)	(0.196)
Reported disability	-0.165	-0.128
	(0.240)	(0.239)
Bilingual	-0.0196	-0.00358
	(0.255)	(0.254)
Metro	-0.0600	-0.0513
	(0.122)	(0.122)
Married or common law	0.204**	0.202**
	(0.0933)	(0.0931)
Has child(ren) in home	0.730***	0.721***
	(0.0786)	(0.0784)
Atlantic region	0.160	0.152
	(0.149)	(0.149)
Quebec	0.495**	0.478**
	(0.196)	(0.195)
Ontario	-0.149	-0.146
	(0.151)	(0.150)
Prairie region	0.315**	0.318**
	(0.153)	(0.152)
Reported labour market discrimination		-0.627***
		(0.153)
Constant	5.604***	5.588***
	(0.466)	(0.465)
Observations	3,826	3,826

Table notes: Standard errors in parentheses. The asterisks represent p-values or statistical confidence levels where ***=p<0.01; 99% confidence, **=p<0.05; 95% confidence, *=p<0.1; 90% confidence (Statistics Canada, 2014).

Table A2 – Annual earnings gap regression results, pared-down model, Indigenous–white men, 2013

	Indigenous–White Men	
	Ln annual earnings	Ln annual earnings with self-reported discrimination
Education (years)	0.133***	0.134***
	(0.0186)	(0.0185)
Potential work experience	0.0459*	0.0478*
	(0.0264)	(0.0263)
Potential work experience sq	-0.000734	-0.000782
	(0.000649)	(0.000648)
Lives in metropolitan area	0.212**	0.213**
	(0.0990)	(0.0988)
Atlantic region	0.357**	0.334**
	(0.157)	(0.157)
Quebec	0.782***	0.751***
	(0.161)	(0.161)
Ontario	-0.0429	-0.0530
	(0.158)	(0.158)
Prairie region	0.480***	0.464***
	(0.161)	(0.160)
Reported labour market discrimination		-0.640***
		(0.163)
Constant	6.798***	6.820***
	(0.389)	(0.388)
Observations	4,425	4,425

Table notes: Standard errors in parentheses. The asterisks represent p-values or statistical confidence levels where ***=p<0.01; 99% confidence, **=p<0.05; 95% confidence, *=p<0.1; 90% confidence (Statistics Canada, 2014).

APPENDIX B

Table B1 – Annual earnings gap regression results, Feir (2013) model, Indigenous–white women, 2013

	Indigenous–White Women	
	Ln annual earnings	Ln annual earnings with self-reported discrimination
Education (years)	0.125***	0.127***
	(0.0178)	(0.0178)
Potential work experience	0.0145	0.0137
	(0.0225)	(0.0225)
Potential work experience sq	-8.26e-05	-6.49e-05
	(0.000571)	(0.000571)
Number of weeks worked	0.0253***	0.0252***
	(0.00395)	(0.00395)
Regular employee	0.402***	0.397***
	(0.129)	(0.129)
Seasonal employee	-0.455*	-0.459*
	(0.260)	(0.260)
Professional occupation	-0.400**	-0.404**
	(0.167)	(0.167)
Disability status	0.372*	0.383*
	(0.197)	(0.197)
Reported disability	-0.507**	-0.501**
	(0.207)	(0.207)
Bilingual	0.0394	0.0457
	(0.106)	(0.106)
Lives in metropolitan area	0.0505	0.0527
	(0.0857)	(0.0856)
Married or common law	0.126*	0.118
	(0.0734)	(0.0736)
Has child(ren) in home	0.232***	0.228***
	(0.0733)	(0.0733)
Atlantic region	0.112	0.103
	(0.140)	(0.140)
Quebec	0.348*	0.328*
	(0.182)	(0.182)
Ontario	0.0325	0.0306
	(0.142)	(0.142)
Prairie region	0.0751	0.0785
	(0.144)	(0.144)
Reported labour market discrimination		-0.211*
		(0.121)
Constant	6.407***	6.437***
	(0.447)	(0.447)
Observations	4,003	4,002

Table notes: Standard errors in parentheses. The asterisks represent p-values or statistical confidence levels where ***=p<0.01; 99% confidence, **=p<0.05; 95% confidence, *=p<0.1; 90% confidence (Statistics Canada, 2014).

Table B2 – Annual earnings gap regression results, pared-down model, Indigenous–white women, 2013

Indigenous–White Women		
	Ln annual earnings	Ln annual earnings with self-reported discrimination
Education (years)	0.192***	0.194***
	(0.0187)	(0.0187)
Potential work experience	0.0414*	0.0390
	(0.0240)	(0.0240)
Potential work experience sq	-0.000970	-0.000917
	(0.000604)	(0.000604)
Lives in metropolitan area	0.00481	0.00810
	(0.0926)	(0.0925)
Atlantic region	0.118	0.101
	(0.151)	(0.151)
Quebec	0.556***	0.531***
	(0.155)	(0.156)
Ontario	0.00109	-0.00157
	(0.153)	(0.153)
Prairie region	0.140	0.143
	(0.155)	(0.155)
Reported labour market discrimination		-0.355***
		(0.131)
Constant	6.246***	6.280***
	(0.381)	(0.381)
Observations	4,594	4,593

Table notes: Standard errors in parentheses. The asterisks represent p-values or statistical confidence levels where ***=p<0.01; 99% confidence, **=p<0.05; 95% confidence, *=p<0.1; 90% confidence (Statistics Canada, 2014).

APPENDIX C

Table C1 – Annual earnings gap regression results for white men and women, pared-down model and Feir (2013) model, used to obtain predicted earnings for Indigenous men and women, 2013

	Paried-Down Model		Feir (2013) Model	
	White women	**White men**	**White women**	**White men**
	Ln annual earnings			
Education	0.187***	0.122***	0.126***	0.0970***
	(0.0196)	(0.0200)	(0.0187)	(0.0198)
Potential work experience	0.0391	0.0489*	0.0227	0.0258
	(0.0245)	(0.0255)	(0.0230)	(0.0238)
Potential work experience sq	-0.000916	-0.000850	-0.000317	-0.000227
	(0.000632)	(0.000635)	(0.000586)	(0.000584)
Lives in metropolitan area	0.0181	0.162	0.0558	0.137
	(0.0950)	(0.103)	(0.0891)	(0.0987)
Atlantic region	0.119	0.299*	0.106	0.0943
	(0.158)	(0.170)	(0.150)	(0.164)
Quebec	0.553***	0.709***	0.364*	0.467**
	(0.156)	(0.166)	(0.191)	(0.203)
Ontario	0.0239	-0.112	0.0315	-0.250
	(0.161)	(0.176)	(0.154)	(0.171)
Prairie region	0.163	0.451***	0.0565	0.259
	(0.165)	(0.174)	(0.158)	(0.169)
Number of weeks worked			0.0253***	0.0297***
			(0.00474)	(0.00571)
Regular employee			0.452***	0.554***
			(0.137)	(0.198)
Seasonal employee			-0.452	0.742***
			(0.305)	(0.270)
Professional occupation			-0.455***	-0.114
			(0.141)	(0.0900)
Disability status			0.425**	-0.167
			(0.168)	(0.269)
Reported disability			-0.553***	0.0103
			(0.182)	(0.282)
Bilingual			0.0226	-0.104
			(0.119)	(0.136)
Married or common law			0.222***	0.724***
			(0.0744)	(0.0846)
Constant	6.332***	7.068***	6.396***	5.801***
	(0.389)	(0.412)	(0.460)	(0.503)
Observations	4,369	4,217	3,819	3,654

Table notes: Standard errors in parentheses. The asterisks represent p-values or statistical confidence levels where ***=p<0.01; 99% confidence, **=p<0.05; 95% confidence, *=p<0.1; 90% confidence(Statistics Canada, 2014).