January 2024

170 Laurier Avenue, Suite 604

Ottawa, Ontario K1P 5V5

613-233-8891 info@csls.ca

CENTRE FOR THE STUDY OF LIVING STANDARDS

Closing the First Nations Education Gap in Canada: Assessing Progress and Estimating the Economic Benefits — An Update Using 2021 Census Data

Chris Haun

CSLS Research Report 2024-01

January 2024

Prepared for the Assembly of First Nations

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Abstract

This report first assesses key labour market gaps facing First Nations people in Canada relative to non-Indigenous Canadians in 2021. It then estimates the economic benefits which would accrue to First Nations people and Canadians generally if these gaps were to be closed. Our primary focus is the educational attainment gap between the First Nations population and the non-Indigenous population, though we also investigate gaps in employment rates and average employment incomes, both conditional on educational attainment. This report updates a previous study undertaken by the Centre for the Living Standards and published by the Assembly of First Nations, repeating key exercises using newly-available data from the 2021 Canadian Census. We find that significant progress has been made in closing gaps in employment rates and employment incomes between the two populations since 2016. The educational attainment of both populations is found to have increased over the 2016-2021 period. However, non-Indigenous rates of improvement have outpaced First Nations rates of improvement, causing the gap to widen slightly. Using detailed tabular data from Statistics Canada, we are able to simulate the closure of these gaps both at the aggregate level and within age, gender, and province/territory categories. Ultimately, we estimate that the cumulative economic benefits associated with closing the education gap over the 2021-2041 period could be as large as $233 billion, and that the cumulative economic benefits associated with closing all three gaps of interest over the same timeframe could be as large as $369 billion.

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Executive Summary

In February of 2023, the Assembly of First Nations (AFN) released a study done by the Centre for the Study of Living Standards (CSLS), leveraging data from the 2016 Census to assess the state of the educational attainment gap between First Nations people and non-Indigenous people in Canada. The study also investigated two related gaps in labour market outcomes between the two populations: the gap in average employment income within educational attainment categories (what we called the "employment income gap conditional on education" or simply the "income gap conditional on education") and the gap in employment rates within educational attainment categories (what we called the "employment rate gap conditional on education"). Finally, the study estimated the potential economic gains associated with closing these gaps based on two models of gap closure: the "overnight" model and the "longitudinal" model. The findings of the study were published in the form of a comprehensive research report.

Since the release of the report, there has been considerable interest in extending our analysis of these gaps to include the 2016-2021 period. This report hence serves as an update to the report published earlier this year on the educational attainment gap between First Nations people in Canada and non-Indigenous Canadians. By leveraging recently released data from the 2021 Census on the educational attainment and labour market outcomes of the two populations, we are able to assess the progress made in closing key labour market gaps over the 2016-2021 period. We also provide updated estimates of the potential gains that would accrue to First Nations people and Canadians generally if these gaps were to close.

Methodology

The methodological framework of this report closely follows that of our previous report, with some adjustments made to account for differences in the available data between the two reports. To assess progress made in eliminating key labour market disparities between the First Nations population and the non-Indigenous population, we mobilize aggregate data from Statistics Canada tables on educational attainment as well as employment rates and average employment incomes within educational attainment categories.

In the overnight model of gap closure, we simulate the instantaneous closure of these gaps in 2021 to estimate the potential economic benefits from closing the gaps, or viewed differently, the significant opportunity costs incurred by Canadians from failing to close these gaps. In the longitudinal model of gap closure, we envision these gaps closing gradually over the 2021-2041 period.

To estimate the benefits of gap closure over this period, we leverage economic projections developed by the CSLS alongside First Nations population projections produced by Statistics Canada. Unlike the overnight model where we closed gaps between the two populations at the aggregate level, in the longitudinal model, we close gaps only between First Nations people and non-Indigenous people of the same gender, age group, and province/territory of residence. Altogether, we consider five scenarios: the education gap closes fully, the education gap closes halfway, the conditional employment rate gap closes, the conditional income gap closes, and all gaps close simultaneously.

Economic gains in the longitudinal model are calculated by comparing key metrics like GDP, employment, and labour productivity between any given gap closure scenario and a baseline projection where educational attainment progresses as it did in the 2016-2021 period. Interestingly, our projections for First Nations GDP, employment and labour productivity in 2041 are slightly lower than those offered in our previous report. We attribute this primarily to the fall in employment rates observed across both populations between the 2016 and 2021 Censuses: an effect which is further pronounced by the projection procedure we employ. There are also some small differences in the categories of the Census educational attainment variable between this report and our previous report. This too may contribute to the discrepancy.

The Education Gap

Since 2016, levels of educational attainment have progressed substantially for both First Nations people and non-Indigenous people. Whereas First Nations people had 12.07 years of education on average in 2016, they had 12.24 in 2021: a growth rate of 0.27% per year. This represents a faster rate of improvement in educational attainment for the First Nations population compared to the 2011-2016 period (a growth rate of 0.25% per year)

The bulk of this improvement occurred at the top and bottom of the educational attainment distribution. The proportion of the First Nations population with no educational credential fell significantly (33% in 2021 vs. 38% in 2016) and conversely, the proportion with a high school diploma or equivalent credential rose (30% in 2021 vs. 25% in 2016). The proportion of the population with a bachelor's degree and the proportion with a university certification above the bachelor level also grew steadily: a 1.2-point increase for the former (6.6% in 2021 vs. 5.4% in 2021) and a 0.5-point increase for the latter (2.4% in 2021 vs. 1.9% in 2016).

However, rates of improvement were even faster for the non-Indigenous population; this lead to a slight widening of the education gap. In 2016, non-Indigenous people had 13.34 years

of education on average; this figure grew to 13.53 years in 2021, implying a growth rate of 0.29% per year. Improvements generally occurred in the same categories as they did for First Nations people, although progress was concentrated to an even greater degree at the top end of the distribution. Assuming current trends improvement continue indefinitely, the more rapid rate of improvement within the non-Indigenous population means that the attainment levels of the populations will never converge. However, if we make the simplifying assumption that the educational attainment of the non-Indigenous population has hit a "ceiling" and does not improve over time, we find convergence in 37 years.

The share of the non-Indigenous population with a bachelor's degree increased from 15.9% in 2016 to 17.9% in 2021, while the share with a credential above the bachelor level rose from 8.0% to 9.5%. The largest relative gaps between the populations continue to occur in the "no educational credential" category, where the First Nations share is over two times as large as the non-Indigenous share, and the bachelor's and above bachelor's categories, where the First Nations share makes up 37% and 26% of the non-Indigenous share, respectively.

The Employment Income Gap Conditional on Education

The gap in average employment incomes has closed substantially, both in broad terms and within educational categories. The absolute gap between the populations has fallen from $13,370 in 2016 to just $9,869 in 2021. It should be noted that all monetary estimates in this report are provided in 2015 Canadian dollars. On average, First Nations people earned about 71% of what non-Indigenous people earned in 2016; that figure has risen to about 79% in 2021.

The improvements are even more stark within educational attainment categories. Previously, the absolute gaps within categories ranged from just over $4,200 to about $10,600, with First Nations earnings ranging from 83% to 88% of non-Indigenous earnings. In 2021, the absolute gaps range from about $3,700 at the lowest to about $6,500 at the highest, with First Nations earnings ranging from about 89% to 92% of non-Indigenous earnings. The "no educational credential" category is an outlier in this respect; Statistics Canada reports that First Nations average wages here have risen almost $9,000 in the 2016-2021 period. Furthermore, in this category, the average First Nations wage as a proportion of the average non-Indigenous wage has risen from 83% in 2016 to 123% in 2021: an inversion of the employment income gap.

The Employment Rate Gap Conditional on Education

There has been a similar degree of progress in closing the employment rate gap conditional on education. Across both populations, employment rates have generally fallen since 2016. This is likely due to the impacts of the pandemic, which were still being felt in May 2021, when the Census was conducted. With that said, employment rates for First Nations people have fallen much less than those for non-Indigenous people, causing the employment rate gap to shrink significantly. In 2016, First Nations people experienced an overall employment rate of 46.8%: 13.7 points lower than the non-Indigenous figure (60.5%). In 2021, this figure fell to 46.3% -- a decrease of just 0.5 points. For comparison, the non-Indigenous figure fell 3.1 points to 60.5%. Consequently, the overall gap between the populations fell to just 11.1 points.

As with the employment income gap, the discrepancy between the populations is much smaller when controlling for educational attainment. In fact, looking within educational categories, the gap falls to between 0.6 points and 5.5 points depending on the category. In 2016, absolute gaps within educational attainment categories ranged from 4.2 points, at the smallest (excluding categories where First Nations people experienced a higher rate than non-Indigenous people), to 7.9 points, at the largest. These figures suggest that the employment rate gap has improved in both broad terms and conditional on educational attainment. The largest gap by quite a significant margin continues to be found in the ”no educational credential” category where, despite earning wages that are 123% of what non-Indigenous people earn, First Nations people face an employment rate that is 5.5 points lower than what non-Indigenous people experience (25% for First Nations people vs. 30.4% for non-Indigenous people).

The Overnight Model of Gap Closure

In the overnight model of gap closure, we envision the gap closing instantaneously in 2021. Gains are assessed by comparing key economic metrics like total employment income and total employment pre- and post-gap-closure. Within this approach, we find the following:

- The closure of the education gap is associated with an additional $5.5 billion in First Nations employment income and 70,913 jobs for First Nations people.

- The closure of the income gap is associated with an additional $1.3 billion in First Nations employment income; notably, there are no employment gains under this scenario.

- The closure of the employment rate gap is associated with $0.8 billion in additional employment income for First Nations people and 26,061 additional jobs.

- The closure of all three gaps simultaneously is associated with $7.7 billion in additional First Nations employment income and 85,020 additional jobs for First Nations people. In terms of estimated gains from gap closure, this is by far the most significant of the four scenarios.

These estimates are generally comparable to those produced in our previous report, with some key differences. The gains from closing the income and employment rate gaps have attenuated somewhat, reflecting the progress made in closing the gaps since 2016. Conversely, the gains from closing the education gap have grown slightly due to the widening of the gap since 2016. The former effect seems to outweigh the latter though, given that the gains from the all-gaps-closed scenario are found to be smaller here compared to our previous report.

The Longitudinal Model of Gap Closure

In the longitudinal model of gap closure, we simulate the gradual closing of gaps between First Nations people and non-Indigenous people over the 2021-2041 period. Across the five scenarios we consider, we find the following:

- The **full closure of the education gap** is associated with an additional $24.7 billion in First Nations GDP in 2041 and an additional 106,000 jobs for First Nations people in 2041. In this report, the labour share of GDP is assumed to be 0.5 based on its historic value in Canada. Thus, gains in First Nations employment income are estimated to be about $12.3 billion under this scenario. This is significantly larger than the gain in income estimated in the overnight model, chiefly because of population and real wage growth between 2021 and 2041; Statistics Canada projects that the First Nations working-age population will nearly double between 2021 and 2041 and real wages are expected to grow by about 23% in that time. Over the 2021-2041 period, the gradual closure of the gap is associated with an estimated $233 billion in additional First Nations GDP and 1,046,000 additional job-years for First Nations people. A "job-year" represents a single job for a single year, or a year's worth of income for the First Nations population. The annual growth rate of GDP over the 2021-2041 period increases from 1.71% per year in the baseline scenario to 1.75% per year when the education gap closes fully. The annual growth rate of employment rises from 0.95% to 0.97%. The annual growth rate of labour productivity improves by the same margin, growing from 0.75% to 0.77%.

- As one would expect, the **half-closure of the education gap** is associated with gains of about half the magnitude of the full-closure scenario; in 2041, this means an additional $12.3 billion in First Nations GDP and an additional 53,000 jobs for First Nations people. Over the 2021-2041 period, the half-closure of the gap is associated with about $117 billion in additional First Nations GDP and an estimated 523,000 additional job-years for First Nations people. The annual growth rate of GDP over the 2021-2041 period increases from 1.71% to 1.73%. The annual growth rate of employment rises from 0.95% to 0.96%. Finally, the annual growth rate of labour productivity grows from 0.75% to 0.76%.

- **The closure of the conditional employment rate gap** is associated with $9.9 billion in additional First Nations GDP as well as about 123,000 jobs for First Nations people. Cumulatively, the closure of the gap is associated with $94 billion in additional output by the First Nations population and 1,217,000 additional job-years for First Nations people. These gains in employment from the closure of the employment rate gap are even larger than those associated with the full closure of the education gap. Over the 2021-2041, the annual economic growth rate rises from 1.71% to 1.73% and the annual growth rate of employment rises from 0.95% to 0.98%. However, the annual growth rate of labour productivity falls from 0.75% to 0.74%, reflecting the fact that new First Nations employment tends to be concentrated in lower educational categories, where wages and labour productivity are relatively low.

- The **closure of the conditional employment income gap** is associated with the smallest economic gains of all the scenarios considered; in 2041, the closure of the gap is associated with an additional $4.7 billion in First Nations GDP. Once again, there are no gains in employment associated with this scenario. Cumulative gains in GDP over the 2021-2041 period, though, are estimated to be about $45 billion. The annual GDP growth rate over the period rises from 1.71% to 1.72% while annual labour productivity growth over the period rises from 0.75% to 0.76%.

- The final scenario we consider sees **the education gap, the conditional employment rate gap, and the conditional employment income gap all close simultaneously over the 2021-2041 period**. Naturally, this scenario is associated with largest economic benefits. In 2041, the closure of all three gaps is associated with an additional $39.1 billion in First Nations GDP and about 184,000 jobs for First Nations people. Over the 2021-2041 period, the closure of the gaps is associated with $369 billion in additional GDP and about 1,822,000 job-years compared to the baseline scenario. The annual growth rate of GDP during the period rises from 1.71% to 1.77%. Annual employment growth, meanwhile, rises from 0.95% to 0.99% and annual labour productivity growth grows from 0.75% to 0.78%

Conclusion

In updating the exercises from our previous report using 2021 Census data, this report confirms that there are massive economic gains associated with the closure of key educational and labour market gaps facing First Nations people in Canada. The economic gains reported here are generally smaller than those estimated in the previous report, reflecting progress made since 2016 in closing these gaps. Still, we find that the current rates of improvement in First Nations educational attainment are insufficient to close the education gap between First Nations and non-Indigenous people. The findings here therefore reinforce the need for renewed action on the part of policymakers, community leaders, and ordinary Canadians to support First Nations education and to engender a culture of lifelong learning.

Closing the First Nations Education Gap in Canada: Assessing Progress and Estimating the Economic Benefits — An Update Using 2021 Census Data[1]

Introduction

In February of 2023, the Assembly of First Nations (AFN) released a study done by the Centre for the Study of Living Standards (CSLS), leveraging data from the 2016 Census to assess the state of the educational attainment gap between First Nations people and non-Indigenous people in Canada, as well as associated gaps in wages and employment rates (AFN, 2023).[2] The findings of the study were published in the form of a comprehensive report, representing the most recent installment in a series of reports undertaken by the CSLS on the labour market and educational gaps faced by Indigenous Peoples in Canada relative to non-Indigenous Canadians.[3] Since the release of this report earlier this year, there has been considerable interest in extending our analysis of these gaps to include the 2016-2021 period: a decidedly unusual period for the Canadian economy due to the onset of the COVID-19 pandemic in early 2020.

[1] This report was written by Chris Haun under the supervision of Andrew Sharpe. They wish to thank Bert Waslander, Tim Sargent, and AFN officials, particularly Randy Schmucker, for their thoughtful comments and feedback on this report.

[2] This report uses the term "education gap" as shorthand for the "educational attainment gap between First Nations and Non-Indigenous Canadians" for the sake of brevity.

[3] In particular, the CSLS's 2007 report "The Potential Contribution of Aboriginal Canadians to Labour Force, Employment, Productivity and Output Growth in Canada, 2001-2017", the 2009 follow-up report "The Effect of Increasing Aboriginal Educational Attainment on the Labour Force, Output and the Fiscal Balance", and the 2015 report "Closing the Aboriginal Education Gap in Canada: Assessing Progress and Estimating the Economic Benefits" which forms the methodological basis for this report.

This report hence serves as an update to the report published earlier this year on the educational attainment gap between First Nations people in Canada and non-Indigenous Canadians.[4] By leveraging recently released data from the 2021 Census on the educational attainment of the two populations, we are able to assess the progress made in closing the educational attainment gap over the 2016-2021 period, as well as gaps in employment rates and average employment incomes, both conditional on educational attainment. Finally, we also provide updated estimates of the potential gains that would accrue to First Nations people and non-Indigenous people generally if these gaps were to close.

Although substantial progress has been made in improving the employment income and employment rate gaps experienced by the First Nations population, we find that since 2016, the gap in educational attainment between the First Nations and non-Indigenous populations has actually widened. This is because, although both populations have seen growth in average levels of educational attainment over the 2016-2021 period, the educational attainment of non-Indigenous people has simply improved more since 2016 than it has for First Nations people. As a result, we still find that there are immense economic benefits associated with the closure of the three key gaps between the First Nations and non-Indigenous populations.

In the overnight model, we envision these gaps closing instantaneously in 2021, given that the best available data on the educational attainment, employment earnings, and employment rates of First Nations and non-Indigenous people come from the 2021 Canadian Census; data on these variables for 2022 and 2023 is not available at this time. We estimate that the closing of the education gap is associated with gains of $5.5 billion in additional employment income and

[4] The comparison here does not include other Indigenous groups in order to focus on the situation for the First Nations population in Canada. The non-Indigenous group does not include any Indigenous persons or peoples.

about 71,000 additional jobs for First Nations people.[5] These estimates are larger than those presented in our previous report. The simultaneous closure of all three gaps of interest, meanwhile, is associated with gains of $7.7 billion in additional employment income and about 85,000 additional jobs for First Nations people. These figures are somewhat smaller than those presented previously, reflecting how gaps in employment income and employment rates have shrunk substantially since 2016. These figures are best interpreted as the substantial opportunity costs which the Canadian economy incurred in 2021 by failing to fully close these gaps.

In the longitudinal model, we project these gaps closing gradually over the 2021-2041 period.[6] Within this framework, we estimate that the full closure of the education gap is associated with an additional $24.7 billion in GDP and a further 106,000 jobs for First Nations people in 2041. These estimates are calculated by comparing key economic variables like GDP and employment between a scenario where the education gap in 2041 is fully closed and a baseline projection where the education gap progresses as it did between 2016 and 2021. Over the 2021-2041 period, the closing of the gap is estimated to generate a total of $233 billion in cumulative GDP gains and an additional 1 million job-years of employment for the First Nations population. This manifests as an improvement in the annual economic growth rate for the 2021-2041 period from 1.71% in the baseline to 1.75% when the education gap closes. In the scenario where all three gaps of interest close simultaneously over the 2021-2041 period, the gains rise

[5] All monetary estimates in this report are expressed in 2015 Canadian dollars. This is to facilitate comparison with our earlier report, for which estimates were also expressed in 2015 Canadian dollars, as incomes reported in the 2016 Census were earned in 2015. Still, readers can multiply the monetary estimates presented by 108.2% to produce figures in 2020 dollars (Statistics Canada, 2023). Similarly, estimates can be multiplied by 111.8% for 2021 dollars, and by 119.4% for 2022 dollars (Statistics Canada, 2023).

[6] The 2021-2041 timeframe is chosen due to limitations in the available data. Detailed data on educational attainment, average employment incomes, and employment rates by sex, age, and province in the two populations is unavailable for 2022 and 2023. We are also limited in our ability to extend the time period, given that the longitudinal model relies on First Nations population projections produced by Statistics Canada which, at the time of writing, have yet to be updated beyond 2041.

dramatically. We estimate that this scenario is associated with an additional $39.1 billion in GDP and about 184,000 jobs for First Nations people in 2041. Over the 2021-2041, the closure of the three gaps is associated with cumulative gains of $369 billion in GDP and 1.8 million additional job-years for First Nations people. This raises the annual economic growth rate for Canada in this period by 0.6 percentage points to 1.77%: an extremely significant improvement in the growth trajectory of the country.

The remainder of the report is structured as follows. The second section offers an in-depth description of the 2021 Census data which underpins our analysis in this report. In particular, we recount the unique circumstances surrounding the administration of the 2021 Census and make note of areas where the data differs from the 2016 Census data employed in our previous report. The third section utilizes this data to assess the state of the three key gaps between the First Nations and non-Indigenous populations, gauging the progress made in closing these gaps over the 2016-2021 period. The fourth and fifth sections describe our methodologies for the overnight and longitudinal models of gap closure respectively. The sixth section presents the results of the overnight and longitudinal models, with a final subsection comparing results between the models. A final section concludes.

Understanding the 2021 Census: Data Structure & Limitations [7]

Like our earlier report on the subject, this report relies on data from the Canadian Census to assess the state of the educational attainment gap between First Nations people and non-Indigenous people in Canada, as well as the related gaps in employment rates and average employment incomes (AFN, 2023). In our previous report, the most recent Census available was

[7] Unless another source is provided, all information in this section is sourced from the 2021 Census Guide (Statistics Canada, 2021a).

the 2016 Census; hence, our analysis was based on the state of the gaps in 2016. Using aggregate measures of educational attainment and labour market performance as well as individual-level microdata from the 2016 Census, we were able to estimate the economic benefits which would accrue to First Nations people and Canadians generally if these gaps were to be closed.

Beginning in February 2022, Statistics Canada began to release data products from the 2021 Census. These releases were staggered throughout the year and curated around particular topics or themes. Requisite data on First Nations people and education became available in Fall 2022 (Statistics Canada, 2021b). Hence, we were not able to integrate data from the 2021 Census into our previous work. At the time of writing this report, all of the data and highlight tables relating to the 2021 Census have now been released, although the individual-level Public Use Microdata File (PUMF) will not be made available until Fall 2023 or later. Nevertheless, there is sufficient data available for us to update the analysis from our previous report on the educational and labour market gaps facing First Nations people.

In many ways, the structure of this data is extremely similar, if not identical, to the data from the 2016 Census, and as a result, there is great overlap with the previous report in the type of data we mobilize and the manner in which we use it. With that said, there are a number of key ways in which our data strategy here differs from our approach previously, particularly with respect to the lack of a PUMF and the use of detailed cross-tabular data as a substitute. In the following section, we explore these differences and provide an overview of the data employed throughout the report.

a) Overview

The 2021 Census was conducted in May and June of 2021 with a reference date of May 11.[8] Occurring in the midst of the COVID-19 pandemic, the 2021 Census faced a number of challenges relating to the collection of data. Households were given the option of completing the census either online, on paper, or over-the-phone. About 84% of private dwellings chose to submit the form online: a significant increase from just over 68% in 2016. For some collective dwellings, and in some cases of non-response by households, in-person enumerators were dispatched to collect data. As a rule, Statistics Canada strived to keep data collection contactless wherever possible. When necessary, the agency used administrative data to impute responses for areas with insufficient data. Notably, all income data collected for the 2021 Census was sourced directly from Canada Revenue Agency records: a first time for the Canadian Census. This procedure was successful both in reducing the burden on respondents and in improving data quality.

Despite these unprecedented circumstances, the quality of the 2021 Census data remains quite high. The national response rate was 96.9% for the short-form survey and 95.7% for the long-form survey; only slightly lower than in 2016, when the response rates were 97.4% and 96.9%, respectively. Although response rates were high nationally, they were substantially lower in areas which were particularly difficult to access during the pandemic. As such, data reliability is lower in some smaller aggregation areas in Northern Canada, in remote communities, and in Indigenous communities. Indeed, the number of incompletely enumerated reserves and settlements rose substantially, from 14 in 2016 to 63 in 2021. In the majority of cases, this was due to logistical issues stemming from the pandemic and natural events (e.g. forest fires), however in a number of cases, these communities did not grant Statistics Canada permission to

[8] Labour force data (ex. whether an individual is employed, unemployed, or not in the labour force) is based on the reference week of May 2nd to May 8th, 2021 (Statistics Canada, 2022d).

conduct enumeration activities. As a result, the frequency with which Statistics Canada was required to impute missing data rose for the short-form census compared to the 2016 Census. For the long-term census, the imputation rate rose for some questions and fell for others, relative to 2016. The former is attributable to the aforementioned drop in response rates compared to 2016. The latter, meanwhile, is a result of the increased prevalence of online census form submissions, given that forms completed online have generally been less likely to contain missing or invalid information.

b) Overnight & Longitudinal Models

The specific census data which we mobilize in this report takes on a different form for each of the two models of gap closure we employ. The overnight model of gap closure, which envisions the gaps closing instantaneously in 2021, makes use of aggregate measures of educational attainment for the national First Nations and non-Indigenous populations, as well as aggregate employment rates and average employment incomes by educational attainment category. This data is sourced directly from 2021 Census data tables available online. However, since the employment incomes reported in the 2021 census are measured in 2020 dollars (given that they are reported for the year 2020), these estimates must be rebased into 2015 dollars to allow comparison with data from the 2016 Census. To do this, we acquire the annual average all-items Consumer Price Index for 2020 (137.0) and 2015 (126.6) (Statistics Canada, 2023). Dividing the 2015 CPI by the 2020 CPI gives us a rebasing factor of 92.41, indicating that the price level in 2015 was about 92% of the price level in 2020. In other words, 1 Canadian dollar in 2020 is equal to about 0.92 Canadian dollars in 2015 in terms of purchasing power. In order to

find employment incomes in 2015 dollars, we simply multiply the 2020 figures by this rebasing factor.

The longitudinal model of gap closure, meanwhile, simulates the gradual closure of the gaps over the 2021-2041 period. Estimates are obtained by producing projections of the Canadian economy and comparing these projections across a handful of different scenarios, with each scenario utilizing different assumptions about how key gaps will progress between 2021 and 2041. A core distinction between the two models is that, while the overnight model closes the employment rate and employment income gaps within educational categories at the population level, the longitudinal model closes these gaps within groups defined by educational attainment, age group, gender, and province/territory of residence. In other words, in the longitudinal model, the conditional employment rate and employment income gaps are identified by comparing First Nations and non-Indigenous people of the same age group, gender, and province/territory of residence. This is done to create a more accurate comparison between the populations and to produce a more causal understanding of the effect of being First Nations on an individual's labour market performance.

Naturally, this more detailed approach requires more granular data, and in particular, data which includes the gender, province/territory of residence, and approximate age of respondents. In our previous report, the 2016 Census PUMF was utilized to this end, given that it features highly detailed data on the census responses provided by individual Canadians. The aforementioned age-gender-province/territory-education bins were constructed by aggregating the individual-level data from the PUMF based on the values for these four variables.

With no PUMF available at the time of writing, we must take a slightly different approach. Although the data tables viewable online on the Statistics Canada website are quite

limited in detail, highly granular and much more flexible versions are available in the publicly available .IVT files provided for each table. Using the Beyond 20/20 Professional Browser program, the underlying data can be manipulated to produce complex cross-tabulations of many variables.[9] By filtering employment income and employment rate data based on the population of interest (First Nations or non-Indigenous), educational attainment level, age group, gender, and province-territory of residence, we are able to re-create the same set of bins which we used in the longitudinal model of our previous report.[10] However, in a sense, we are using the opposite approach; rather than aggregating up from individual-level data, we are disaggregating down from national data. While the resulting data structure across these approaches is fundamentally very similar, there are some significant implications to this change in data preparation.

c) Tabular vs. Microdata

Census data in both PUMF form and cross-tabular form undergo a number of cleaning and re-organizing procedures by Statistics Canada to ensure high levels of reliability and confidentiality. However, given the differing structures and applications of the two forms of data, there is some variance in these procedures and this can manifest in discrepancies between results

[9] It is important to note that this cross-tabular data structure used for the longitudinal model of gap closure is derived from the same tables as the higher-level data used in the overnight model. The difference lies a) in the level of aggregation and b) in the variables used to define the groups that are ultimately compared to estimate the gains from gap closure. However, as discussed in the "Tabular vs. Microdata" subsection, there are still small discrepancies between the two levels of aggregation as a result of data cleaning and organizational choices.

[10] There are some differences in the exact bins created due to changes in the categories available for certain variables. These differences are discussed in detail later in this section. With that said, there is a great level of comparability between the bins created here and the bins created in our previous report, given that the underlying variables are essentially very similar.

derived from the different forms.[11] Most notably, the Census 2021 cross-tabulations employ rounding procedures to all cell values to protect the anonymity of respondents.[12]

While this has little impact at the national level, it has a more material effect on the longitudinal model, where the number of individuals occupying a given age-sex-province/territory-education bin, particularly for the First Nations population, can be extremely small. The number of First Nations women in the territories in a given age group with a university degree above the bachelor level, for example, is never more than 50 and is 0 in many cases, according to the cross-tabular data. In such cases, rounding to the nearest multiple of 5 can influence the calculation of within-bin employment rates and average employment incomes. This can hence influence the size of the gaps closed and ultimately our estimates for the magnitude of benefits which might result from gap closure. Still, we estimate the impact of these rounding procedures to be small.

d) Variables

Following below is a list of the census variables which we are interested in for the analysis provided in this report:

- Educational Attainment
- Employment Rates (# of employed persons / working age population)

[11] Also of note is the fact that individual-level Census microdata only contains a proportion of total Census respondents: 2.7% of respondents in the case of the 2016 PUMF. Responses are also anonymized through a variety of procedures, including the construction of some synthetic respondents. Given that the total number of Census respondents is extremely large, this sample is substantial and remains broadly representative of the Canadian population. In contrast, the tabular data includes all Census respondents and therefore may be more representative in some respects than the individual-level microdata.

[12] This means that disaggregated values do not always add up to the total aggregated values. For example, the total First Nations working-age population in Canada in 2021 according to top-level Census data is 764,750. The same statistic calculated by summing the population within each age-gender-province/territory-education bin, gives a total of 763,840: a discrepancy of 910 individuals.

- Employment Incomes (for the year 2020)
- Employment (# of employed persons during reference week of May 2nd to May 8th, 2021)
- Working Age Population (15+)
- Gender
- Age Group
- Province/Territory of Residence

This set of variables is almost identical to those which were mobilized in the previous report, with the sole exception of gender, which has replaced the sex variable employed previously.

In prior censuses, respondents were exclusively asked for their sex and information on gender identity was not collected (Statistics Canada, 2017a; 2022c). Transgender and non-binary individuals were instructed to simply choose the sex which they felt represented them best. In 2021, the Canadian Census separated sex and gender into two distinct concepts for the first time. Respondents were asked both for their sex assigned at birth as well as their gender identity: a variable which now included a non-binary category in addition to male and female. This gender variable is now presented in Statistics Canada census data tables in lieu of the sex variable. However, in the interests of protecting the anonymity of census responses, the coding of the variable in these tables has remained almost identical to the previous sex variable, featuring only two categories: "Male+" and "Female+".[13] Any non-binary respondents have been distributed into these two categories using an undisclosed "statistical method" (Statistics Canada, 2022a). For these reasons, some caution should be exercised in comparing the estimates of the longitudinal method between this report and our earlier report, given that our previous analysis

[13] Results by gender are sometimes presented in this report using the "Male" and "Female" terminology. It should be noted that these category names actually refer to the "Men+" and "Women+" categories described here.

involved controlling for sex and we instead control for gender in this report, which we view as the best available substitute for the sex variable. Still, these two variables represent distinct concepts and the relationship between them is not entirely clear, given the lack of a clear sex/gender dichotomy in the 2016 Census questions and the absence of detail on how exactly the "Men+" and "Women+" categories are defined.

Although the remaining variables of interest have largely maintained the same concepts, there have been several changes to the categories available which readers should note. These changes pertain to the educational attainment variable, which measures the highest educational credential received or completed by an individual. The 2016 Census data tables employed in the overnight model of the previous report feature a "University certificate, diploma or degree above bachelor's level" category. The 2021 Census data tables employed in both models of gap closure for this report do not feature such a category, and hence it must be assembled manually by combining four smaller categories.[14] Moreover, the 2016 PUMF contained categories breaking down the "College, CEGEP, or other non-university certificate or diploma" category into 3 separate categories with varying program lengths. These three smaller categories were used in the longitudinal model of our previous report. However, such categories do not exist in the 2021 Census data tables. The longitudinal model in this report therefore only features a single category for non-university certificates and diplomas, and thus only considers 7 educational attainment categories as opposed to the 9 considered in our previous report. This slight methodological difference contributes to differences between this report and our earlier report with respect to the

[14] A similar procedure was required in the longitudinal model of the previous report.

projections and estimated benefits of gap closure offered in the longitudinal model.[15] Still, we estimate the impact of this change to be small.

The State of the Gaps [16]

Over the 2016-2021 period, the Canadian economy underwent significant transformation, with important implications for both the First Nations population and the non-Indigenous population. Most obviously, in 2020, the global community was plunged into a worldwide pandemic caused by the outbreak and propagation of the COVID-19 virus, and Canada was not spared from this turmoil. Policymakers instituted unprecedented public health measures leading to sharp contractions in economic activity. The Canadian economy also underwent novel structural changes such as the widespread adoption of tele-work and work-from-home schemes and the onset of lasting labour shortages due to decreased labour force participation among certain groups. Some of these impacts were transitory, while others had deeper and more long-lasting effects. The pandemic was, of course, far from the only economic event in this period. New policies were introduced, like the federal price on carbon, while others, such as the Canadian Environmental Assessment Act, were revised or repealed (Government of Canada, 2023a; 2023b); some longer-term trends, like rising levels of immigration into Canada, continued mostly unabated, while others, like the persistent low-inflation environment of prior decades, were disrupted by social and economic shocks (Government of Canada, 2023c; Statistics Canada, 2022b).

[15] This is a consequence of how employment and employment income are defined. See Footnotes 20 and 24 for additional detail.
[16] This section draws heavily on the "Understanding the Gaps" section of our previous report to explain and define the gaps of interest (AFN, 2023).

For all of these reasons, it is of great interest to update our previous work on the educational and labour market gaps faced by First Nations people in Canada. To this end, the following section presents 2021 Census data on the educational attainment and labour market performance of the First Nations population in Canada relative to the Canadian non-Indigenous population. In short, although the average educational attainment of both populations has grown substantially, greater rates of improvement within the non-Indigenous population have widened the overall educational attainment gap between the two populations. Despite this, the First Nations population has experienced significant gains in average employment incomes and employment rates over the 2016-2021 period, and gaps in wages and rates of employment between the two populations have reduced substantially.

a) The Education Gap: Distributional Approach

Of the three gaps considered in this report, the education gap is the most straightforward in concept. It simply refers to the observation that, on average, First Nations peoples in Canada tend to attain a lower level of education within their lifetime compared to non-Indigenous people in Canada. However, the measurement of this gap is somewhat complicated. In this report, we offer two measurement approaches: the distributional approach, which compares the proportion of both working-age populations which has a given level of educational attainment, and the average years approach, which estimates the number of years of education that the average individual in each population has received and compares the resulting figures. We begin by assessing the state of the education gap through a distributional lens.

Table 1: Educational attainment for Working-age (15+) First Nations vs. non-Indigenous, 2021

	Total	No educational credential	High school diploma or equivalent	Apprenticeship or trades certificate/ diploma	Non-university certificate or diploma	University below bachelor's	Bachelor's degree	University above bachelor level
First Nations								
Working Age Population	764,750	254,330	228,045	66,525	129,600	17,385	50,355	18,515
Proportion		**33.3%**	**29.8%**	**8.7%**	**16.9%**	**2.3%**	**6.6%**	**2.4%**
Non-Indigenous								
Working Age Population	28,987,880	4,501,045	7,691,690	2,515,865	5,465,705	866,285	5,193,450	2,753,840
Proportion		**15.5%**	**26.5%**	**8.7%**	**18.9%**	**3.0%**	**17.9%**	**9.5%**
Absolute Gap (Non-Indigenous less First Nations)		-17.7pp	-3.3pp	0.0pp	1.9pp	0.7pp	11.3pp	7.1pp
First Nations as a proportion of Non-Indigenous		214.2%	112.4%	100.2%	89.9%	76.1%	36.8%	25.5%
Relative Gap (1 - First Nations as Proportion of Non-Indigenous)		-114.2pp	-12.4pp	-0.2pp	10.1pp	23.9pp	63.2pp	74.5pp

Note: *pp = percentage points, negative numbers represent categories which First Nations people are more likely to occupy than non-Indigenous people
Source: Statistics Canada. Table 98-10-0451-01 Labour force status by highest level of education, Indigenous identity, age and gender: Canada, provinces and territories, census metropolitan areas and census agglomerations with parts.

Table 2: Educational attainment for Working-age (15+) First Nations vs. non-Indigenous, 2016

	Total	No educational credential	High school diploma or equivalent	Apprenticeship or trades certificate/ diploma	Non-university certificate or diploma	University below bachelor's	Bachelor's degree	University above bachelor level
First Nations								
Working Age Population	691,405	264,425	175,315	67,480	117,785	15,520	37,670	13,210
Proportion		**38.2%**	**25.4%**	**9.8%**	**17.0%**	**2.2%**	**5.4%**	**1.9%**
Non-Indigenous								
Working Age Population	27,418,100	4,827,400	7,253,640	2,669,080	5,327,705	786,105	4,365,815	2,188,355
Proportion		**17.6%**	**26.5%**	**9.7%**	**19.4%**	**2.9%**	**15.9%**	**8.0%**
Absolute Gap (Non-Indigenous less First Nations)		-20.6pp	1.1pp	0.0pp	2.4pp	0.6pp	10.5pp	6.1pp
First Nations as a proportion of Non-Indigenous		217.2%	95.8%	100.3%	87.7%	78.3%	34.2%	23.9%
Relative Gap (1 - First Nations as Proportion of Non-Indigenous)		-117.2pp	4.2pp	-0.3pp	12.3pp	21.7pp	65.8pp	76.1pp

Note: *pp = percentage points, negative numbers represent categories which First Nations people are more likely to occupy than non-Indigenous people
Source: Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016178.

Table 1 presents the educational attainment distribution for the First Nations and non-Indigenous working-age populations in Canada as observed in the 2021 Census. Under the distributional approach, the education gap manifests as the gap in the proportion of the two populations which occupy any given educational attainment category. The data presented in Table 1 indicates clearly that there were substantial gaps in the educational attainment levels of the two populations in 2021. Table 2, meanwhile, presents the same distributions as observed in the 2016 Census and as provided in our previous report, allowing us to compare the within-category gaps over time and gauge whether progress has been made in closing them.

Box 1: Measuring the Education Gap — The Distributional Approach

We call this manner of measuring and analyzing the education gap the **distributional approach**. In observing the distribution of educational attainment—the highest educational degree or certification one has achieved—within the two populations, we see the share of each population which falls into any given bin. We can then identify individual bins where the difference between the shares in the two populations is significant. The advantage of this approach is that it yields a series of category-specific gaps rather than one aggregate gap. This increased granularity allows us to see precisely which educational categories either population is concentrated in, and therein develop a better understanding of the nature of the gap. The trade-off to this precision comes in the form of tractability though; comparing these gaps over time is cumbersome and the results of this approach are more difficult to grasp and visualize than an approach which produces a single gap.

As we observed in our previous report, gaps in educational attainment are concentrated at the top and bottom of the educational attainment distribution; the three categories in the middle of the educational attainment distribution – "apprenticeship or trades certificate/diploma", "non-university certificate or diploma", and "university below bachelor's" – do not show particularly large gaps between the two populations, nor has there been significant movement in these

categories since 2016. The largest disparity between the two populations occurs in the "no educational credential" category; about 33% of the First Nations population reports having no such credential compared to only about 16% of the non-Indigenous population. In other words, working-age First Nations people are more than twice as likely as non-Indigenous people to have no educational credentials. Compared to 2016 though, the gap in this category has closed somewhat in both absolute terms (20.6 percentage point difference in 2016 vs. 17.7 percentage points in 2021) and relative terms (First Nations proportion as 217.2% of the non-Indigenous proportion in 2016 vs. 214.2% in 2021).[17] Still, the gap in this category remains very substantial.

In contrast, the gap in the "high school diploma or equivalent" category has actually grown since 2016. However, interpreting this change is not so simple. The proportion of working-age First Nations people occupying this category has increased somewhat, from 25.4% in 2016 to 28.9%. in 2021. The proportion of the working-age non-Indigenous population, meanwhile, has stayed essentially static at 26.5%. As such, the direction of the gap in this category has reversed from 2016 to 2021; where previously non-Indigenous people were more likely to report a high school diploma or equivalent as their highest level of education, now First Nations people are more likely to do so. Furthermore, the absolute size of the gap has actually grown since 2016, from 1.1 percentage points in 2016 to 3.3 percentage points in 2021. In one sense, this reversal is a positive development for the First Nations population; given the substantial fall in the proportion of First Nations with no educational credentials at all, it seems that this represents an upward movement for the population in terms of educational attainment.

[17] This decrease in the relative size of the gap may seem unexpectedly small compared to the more substantial reduction in the absolute size of the gap. It is important to note that there are two effects at play here: the reduction in the share of First Nations people in the category and the reduction in the share of non-Indigenous people in the category. If the non-Indigenous share were to remain the same, the effect on the relative size of the gap would be much more pronounced.

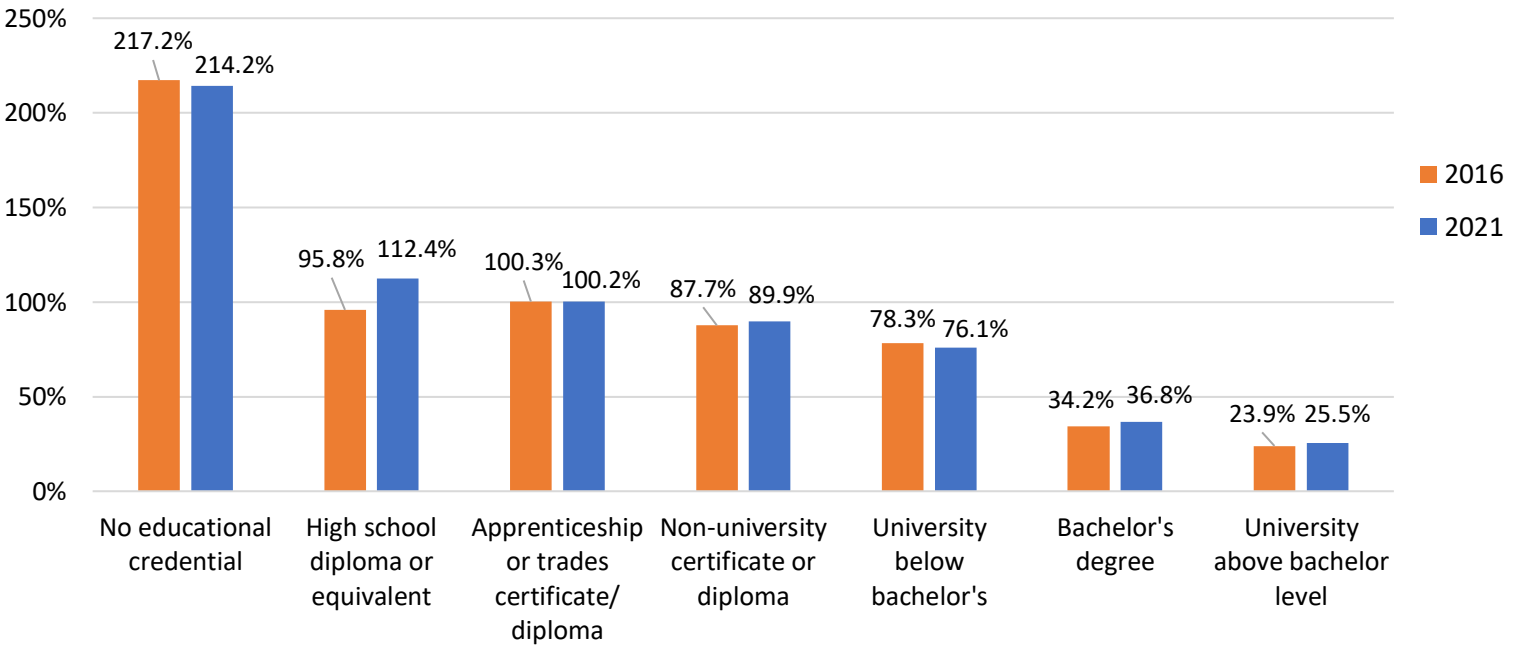
At the same time, the "high school diploma or equivalent" category still represents a relatively low level of educational attainment. Hence, all else equal, it would not be particularly encouraging to see a substantial gap develop in this category and in this direction, given that it would suggest First Nations people are not moving forward to attain even higher levels of education.

The "bachelor's degree" category continues to be a site of considerable disparity between the two populations in 2021. Only 6.6% of the First Nations population reported having a bachelor's degree as their highest credential compared to 17.9% for the non-Indigenous population: a gap of 11.3 percentage points, with non-Indigenous people being almost three times as likely as First Nations people to occupy this category. Both populations have seen growth in this category. The proportion of First Nations people occupying the category has grown by about 1.2 percentage points or about 22% since 2016. On the other hand, the proportion of non-Indigenous people in the category grew by 2.0 percentage points or about 13%. As such, the relative gap between the two populations in this category has shrunk – the First Nations proportion is about 37% in 2021 compared to 34% in 2016 – though the absolute gap has risen by 0.8 percentage points (11.3 in 2021 vs. 10.5 in 2016).

Similar trends are observed in the "university above bachelor level": a category that includes certificates and diplomas above the bachelor level, as well as medical, dental and veterinarian degrees, master's degrees, and earned doctorates. In 2021, 2.4% of First Nations people have a credential in this category, up about 21% since 2016. However, such credentials are still much more common in the non-Indigenous population, with about 9.5% of non-Indigenous people having a certificate, diploma, or degree of this kind: a 19% increase since 2016. As we observed in the bachelor's degree category, though the gap between the populations

has slightly fallen in relative terms, it has grown in absolute terms, from about 6 percentage points in 2016 to 7 percentage points in 2021.

Chart 1: First Nations Educational Attainment Shares as a Proportion of non-Indigenous Shares (Age 15+), 2016 & 2021



Sources: a) Statistics Canada. Table 98-10-0451-01 Labour force status by highest level of education, Indigenous identity, age and gender: Canada, provinces and territories, census metropolitan areas and census agglomerations with parts; b) Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016268.

Chart 1 depicts the share of First Nation individuals in each educational attainment category as a proportion of the same share in the non-Indigenous population for both 2016 and 2021. The chart thus reflects the relative gap in each category. As the chart shows, there is a fairly consistent pattern across the educational attainment categories, where the size of the First Nations share relative to the non-Indigenous share tends fall lower as the educational attainment category becomes higher. In fact, the pattern becomes even more consistent in 2021 with the substantial increase in the proportion of the First Nations population occupying the “high school

diploma or equivalent" category. The chart confirms a few key observations from our analysis above. In particular, we can see that the movements in the distribution between 2016 and 2021 occur mostly at the very bottom, in the no credential and high school categories, and at the very top, in the bachelor's and university above bachelor categories.

b) The Education Gap: Average Years Approach

Table 3: Average Years of Education for First Nations vs. non-Indigenous, 2006-2021

	Average Years of Education		Gap (absolute)	First Nations as proportion of non-Indigenous (4)	Gap (relative) (5) = 1.00 - (4)
	First Nations	Non-Indigenous			
2006	11.72	13.00	**1.28**	**90.16%**	9.84pp
2011	11.93	13.23	**1.30**	**90.15%**	9.85pp
change	0.20	0.22	0.02	-0.01pp	
compound annual growth rate	0.34%	0.34%	0.35%		
2016	12.07	13.34	**1.26**	**90.53%**	9.47pp
change	0.15	0.11	-0.04	0.38pp	
compound annual growth rate	0.25%	0.16%	-0.63%		
2021	12.24	13.53	**1.29**	**90.45%**	9.55pp
change	0.16	0.19	0.03	-0.08pp	
compound annual growth rate	0.27%	0.29%	0.46%		
2006-2021 period					
change	0.51	0.53	0.01	0.29pp	
compound annual growth rate	**0.29%**	**0.26%**	**0.06%**		

Note: pp = percentage point

Sources: a) Statistics Canada. Table 98-10-0451-01 Labour force status by highest level of education, Indigenous identity, age and gender: Canada, provinces and territories, census metropolitan areas and census agglomerations with parts; b) Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016178; c) Statistics Canada, 97-560-XCB2006036, 2006; d) Statistics Canada, 2011 National Household Survey, Statistics Canada Catalogue no. 99-012-X2011044.

Table 3 presents the results of the average years approach of measuring educational attainment for the 2006, 2011, 2016, and 2021 censuses as well as measures of the gap in attainment between the First Nations and non-Indigenous populations for each year. The table

also offers rates of improvement in the average years of education between each census year. We estimate that the average First Nations person in 2021 has 12.24 years of education: an increase of 0.16 years compared to 2016. The average non-Indigenous person in 2021 is estimated to have received 13.53 years of education, indicating an increase of 0.19 years compared to 2016. This implies a gap of 1.29 years–marginally higher than the gap of 1.26 years recorded in 2016. Essentially, the average educational attainment of both populations increased significantly between 2016 and 2021, however the rate of improvement for non-Indigenous people was slightly higher over the period (0.29% annually for non-Indigenous people compared to 0.27% annually for First Nations people). As a result, the First Nations average years of education as a proportion of the non-Indigenous figure – a measure which had increased substantially over the previous period – fell from 90.53% in 2016 to 90.45% in 2021. Still, it should be noted that the rate of improvement in educational attainment for First Nations people actually grew between the previous period and the 2016-2021 period, from 0.25% to 0.27%. The non-Indigenous rate of improvement increased substantially more though, rising from 0.16% in the 2011-2016 period to 0.29% in the 2016-2021 period. With that said, the rates of improvement for both populations still do not live up to the high rates recorded for the 2006-2011 period.

Box 2: Measuring the Education Gap — The Average Years Approach

We call this the **average years approach** to measuring the education gap. Each educational category is assigned a single value representing the expected number of years of schooling required to obtain that credential. The average years of education of a population is derived simply by taking the arithmetic mean of each individual's assigned years of education value. This allows us to describe the gap as the simple difference in the average years figure between the two populations. The coding scheme of the average years variable is described below:

Educational Attainment Category	*Assigned Value*
No certificate, diploma or degree	10 years
Secondary (high) school diploma or equivalency certificate	12 years
Apprenticeship or trades certificate or diploma	13 years
College, CEGEP or other non-university certificate or diploma	14 years
University certificate or diploma below bachelor level	15 years
Bachelor's degree	16 years
University certificate, diploma or degree above bachelor level	18 years

The advantage of this approach is that, unlike the distributional approach, it produces a single numerical measurement of the education gap that is simple to transform or compare over time. This usability comes at the price of precision, however. As the mean is a very narrow representation of its underlying distribution, the measure produced by this approach tells us little about the shape of the education gap. Indeed, it is conceivable that two very distinct distributions of educational attainment might produce the same average years of education value, indicating no education gap at all, even when the distributional approach suggests significant category-specific gaps. Knowing that the average years of education in a population is 14, for example, does not tell us anything about the spread of individuals across categories. The distribution could be polar, with individuals either occupying the very low or the very high categories but largely avoiding the middle categories. Alternatively, the distribution could be tightly clustered around the middle categories, with very few individuals inhabiting either end of the range. Fundamentally, the mean does not provide us with enough information to distinguish between these two distributions.

Table 4: Trends in Convergence of Average Educational Attainment Levels, 2006-2021

Scenario	First Nations Average Years of Education Growth Rate	Non-Indigenous Average Years of Education Growth Rate	Non-Indigenous (NI) Education…	Years to Convergence
2006-2021 trend	0.29%	0.26%	Grows	461
2016-2021 trend	0.27%	0.29%	Grows	No convergence
2006-2021 trend holding NI constant	0.29%	No Growth	Stays at 2021 levels	35
2016-2021 trend holding NI constant	0.27%	No Growth	Stays at 2021 levels	37
Estimates from Previous Report				
2011-2016 trend	0.25%	0.16%	Grows	117
2011-2016 trends w/ static NI levels	0.25%	No Growth	Stays at 2016 levels	40

Sources: a) Statistics Canada. Table 98-10-0451-01 Labour force status by highest level of education, Indigenous identity, age and gender: Canada, provinces and territories, census metropolitan areas and census agglomerations with parts; b) Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016178; c) Statistics Canada, 97-560-XCB2006036, 2006; d) Statistics Canada, 2011 National Household Survey, Statistics Canada Catalogue no. 99-012-X2011044.

Table 4 leverages the estimated rates of improvement in average years of education to project the future progression of the educational attainment gap under a number of different scenarios. As shown in Table 3, the rate of improvement for the non-Indigenous population between 2016 and 2021 exceeded the rate of improvement for the First Nations population during the same period. Given that the non-Indigenous population already receives more years of education on average, this implies that, should these trends continue into the future, the education levels of the two populations will never converge.

This is a significant change from our findings when conducting the same exercise using the 2011-2016 trends in educational attainment, as we did in our previous report. Extrapolating based on these rates finds convergence in average years of education after 117 years – still an extremely long time to be sure, but certainly less bleak than the results found when using 2016-2021 rates of improvement. This reflects the fact that the First Nations average years of

education grew significantly faster during the 2011-2016 period than the average years of education for the non-Indigenous population (0.25% for First Nations people vs. 0.16% for non-Indigenous people). As another point of comparison, convergence is found to happen after an estimated 461 years when using the longer-term rates of improvement for the 2006-2021 period. Again, over this period, growth in the First Nations average years of education outpaces growth in the non-Indigenous figure, though the difference is less stark in this case (0.29% for the First Nations population vs. 0.26% for the non-Indigenous population).

Admittedly, this assumption of constant rates of improvement is somewhat unrealistic. Within the educational attainment categories used by the Canadian Census, there is a highest category and thus a ceiling to attainment; there is no educational attainment level above the "university above bachelor's" category and 18 years is the maximum years of education an individual can possess As such, it seems likely that a highly-educated population like the non-Indigenous population should at some point confront a limit to educational attainment growth; as more individuals move into higher and higher educational attainment categories, this leaves less for growth in the population as a whole. Moreover, there will always be a need for individuals with lower levels of education in the workforce. At a certain point, one would expect this dynamic to manifest in diminishing rates of improvement for the non-Indigenous population. Given that the First Nations population starts a markedly lower level of average educational attainment, this 'ceiling effect' would not impact First Nations rates of improvement, allowing for the First Nations population to 'catch up' and the gap to close.

An alternative framework attempts to capture this idea of diminishing returns to growth in educational attainment growth by assuming that the non-Indigenous population has already reached a ceiling. Under this scenario, the average years of education for First Nations people

continues to improve at the rate observed over the 2016-2021 period, but the average years of education for the non-Indigenous population remains static at 2021 levels. Under such a scenario, the gap in average years of education is closed in 37 years. This is slightly lower than our estimate 40 years in the previous report, reflecting small improvement in the First Nations rate of improvement from the 2011-2016 period to the 2016-2021 period. Ultimately, neither of these frameworks provides a particularly realistic projection of gap closure. Rather, they are intended as upper and lower bounds, calculated using extreme assumptions about how the gap in educational attainment between the two populations might progress. Still, they provide a stark look at the possible persistence of the educational attainment gap, should policymakers and community leaders not take substantial action to improve levels of educational attainment within the First Nations population.

Table 5: Average Employment Income for Working Age (15+) First Nations People vs. non-Indigenous People, 2020 (2015 dollars)

	Total	No educational credential	High school diploma or equivalent	Apprenticeship or trades certificate/ diploma	Non-university certificate or diploma	University below bachelor's	Bachelor's degree	University above bachelor level
First Nations	$36,927	$30,162	$29,164	$41,140	$40,105	$42,286	$55,122	$70,889
Non-Indigenous	$46,796	$24,544	$32,898	$44,282	$45,059	$46,389	$61,544	$77,018
Absolute Gap (Non-Indigenous less First Nations)	**9,869**	- 5,618	3,733	3,142	4,953	4,103	6,422	6,129
First Nations as a proportion of Non-Indigenous	**78.9%**	122.9%	88.7%	92.9%	89.0%	91.2%	89.6%	92.0%
Relative Gap (1 - First Nations as Proportion of Non-Indigenous)	**21.1pp**	-22.9pp	11.3pp	7.1pp	11.0pp	8.8pp	10.4pp	8.0pp

Note: pp = percentage point; employment incomes in the 2021 Census are reported for the year 2020; average employment income is calculated for all individuals who had a positive, non-zero employment income in 2020.

Sources: a) Statistics Canada. Table 98-10-0427-01 Employment income statistics by Indigenous identity and highest level of education: Canada, provinces and territories, census metropolitan areas and census agglomerations with parts; b) Statistics Canada. Table 18-10-0005-01 Consumer Price Index, annual average, not seasonally adjusted.

Table 6: Average Employment Income for Working-Age (15+) First Nations People vs. non-Indigenous, 2015 (2015 dollars)

	Total	No educational credential	High school diploma or equivalent	Apprenticeship or trades certificate/ diploma	Non-university certificate or diploma	University below bachelor's	Bachelor's degree	University above bachelor level
First Nations	$33,079	$21,260	$28,170	$39,549	$38,570	$41,509	$52,997	$68,480
Non-Indigenous	$46,449	$25,526	$33,960	$45,072	$45,805	$47,710	$62,485	$79,110
Absolute Gap (Non-Indigenous less First Nations)	**13,370**	4,266	5,790	5,523	7,235	6,201	9,488	10,630
First Nations as a proportion of Non-Indigenous	**71.2%**	83.3%	83.0%	87.7%	84.2%	87.0%	84.8%	86.6%
Relative Gap (1 - First Nations as Proportion of Non-Indigenous)	**28.8pp**	16.7pp	17.0pp	12.3pp	15.8pp	13.0pp	15.2pp	13.4pp

Note: pp = percentage point; employment incomes in the 2016 Census are reported for the year 2015; average employment income is calculated for all individuals who had a positive, non-zero employment income in 2015.
Source: Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016268.

c) The Income Gap Conditional on Education

The income gap conditional on educational attainment is defined as the difference in the average employment incomes earned by First Nations people and non-Indigenous people with the same level of educational attainment. As we observed in our previous report, First Nations individuals earn lower incomes on average than non-Indigenous individuals in addition to having a lower average level of educational attainment. In 2020, the average employment income for First Nations people was $36,927 while the average employment income for non-Indigenous people was $46,796: an absolute gap of $9,869, with First Nations people earning 78.9 percent of what non-Indigenous people earn, on average.[18]

The core variable which we are most interested in as we grapple with this gap in earnings is the level of educational attainment. As seen in the previous subsection, the distribution of educational attainment differs between First Nations people and non-Indigenous Canadians, and it is likely, given the positive relationship between education and earnings, that differing levels of education between the two groups is the primary driver of the income gap we observe. For this reason, we are not particularly interested in the aggregate income gap as we estimate the potential economic benefits of boosting the labour market performance of First Nations people. Rather, we are interested in the income gap *conditional* on, or *controlling for*, the level of education. Put simply, we are asking: what is the difference between the earnings of First Nations individuals and non-Indigenous individuals when we only compare individuals with the same level of educational attainment?

[18] Although these figures are sourced from the 2021 Census, income data in the Census is always reported for the prior year. Hence, the gaps measured here are for 2020.

Table 5 shows the income gap conditional on each level of education in 2020.[19] When comparing within educational categories, the income gap is apparent in all categories except for the "no educational credential" category where the average employment income earned by First Nations people actually exceeds what is earned by non-Indigenous people. This category is a stark outlier however, as average non-Indigenous earnings exceed average First Nations earnings in every other category. Notably, the absolute gap is highest within the highest educational attainment categories, although the relative gap is fairly consistent across the distribution. The highest absolute gap is observed in the "bachelor's degree" category where First Nations people earn $6,422 less on average than non-Indigenous people. Conversely, the smallest absolute gap occurs in the "apprenticeship or trades certificate/diploma" category where First Nations people earn $3,142 less on average than their non-Indigenous counterparts. The largest relative gap occurs in the "high school diploma or equivalent" category where the average employment income for First Nations people is a little less than 89% of the average employment income earned by First Nations people. The category with the smallest relative gap is again the "apprenticeship or trades certificate/diploma" where First Nations people earn about 93% of what non-Indigenous people earn on average.

[19] Gains in First Nations average employment incomes between 2015 and 2020 should be interpreted with some caution. Some degree of the improvement in employment incomes for First Nations people may simply reflect changes in reporting behaviour and collection procedures. Notably, in 2019, the Canada Revenue Agency introduced the T90 form to capture income earned by First Nations people that is tax-exempt under the Indian Act. As a result, official income statistics from 2015 and 2020 are not perfectly comparable. The decision to use administrative tax and benefit data to derive income statistics may also contribute to the discrepancy, but only to the extent that it affects data on First Nations earnings differently than data on non-Indigenous earnings. Finally, the observed gains in average employment income might not be representative of the situation of the typical First Nations person; gains in median employment income over the period were generally less substantial, and among those with "no educational credential", the median income remains higher for non-Indigenous people than for First Nations people. This indicates that employment income gains may have been concentrated towards the top of the First Nations income distribution, distorting the average. Altogether, these factors suggest that the true income gap remains larger than is shown in Table 5 and hence that our estimates for the gains from gap closure are likely to be underestimates.

Excluding the "no educational credential" category, the First Nations population tends to earn between 88% and 92% of what non-Indigenous people earn when controlling for educational attainment. Similarly, the absolute gap within categories ranges from about $3,700 to about $6,500 when we control for educational attainment. These figures are substantially lower compared to the aggregate gap across categories, in which First Nations earn only 78.9% of what their non-Indigenous counterparts earn and face an absolute gap of $9,869. The fact that the size of the gap falls so substantially when we control for educational attainment is a testament to the paramount importance of educational attainment in reducing the employment income gap between the two populations; based on these figures, between 35% and 62% of the aggregate employment income gap is attributable to differences in educational attainment across the two populations.

For comparison, Table 6 presents the income gap conditional on level of education in 2015. Here, the aggregate gap in average employment incomes between the two populations is $13,370. Over the 2015-2020 period, this gap has fallen by an impressive 26.2%. Again, when educational attainment is controlled for, the gap we observe in average employment income between the two populations becomes considerably smaller. Across educational categories, First Nations people in 2015 are found to make 71.2% of what non-Indigenous people make. However, when we compare within educational attainment categories, First Nations people are found to enjoy an average employment income that is between 83% and 88% percent of the average employment income of non-Indigenous Canadians. In 2020, this has improved by about 4 to 5 percentage points for most educational attainment category: a very significant improvement in the income gap conditional on educational attainment over the 2015-2020 period.

The largest within-category improvement between 2015 and 2020 occurs in the "no educational credential" category where First Nations average employment income has increased by almost $9,000 and the direction of the gap has actually reversed. Again, this category is an extreme outlier though. The next largest improvement in absolute terms occurred in the "university above bachelor level" category where the First Nations average wage increased by $2,419 over the 2015-2020 period; the absolute gap closed by even more in this category due to the non-Indigenous average wage falling in real terms. In relative terms, the next most substantial improvement occurs in the "apprenticeship" category where the First Nations average wage as a proportion of the non-Indigenous average wage rose from 87.7% in 2015 to 92.9% in 2020: an improvement of 5.2 percentage points.

Overall, the aggregate average employment income gap has seen a significant decrease between 2015 and 2020. The within-category gaps have also decreased for all levels of educational attainment, and hence, the employment income gap conditional on education has closed substantially. It is worth noting that employment incomes were affected by the pandemic and subsequent lockdown measures, with working hours, and thus employment incomes, impacted for many individuals. For the pandemic to have modified the income gap though, it would have had to affect First Nations persons in a distinct manner relative to non-Indigenous persons. This might be plausible if the two populations exhibited significantly different working behaviours at the time of pandemic (e.g. one population was more likely to work in-person and in-office). Nevertheless, the gains observed over the 2015-2020 period suggest meaningful progress has been made in closing the disparity in earnings faced by First Nations people relative to non-Indigenous people and in equalizing labour market conditions across the two populations

more broadly. Further action is still required though, as evidenced by the substantial gap that remains in the average earnings of the two populations.

Table 7: Employment Rates for Working Age (15+) First Nations People vs. non-Indigenous People, 2021

	Total	No educational credential	High school diploma or equivalent	Apprenticeship or trades certificate/ diploma	Non-university certificate or diploma	University below bachelor's	Bachelor's degree	University above bachelor level
First Nations								
Working Age Population	764,750	254,330	228,045	66,525	129,600	17,385	50,355	18,515
Employed Persons	354,005	63,460	109,280	38,985	80,920	10,535	36,710	14,115
Employment Rate	**46.3%**	**25.0%**	**47.9%**	**58.6%**	**62.4%**	**60.6%**	**72.9%**	**76.2%**
Non-Indigenous								
Working Age Population	28,987,880	4,501,045	7,691,690	2,515,865	5,465,705	866,285	5,193,450	2,753,840
Employed Persons	16,641,270	1,369,065	3,914,550	1,563,200	3,536,395	529,930	3,715,905	2,012,225
Employment Rate	**57.4%**	**30.4%**	**50.9%**	**62.1%**	**64.7%**	**61.2%**	**71.5%**	**73.1%**
Absolute Gap (Non-Indigenous less First Nations)	**11.1pp**	**5.5pp**	**3.0pp**	**3.5pp**	**2.3pp**	**0.6pp**	**-1.4pp**	**-3.2pp**
First Nations as a proportion of Non-Indigenous	**80.6%**	82.0%	94.2%	94.3%	96.5%	99.1%	101.9%	104.3%
Relative Gap (1 - First Nations as Proportion of Non-Indigenous)	**19.4pp**	18.0pp	5.8pp	5.7pp	3.5pp	0.9pp	-1.9pp	-4.3pp

Note: pp = percentage point

Source: Statistics Canada. Table 98-10-0451-01 Labour force status by highest level of education, Indigenous identity, age and gender: Canada, provinces and territories, census metropolitan areas and census agglomerations with parts

Table 8: Employment Rates for Working Age (15+) First Nations People vs. non-Indigenous People, 2016

	Total	No educational credential	High school diploma or equivalent	Apprenticeship or trades certificate/ diploma	Non-university certificate or diploma	University below bachelor's	Bachelor's degree	University above bachelor level
First Nations								
Working Age Population	691,405	264,425	175,315	67,480	117,785	15,520	37,670	13,210
Employed Persons	323,685	67,635	91,115	38,715	77,340	10,070	28,645	10,160
Employment Rate	**46.8%**	**25.6%**	**52.0%**	**57.4%**	**65.7%**	**64.9%**	**76.0%**	**76.9%**
Non-Indigenous								
Working Age Population	27,418,100	4,827,400	7,253,640	2,669,080	5,327,705	786,105	4,365,815	2,188,355
Employed Persons	16,592,130	1,617,050	4,178,585	1,736,750	3,722,625	500,535	3,238,840	1,597,750
Employment Rate	**60.5%**	**33.5%**	**57.6%**	**65.1%**	**69.9%**	**63.7%**	**74.2%**	**73.0%**
Absolute Gap (Non-Indigenous less First Nations)	**13.7pp**	7.9pp	5.6pp	7.7pp	4.2pp	-1.2pp	-1.9pp	-3.9pp
First Nations as a proportion of Non-Indigenous	**77.4%**	76.4%	90.2%	88.2%	94.0%	101.9%	102.5%	105.3%
Relative Gap (1 - First Nations as Proportion of Non-Indigenous)	**22.6pp**	23.6pp	9.8pp	11.8pp	6.0pp	-1.9pp	-2.5pp	-5.3pp

Note: pp = percentage point

Source: Statistics Canada, 2016 Census of Population, Statistics Canada Catalogue no. 98-400-X2016267.

d) The Employment Rate Gap Conditional on Education

First Nations people tend to experience rates of employment which are substantially lower than those experienced by non-Indigenous people.[20] The conditional employment rate gap is defined as the difference in the employment rates experienced by First Nations people and non-Indigenous people with the same level of educational attainment. The employment rate of a given population can be expressed as E/WA, where E represents the number of employed persons within the population and WA represents the number of working-age individuals within the population. It expresses the population that is presently employed as a proportion of the broader population that *could* be employed. As such, it is sometimes interpreted as a sort of composite measure, capturing both the rate of unemployment and the rate of labour force participation within a given population.[21] Both factors are expressed through E, the numerator of the equation. Holding the size of the population constant, as unemployment rises, logically, the

[20] There are two primary ways of measuring employment using the data provided by the 2021 Census. Most obviously, we can use the number of employed people. This number is based on a Census question which asks respondents if they worked during the week that the Census was conducted (May 2nd to May 8th in 2021). This approach may thus exclude seasonal workers or people who, for whatever reason, did not work during the reference week, but were working at other points in the year. This method yields an employment rate of 57.1% for Canadians in 2021. The other, broader approach classifies any person who reports a non-zero sum for their employment income as employed, though this is for the year 2020, as employment incomes in the Census are reported for the year prior. This method yields an employment rate of 69.6% for Canadians. While the first approach may suffer from being too limited, this approach risks being overly inclusive. Individuals who worked even a single hour within a year will be classified as employed, occupying the same category as individuals who work 40 hours a week year-round. For this report, we have chosen to use the first approach, referring to the employment rates and numbers provided by Statistics Canada. This approach is certainly not without its flaws, however we feel it is a better approximation of long-term employment, which is the form of employment we are most interested in.

[21] The employment rate of a population can be decomposed as follows:

$$e = \frac{E}{WA} = \frac{L - U}{WA} = \frac{P * WA - U}{WA} = \frac{(E + U) - U}{WA}$$

where *e* is the employment rate, *E* is the number of employed persons in the population, *WA* is the working age population (the number of individuals above 15 years old in this context), *L* is the labour force or the number of people who are either working or actively looking for work, *U* is the number of unemployed persons in the population, and *P* is the labour force participation rate of the population or the proportion of the working age population that is in the labour force.

number of employed persons should fall, and the employment rate therein. Similarly, as the proportion of the population who are working or looking for work (i.e., the 'labour force') rises, the number of employed persons is also likely to rise, with the employment rate to follow. The employment rate captures both of these dimensions and it can therefore be a useful tool for measuring the labour market performance of a population in broad terms.

Table 7 presents measures of the employment rate gap between First Nations peoples and non-Indigenous Canadians for each level of educational attainment in 2021. First Nations people experienced an overall employment rate of 46.3% while non-Indigenous people experienced a rate of 57.4%: an absolute gap between of 11.1 percentage points, with First Nations people experiencing a rate that is 80.5 percent of the non-Indigenous rate. However, this aggregate gap is significantly higher than what we observe within educational attainment categories. When comparing between First Nations people and non-Indigenous people of the same educational attainment level, the gap in employment rates ranges from 0.6 percentage points to 6 percentage points, depending on the category. This suggests that differences in the educational attainment of the two populations are responsible for between 46% and 95% of the overall absolute gap in employment rates between the two populations. The same relationship is observed when using relative measures of the gap. When we do not control for educational attainment, the employment rate experienced by First Nations peoples is 80.6 percent of the rate experienced by non-Indigenous Canadians. However, when we control for the level of educational attainment, the employment rate of First Nations peoples as a percentage of non-Indigenous Canadians is between 82.0 percent and 104.3 percent. Overall, the difference in educational attainment between the two populations is found to be a significant driver of the overall gap in employment rates.

As expected, First Nations people face lower rates of employment than non-Indigenous people in most educational categories. The largest within-category gap in employment rates is found in the "no educational credential", where despite earning significantly higher wages than non-Indigenous people, First Nations people face an employment rate that is 5.5 points lower than the non-Indigenous figure. This is also the largest gap in relative terms, with the First Nations rate making up just 82% of the non-Indigenous rate. Still, across the educational attainment distribution, a fairly consistent pattern can be seen where within-category gaps tend to be smaller at higher educational categories, with the gap outright reversing at the highest categories. That is to say, First Nations people with a credential at or above the bachelor level actually experience higher rates of employment than non-Indigenous people. This reinforces our finding from our previous report that increased educational attainment is instrumental in reducing the aggregate employment rate faced by First Nations people. These categories with reversed gaps, though, are likely a product of distributional differences in age across the two populations. The average age of the First Nations population is significantly lower than that of the non-Indigenous population and this holds true at the highest levels of educational attainment, with highly educated First Nations people being younger on average than highly-educated non-Indigenous Canadians (Statistics Canada, 2022e). Individuals tend to become less inclined to work as they approach retirement age, and individuals in these categories are more likely to be advanced in age, having completed many years of schooling. Hence, it seems likely that this difference in the demographic characteristics of the two populations is driving the inverted gap that we observe in the top two educational categories.

Table 8 presents data on the conditional employment rate gap from 2016. Since 2016, rates of employment have fallen for both the First Nations population and non-Indigenous

population. This is likely due to the impacts of the pandemic, which were still being felt in May of 2021, when the 2021 Census was conducted. With that said, the effect is more pronounced for non-Indigenous people; the employment rate for non-Indigenous people has fallen by 3.1 points since 2016, while the First Nations rate has fallen by just 0.5 points. As a result, the aggregate gap in employment rates, which was 13.7 points in 2016, has closed by about 19%. Similar progress has been seen within educational attainment categories -- in particular, the three lowest educational categories. The gap in the "no educational credential", for example, has seen a decrease in the gap of 2.4 percentage points, from 7.9 points in 2016 to 5.5 points in 2021. The second lowest level, the "high school diploma or equivalent" category, has seen a decrease of 2.6 percentage points, from 5.6 points to 3.0 points. The "apprenticeship or trades certificate/diploma" category has seen the largest decrease in the conditional employment rate gap, falling by 4.2 points since 2016, from 7.7 points to 3.5 points. In contrast, in the top three categories – where First Nations people had experienced a higher employment rate than their non-Indigenous counterparts in 2016 – the gap has shrunk somewhat, moving in the direction of parity between the populations.

Overall, the employment rate gap between the two populations has improved significantly over the 2016-2021 period, both in aggregate and within educational attainment categories. Although employment rates have fallen for both populations, they have generally fallen farther for non-Indigenous people, and as a result, the gap has shrunk meaningfully. It is possible that these gains are due, in part, to the pandemic. However, this would require the First Nations population and the non-Indigenous population to be impacted in systematically different ways by the pandemic shocks. In any case, First Nations people continue to experience employment rates that are generally lower than those experienced by non-Indigenous people,

indicating that there is still significant work to do in equalizing labour market conditions across the two populations.

Methodology – Overnight Model [22]

As with our previous report, a core objective of this report is to estimate the economic benefits that would accrue a) to First Nations people and b) to Canadians generally if these three gaps – the educational attainment gap, the conditional income gap, and the conditional employment gap -- were to be closed. As part of this estimation process, we will assess the impact of closing each of the three gaps individually, as well as the cumulative impact of closing all three gaps simultaneously. The primary metric which we use to estimate these benefits is the total employment income generated by the closure of a gap. Total employment income is simply the sum of the earnings from employment of all individuals in a population, usually a national economy; it has a close relationship with output, with the growth rates of the two measures being inextricably linked. Moreover, total employment income comprises about half of GDP. Our methodology for these estimates is fairly simple, and this section outlines the specific procedure we perform to simulate the closing of each gap as well as for all three gaps simultaneously.

a) Closing the Education Gap

Our definition of closing the education gap entails adjusting the share of the First Nations population in any given educational attainment category in such a way that it exactly matches the share of the non-Indigenous population in that category. This results in the average years of

[22] This section draws heavily on the methodology section of our previous report, given the great similarity between the reports in methods used (AFN, 2023). Descriptions of methodological procedures are altered where necessary to reflect changes to the estimation strategies used.

education, as calculated in this study, becoming identical across both populations. To simulate the closure of the education gap, we simply replace the proportion of First Nations people in any given educational attainment category with the proportion of non-Indigenous people in that category. To produce an estimate of the economic benefits of that change, we compare the total employment income of a) First Nations people and b) Canadians before and after the closure of the gap. This entails recalculating the total employment income of First Nations people using the average earnings by category of educational attainment (Table 5), and the non-Indigenous educational attainment shares (Table 1).

We first estimate the total employment income of First Nations individuals before the closure of the gap by multiplying the number of employed First Nations individuals in each educational category by the average employment income in that category.[23] To calculate total employment income after the closure of the gap, we simply repeat this exercise using the educational attainment shares for the non-Indigenous population in lieu of the First Nations shares. Total employment and employment income are then calculated using the employment rates and average employment incomes for First Nations people in each educational category.[24]. By subtracting the post-closure total employment income from the pre-closure figure, we can quantify the economic benefit of closing the gap. We can also add the change in total

[23] This process of calculating this pre-closure total employment income figure is the same for all four scenarios. For this reason, its calculation is omitted from our description of the procedures used to close the other gaps.
[24] This estimation process involves the use of both the employment rate in a given educational attainment category and the mean employment income in a given educational attainment category. It should be noted that these two metrics are not directly comparable; the employment rate is calculated by including only those individuals who reported working during the Census reference week, while the mean employment income is calculated for all individuals who reported a non-zero sum of employment income. In other words, they are calculated using different definitions of employment. The mean employment income for the group counted as employed by the 2021 Census (and therein represented in the employment rate) is likely higher than the mean employment income used in our estimation.

employment income for First Nations people to the pre-closure total employment income for Canadians generally to find the new total employment income for the country post-closure.[25]

Another way of estimating the economic benefits of closing the gap is quantifying the number of jobs created by the movement of First Nations individuals into higher categories of educational attainment. Employment rates tend to be higher in these categories compared to lower categories. As such, when we close the education gap—an adjustment which moves many First Nations people to higher educational categories—many First Nations individuals begin to enjoy higher rates of employment. In aggregate, this change in the effective employment rate experienced by the First Nations population means a greater number of employed First Nations people.[26]

b) Closing the Income Gap Conditional on Education

The closure of the income gap conditional on education entails a similar albeit much simpler process. To produce an estimate of the total employment income[27] for the First Nations population post-closure, we simply multiply the pre-closure number of employed First Nations people in each educational attainment category by the average employment income for non-

[25] The calculation of pre-closure total employment income for all Canadians follows a very similar procedure to the calculation of pre-closure total employment income for the First Nations population. The number of employed individuals in each educational category is multiplied by the average employment income for Canadians by the total number employed.

[26] Both of these approaches of quantifying the benefits of closing the education gap assume that the movement of First Nations individuals between educational categories does not affect the labour market conditions in those categories. Namely, we assume that the average employment income and the employment rate remain constant at pre-closure levels. While this is not an entirely reasonable assumption, we posit that the real effects on these parameters would be insignificant given the small size of these movements relative to the size of the Canadian population in any given category.

[27] It should also be noted that the jobs approach to quantifying economic benefits is not applicable to the closure of the income gap. First Nations individuals are not moving between categories nor is the employment rate gap being closed, and as such, the First Nations population does not enjoy a higher effective employment rate (neither in the aggregate nor in specific categories). The only economic benefits accruing as a result of closing the conditional income gap are the gains in income which all employed First Nations people experience; there are no gains in employment.

Indigenous individuals in that category. Finally, as in the previous section, we can subtract the pre-closure total employment income from the post-closure figure to produce an estimate of the change in total employment income resulting from the income gap closure.

It is important to note that the closure of the income gap within educational categories does not constitute a closing of the aggregate income gap; that is to say, even after closing the income gap conditional on education, First Nations people will still earn less on average than non-Indigenous people. This is a consequence of differences in the distribution of educational attainment levels between the First Nations and non-Indigenous populations. The aggregate average employment income figure can be thought of as a weighted average of the average employment income figures for each educational category. This function can be expressed in the following form:

$$\bar{Y}^e = \sum_{c=1}^{n} (a_c \bar{Y}^e{}_c),$$

where $\bar{Y}^e$ is the aggregate average employment income of a population, $\bar{Y}^e{}_c$ is the average employment income of educational attainment category c, a_c is a weight representing the proportion of the working-age population which occupies category c, and n is the number of educational attainment categories. When we close the income gap conditional on education, we are replacing the average employment income of First Nations people in a given category with the same figure for non-Indigenous people; essentially, we are equalizing $\bar{Y}^e{}_c$ across the two populations. This is not sufficient to eliminate the aggregate income gap however, as the distribution of individuals across educational categories will still vary between First Nations and non-Indigenous people. Thus, the values of a_c will still vary between the populations and disparity will remain between the aggregate average employment incomes ($\bar{Y}^e$) of First Nations

people and non-Indigenous Canadians. In order for the aggregate income gap to fully close, both the income gap conditional on education and the education gap would need to close.[28] Under these circumstances, both a_c and $\bar{Y}^e{}_c$ would be equalized across the two populations, leading to a convergence of $\bar{Y}^e$ for First Nations and non-Indigenous people, and a full closure of the aggregate income gap.

c) Closing the Employment Rate Gap Conditional on Education

The closure of the employment rate gap conditional on education also follows a fairly simple process. The working-age population of First Nations people in each educational category is multiplied by the non-Indigenous employment rate in that category. This produces the number of employed First Nations people in each educational category, which is then multiplied by the average employment income for First Nations people in that category. Once again, this provides us an estimate of the total employment income post-closure for First Nations people, which can then be compared to the pre-closure figure to produce the estimated change in total employment income as a result of the gap closure.[29] We can also estimate the number of jobs generated by the closure of the conditional employment rate gap as an additional way of quantifying the economic benefits. To do so, we compare the pre- and post- closure number of employed First Nations people in each category and sum the differences.

[28] We will perform this operation in our fourth and final scenario where all three gaps are closed simultaneously.
[29] There are several educational categories in which First Nations people actually enjoy a higher employment rate than non-Indigenous individuals. In these categories, we will not close the disparity in employment rates between the two groups, given that replacing the First Nations employment rate with the non-Indigenous rate would actually be economically harmful. Alternatively, we could replace the non-Indigenous employment rate with the higher Indigenous employment rate, therein boosting the economic performance of non-Indigenous individuals, however we feel this is not germane to the goal of this report. We have instead chosen to leave the First Nations employment rate as is in these categories.

As with the closure of the conditional income gap, the closure of the conditional employment rate gap is not sufficient to eliminate the aggregate employment rate gap. The aggregate employment rate for a given population can be expressed as:

$$E = \sum_{c=1}^{n} (a_c E_c),$$

where E is the aggregate employment rate for a population, E_c is the employment rate within a given educational attainment category c, a_c is a weight representing the proportion of the population which occupies category c, and n is the number of educational attainment categories. Closing the employment rate gap within educational categories equalizes E_c across the First Nations and non-Indigenous populations, however the values of a_c remain distinct for the two groups. In order for the aggregate employment rate gap to close fully, both the conditional employment rate gap and the education gap need to close.[30]

d) Closing All Three Gaps Simultaneously

The procedure for estimating the benefits of closing all three gaps simultaneously is very similar to the process for estimating the benefits of closing the education gap. The distinction is that at every step we now use the parameters of the non-Indigenous population rather than the First Nations population: an adjustment that allows us to produce a portrait of the Canadian economy if First Nations people were to enjoy the same level of educational attainment, the same income conditional on education, and the same employment rate conditional on education as non-Indigenous Canadians.

[30] Again, we will perform this exercise in the final scenario as described in the following subsection.

We begin by closing the education gap. We do so by multiplying the total working age population of First Nations people by the proportion of the non-Indigenous working age population in each educational category. This yields the number of working-age First Nations people in each category if the distribution of educational attainment for First Nations people was identical to the distribution for non-Indigenous Canadians. We then close the conditional employment rate gap by multiplying the number of working-age First Nations people in each category by the non-Indigenous employment rate in that category, yielding the number of employed First Nations people in each category. Finally, we close the conditional income gap. By multiplying the number of employed First Nations people in each category by the average employment income of non-Indigenous Canadians in that category and summing these figures, we produce the total employment income for the First Nations population post-closure. Again, one way we can quantify the economic benefits of closing all three gaps is by subtracting the pre-closure total employment income of First Nations people from the post-closure figure.

Alternatively, we can calculate the number of new jobs produced by subtracting the pre-closure number of employed First Nations people in each category from the post-closure number. The factors driving this job creation process are a) the greater employment rate which many First Nations people now enjoy simply by virtue of having a higher level of educational attainment and b) the greater employment rate which most First Nations people enjoy now that employment rates in every category have converged to the rates enjoyed by non-Indigenous Canadians.

e) Limitations & Assumptions

All four of these scenarios follow what we call the overnight model of gap closure. That is, they envision the three major gaps between First Nations people and non-Indigenous Canadians closing instantaneously or ‘overnight’. This assumption exists to clearly identify and

draw attention to the gaps that currently exist. The closing of these gaps will take years, if not decades, and will likely require substantial policy interventions. Moreover, this is hardly an innocuous assumption given that the absolute and relative sizes of both populations, as well other key parameters like real wage rates and employment rates, are expected to change significantly over this time period. As such, the findings of this model should not be regarded as an exact simulation of the economic outcomes that will arise should these gaps truly be closed. Rather, they should be viewed as initial estimations of the magnitude of benefits which might accrue to First Nations people and Canadians generally, should policymakers and community leaders pursue such goals. Alternatively, the results of the overnight model might be interpreted as the benefits forgone or the costs incurred in 2021 by not closing these gaps in educational attainment and labour market performance between the two populations. That is, the results here offer a portrait of the more prosperous First Nations economy which could have been realized had these gaps been closed at the time of the 2021 Census.

Methodology – Longitudinal Model [31]

Whereas the "overnight" model of gap closure detailed in the previous section envisions these labour market gaps closing instantaneously, the longitudinal approach imagines the gaps closing gradually over the course of a 20-year period (2021 to 2041). In doing so, it leverages population projections produced by Statistics Canada and economic projections produced by the CSLS to develop estimates of key economic indicators for the First Nations population over this period (Statistics Canada, 2021c; Arif, 2022). Moreover, through the use of individual-level Census microdata, we are able to control for the demographic characteristics of individuals and

[31] This section draws heavily on the methodology section of our previous report, given the great similarity between the reports in methods used (AFN, 2023). Descriptions of methodological procedures are altered where necessary to reflect changes to the estimation strategies used.

project their future economic performance in terms of wages, output, labour productivity, and employment.[32] Compared to the overnight model, which uses aggregate level data, this approach allows us to produce more accurate and more detailed estimations of the impacts of these labour market gaps on the First Nations population and the Canadian economy.

Within this model, we consider six different scenarios – one baseline scenario and five gap closure scenarios (Scenario 1 to Scenario 5) – each with their own set of assumptions about how the labour market gaps experienced by the First Nations population might change and develop by the year 2041. Table 9 presents a summary of how we define each of these scenarios. For each scenario, we produce estimates of key economic indicators, namely, employment, employment income, contribution to GDP, and labour productivity.[33] By comparing these estimates between scenarios, we are able to develop an understanding of the gains which may accrue to First Nations people and Canadians generally if these disparities are partially or completely eliminated.

[32] This report uses the term "productivity" interchangeably with "labour productivity", as this is the only form of productivity we discuss. We calculate labour productivity as total output divided by total employment; as such, the concept is always expressed in 2015 Canadian dollars per employed person.

[33] Employment income and output are closely linked concepts. Historically, the labour share of income (the proportion of output which accrues to labour in the form of employment income) has been about 0.5 in Canada. As such, we estimate GDP or output to be two times employment income in the longitudinal model.

Table 9: Scenario Definitions

Scenario	Description	Assumptions		
		First Nations Educational Attainment in 2041	**First Nations Employment Rates in 2041**	**First Nations Wages in 2041**
Baseline		Projected based on 2016-2021 rates of improvement for First Nations; "business as usual"	Equal to First Nations employment rates in 2021	Equal to First Nations employment incomes in 2020[34], assuming annual growth of 1%
1	Full Closure of the Education Gap	Same as projected educational attainment of non-Indigenous population in 2041; no educational attainment gap in 2041	Equal to First Nations employment rates in 2021	Equal to First Nations employment incomes in 2020, assuming annual growth of 1%
2	Half Closure of the Education Gap	Equal to the average of the baseline projections for First Nations and non-Indigenous populations; half of gap in baseline is eliminated	Equal to First Nations employment rates in 2021	Equal to First Nations employment incomes in 2020, assuming annual growth of 1%
3	Closure of the Employment Rate Gap	Projected based on 2016-2021 rates of improvement for First Nations; "business as usual"	Equal to non-Indigenous employment rates in 2021; gap closed	Equal to First Nations employment incomes in 2020, assuming annual growth of 1%
4	Closure of the Income Gap	Projected based on 2016-2021 rates of improvement for First Nations; "business as usual"	Equal to First Nations employment rates in 2021	Equal to non-Indigenous employment incomes in 2020, assuming annual growth of 1%; gap closed
5	Closure of All Three Gaps (Educational Attainment, Employment Rate, Income)	Same as projected educational attainment of non-Indigenous population in 2041; no educational attainment gap in 2041	Equal to non-Indigenous employment rates in 2021; gap closed	Equal to non-Indigenous employment incomes in 2020, assuming annual growth of 1%; gap closed

[34] These are the employment incomes reported for First Nations people in the 2021 census. However, they represent incomes earned in the year 2020.

The baseline scenario, which we use as a benchmark when analyzing the other five scenarios, assumes that the level of educational attainment among First Nations will continue to change at the same rate as it did between the 2016 and 2021 censuses.[35] In our previous report, we projected educational attainment for the two populations using the rates of change in attainment categories for the 2006-2016 period.[36] Given that the primary objective of this report is to assess the impact of the 2016-2021 period on the state of the educational and labour market gaps facing First Nations people, we have elected to use rates calculated for the 2016-2021 period. In terms of creating a data product that builds upon our previous work and prioritizes contemporaneousness, we feel this approach provides the most utility.[37] During the 2016-2021 period, the disparity in attainment between the First Nations population and the non-Indigenous population closes in some categories and widens in others. This baseline scenario is produced by observing the rates of change in each educational category between 2016 and 2021 and extrapolating those rates over the 2016-2041 period. The rate of change for each of these

[35] Specifically, we calculate the compound annual growth rate required to achieve the change between 2016 and 2021 in the proportion of the First Nations population which occupies any of the nine educational attainment categories. For example, if the proportion of First Nations people with a bachelor's degree as their highest certification was 10% in 2016 and 20% in 2021, we would calculate that as a 200% change over the 2016-2021 period. The corresponding compound annual growth rate would then be 14.9%. Given that the proportion occupying some educational attainment categories falls over this period, these rates can be greater than or less than zero.

[36] An alternative approach to projecting educational attainment levels is to take the first difference over the period and derive an average annual change in each educational attainment category. These absolute annual changes can then be applied repeatedly to estimate the future educational attainment levels of the two populations. For this report, we follow with the approach originally used in Calver (2015) and produce projections for each population using the growth rates of the shares in each educational attainment category. We do not expect that the use of this alternative approach would have a significant impact on our results.

[37] The question of which period to use as the basis for our educational attainment projections is an interesting one and one that has no single answer. Using the 2006-2016 period as we did in the previous report excludes recent trends in educational attainment growth and thus negates the very objective of this report. Using the 2006-2021 period allows us to include recent trends but at the cost of rigidity; the impact on our projections of recent trends is downplayed due to size of the period included. Given that educational attainment trends can change significantly from period to period, the idea of including more years of data here does not necessarily create a better projection. Using the 2011-2021 period would give us the same 10-year window as our previous report, however we would not feel comfortable basing our projections so heavily on the anomalous 2011 Household Survey, which unlike a standard census, was not mandatory for Canadians to complete. Ultimately, we feel that using the 2016-2021 period aligns most closely with the goals of this report. However, we are able to provide the results for the other approaches mentioned upon request.

categories is presented in Table 10, alongside historical and projected levels of educational attainment. Ultimately, this approach sees the education gap between the population widen in some categories compared to 2021.[38]

The outcome of this projection procedure closely resembles what we found in our previous report. Both groups become more educated over time, however in many respects the gap in educational attainment widens. For the First Nations population, gains mainly occur as individuals move out of the "no certificate" category, and into the "high school" category. In fact, based on 2016-2021 trends, we project that in 2041, almost half of First Nations people (47.2%) will hold a high school diploma (or an equivalent) as their highest credential. There are significant gains in the "bachelor" and "university above bachelor" categories as well; the proportion of First Nations individuals with a bachelor's degree as their highest credential nearly doubles relative to 2021 (6.6% to 11.6%), and the proportion with a credential above the bachelor level more than doubles (2.4% to 5.2%). In fact, relative to their starting proportions in 2021, the growth experienced by the First Nations population exceeds the growth experienced by the non-Indigenous population in key categories like "bachelor" and "university above

[38] It should be noted that the methodology used for these projections involves a standardization process which affects the results in considerable ways. After applying the historical rates of growth to each educational attainment proportion to estimate the future proportion of individuals in that category, these proportions no longer sum to 100%. As such, a normalization process must be applied to both the non-Indigenous educational distribution as well as the First Nations educational distribution in order to return the sum of the proportions back to 100%. Given that the unnormalized total differs between the two populations as a result of the different levels of growth in educational attainment which each population experiences, the educational attainment distributions are scaled down by distinct factors, with the factors representing the average level of growth across all the education categories. Consequently, any individual proportion does not solely represent the level of growth projected for that category, but also the average level of growth expected for each educational category in the population. This generates some unintuitive results in some cases; for example, the "high school" category in the non-Indigenous population has a positive, albeit very small growth rate between 2016 and 2021. However, because this growth rate is so small relative to other categories, the projected share occupying the category in 2041 actually falls compared to 2021. For these reasons, caution should be exercised in interpreting these projected proportions, especially when comparing the proportions across the two populations. Still, they represent broad-level movements in educational attainment, and for the purposes of estimating key economic indicators like employment incomes, contributions to GDP, and levels of employment, we hold that these projections are meaningful.

bachelor". In relative and absolute terms, the proportion of the working-age population with no educational credential also falls significantly faster for the First Nations population than the non-Indigenous population. Despite these very significant gains, the absolute gains experienced in these categories are generally greater for the non-Indigenous population than for the First Nations population, and as such the absolute gap grows in many categories under this baseline scenario. This is also true for the gap in the average years of education for the two populations, which grows from a gap of about 1.29 years in 2021 to about 1.53 years in 2041.

Table 10: Proportion of Working Age Population (15+) in Educational Attainment Categories by Year and Scenario [39]

First Nations

	2006	2011	2016	2021	Compound Annual Growth Rate (2016-2021)	Projected 2041 at Current Rates (baseline)	Education Gap Half Closes by 2041	Education Gap Closes Fully by 2041
No credential	48.4%	42.6%	38.2%	33.3%	-2.8%	15.7%	12.1%	8.6%
High School	19.9%	22.9%	25.4%	29.8%	3.3%	47.2%	35.8%	24.5%
Apprenticeship/Trades	10.4%	10.6%	9.8%	8.7%	-2.3%	4.5%	4.8%	5.0%
Non-University Certificate/Diploma	13.2%	14.8%	17.0%	16.9%	-0.1%	13.7%	14.5%	15.2%
University below Bachelor	2.9%	2.8%	2.2%	2.3%	0.3%	2.0%	2.6%	3.2%
Bachelor	3.7%	4.5%	5.4%	6.6%	3.9%	11.6%	18.9%	26.2%
University above Bachelor	1.5%	1.8%	1.9%	2.4%	4.9%	5.2%	11.3%	17.4%
Total	100.00%	100.00%	100.00%	100.00%	-	100.00%	100.00%	100.00%
Average Years of Education	11.72	11.93	12.07	12.24	-	12.84	13.60	14.37

Non-Indigenous

	2006	2011	2016	2021	Compound Annual Growth Rate (2016-2021)	Projected 2041 at Current Rates (baseline)	Education Gap Half Closes by 2041	Education Gap Closes Fully by 2041
No credential	23.1%	19.4%	17.6%	15.5%	-2.5%	8.6%	-	-
High School	25.7%	25.6%	26.5%	26.5%	0.1%	24.5%	-	-
Apprenticeship/Trades	10.8%	10.8%	9.7%	8.7%	-2.3%	5.0%	-	-
Non-University Certificate/Diploma	17.4%	18.3%	19.4%	18.9%	-0.6%	15.2%	-	-
University below Bachelor	4.5%	4.5%	2.9%	3.0%	0.8%	3.2%	-	-
Bachelor	11.9%	13.6%	15.9%	17.9%	2.4%	26.2%	-	-
University above Bachelor	6.7%	7.7%	8.0%	9.5%	3.5%	17.4%	-	-
Total	100.00%	100.00%	100.00%	100.00%	-	100.00%	-	-
Average Years of Education	13.00	13.23	13.34	13.53	-	14.37	-	-

[39] This table updates a similar table (Table 2) presented in Part II of our previous report. Some numbers have changed slightly due to the different educational attainment categories present in the 2021 Census data. Namely, there is only one category representing non-university certificate/diploma programs as opposed to three.

Scenario 1 sees the educational attainment gap between First Nations people and non-Indigenous people close completely. Under this scenario, the First Nations population is assumed to have the same educational attainment distribution as the non-Indigenous population in 2041.[40] For example, if 20% of the non-Indigenous population in 2041 is projected to occupy the "bachelor's degree" category, this scenario assumes that the same proportion of the First Nation population will occupy the "bachelor's degree" category in 2041. This assumption is made for each of the seven educational categories which we investigate[41]. It is essential to note that the gap which is being closed is the gap between the projected 2041 First Nations population and the projected 2041 non-Indigenous population, not the gap between the two populations in the present day.

In Scenario 1, gains in 2041 are estimated by calculating key economic indicators like GDP, employment, total employment income, and productivity, and comparing these indicators to the baseline scenario. The compound annual growth rates of GDP and employment over the 2021-2041 period are then calculated using observed GDP in 2021 and our estimates for 2041 GDP and employment after the education gap has closed. By applying these compound annual growth rates to GDP and employment in 2021, we can find GDP and employment in each of the intervening years and trace out the growth path of the Canadian economy as the gap closes. This approach models gap closure as a linear process, where benefits grow at a constant annual rate throughout the 2021-2041 period. Cumulative benefits are then estimated by comparing GDP and employment in each year between the gap closure scenario and the baseline scenario. This

[40] Non-Indigenous levels of educational attainment in 2041 are projected using the same methodology described in the baseline scenario for the First Nations population (see Table 2).

[41] Only seven categories are used for the longitudinal model compared to nine in the previous report. This is because the categories breaking down credentials from non-university institutions like colleges and CEGEP based on program length are not available in the tabular data employed in this report. Such categories were also not available in the tabular data in 2016 and were only present in the PUMF file.

estimation framework remains consistent throughout the longitudinal model, although the underlying assumptions regarding gap closure differ between scenarios.

Scenario 2, meanwhile, envisions the educational attainment gap closing only "half-way". Functionally, this means that, rather than assuming the educational attainment of First Nations people in 2041 will be equal to that of non-Indigenous people in 2041,[42] we assume that the First Nations educational attainment distribution will be the average of the projected 2041 distributions for First Nations people and non-Indigenous people. For each educational category (ex. "high school"), we estimate the proportion of the First Nations population in that category by taking the arithmetic mean of a) the projected proportion of First Nations in that category in 2041 in the baseline scenario, and b) the projected proportion of non-Indigenous people in that category in 2041. In other words, half of the gap in the baseline scenario is eliminated under Scenario 2. In this way, this scenario represents a sort of middle-ground between Scenario 1, where First Nations educational attainment in 2041 is made equal to non-Indigenous levels of educational attainment, and the baseline scenario. Although smaller in scale and effect than Scenario 1, this "half-way" scenario likely represents a more realistic, albeit still optimistic, assumption about the progression of First Nations educational attainment vis-à-vis non-Indigenous educational attainment. In 2041, many individuals who have completed their education and are in the workforce today will still be in the workforce. As such, the full closure of the educational attainment gap would require that today's young First Nations people attain extremely high levels of education in order to 'balance out' the presence of older First Nations

[42] We define equality in educational attainment as the two populations occupying each educational attainment category in identical proportions. For example, if 25% of the non-Indigenous population has a bachelor's degree as their highest certification, equality in educational attainment would mean that 25% of the First Nations population also has a bachelor's degree as their highest certification. This is only an example of one category though; for the educational attainments of the two populations to be equal, this would need to be true for all nine educational categories.

people who are, on average, less educated than non-Indigenous individuals of the same age. The half-closed scenario, meanwhile, more or less represents a future in which today's young First Nations people attain the same levels of education as today's young non-Indigenous people: a proposition which, though a lofty goal in itself, is much more achievable.

For Scenario 3, we turn our attention to another labour market gap experienced by First Nations people in comparison to non-Indigenous people: the conditional employment rate gap. This is the observation that, even when matched up based on demographic and educational characteristics, First Nations people tend to experience lower rates of employment than non-Indigenous people. In the overnight model, we are interested in the employment rate gap conditional on educational attainment – that is, the disparity in employment rates between First Nations people and Indigenous people of the same level of educational attainment. However, with the use of more detailed cross-tabular census data, we are able to control for differences in sex, province/territory of residence, and age group, in addition to educational attainment. For the sake of brevity, we will refer to this gap as simply the conditional employment rate gap. We describe each combination of these four variables as a "bin" containing the number of First Nations individuals that matches that combination of characteristics. For example, one bin, which might be called "Quebec females 35-44 years old with a high school education", contains all female First Nations persons in Quebec between the ages of 35 and 44 who have a high school diploma or an equivalent as their highest educational certification. Given that economic indicators like rates of employment and average incomes vary greatly across these four variables, and we are primarily interested in labour market disparities which occur solely because of one's status as a First Nations person or a non-Indigenous person, we feel it is best to observe the gaps within bins, rather than across whole populations. Under this scenario, we assume that the

educational attainment of the First Nations population is the same as in the baseline scenario, however in calculating levels of employment, income, and output, we utilize the non-Indigenous employment rate for each bin (each age-sex-province-educational attainment combination). In this way, we envision the employment rate gap between the First Nations and non-Indigenous populations fully closing.

Scenario 4 envisions the conditional income gap closing by 2041. Like the conditional employment rate gap, the conditional income gap refers to the observation that, even for individuals of the same sex, province/territory of residence, age group, and educational attainment level, employed First Nations individuals tend to earn less on average in employment income than non-Indigenous individuals.[43] To simulate the closing of this gap, we follow a similar procedure to the previous scenario. We assume that the First Nations population in 2041 has "baseline" levels of educational attainment, however, when we calculate employment, income, and output, we utilize the non-Indigenous average employment income per employed person for each bin (each age-sex-province-educational attainment combination). By doing so, we are able to produce estimates of key economic indicators under the assumption that the conditional income gap has closed fully.

Finally, for Scenario 5, we essentially combine Scenarios 1, 3, and 4 in order to simulate the closure of all three major labour market gaps simultaneously. We assume that First Nations people in 2041 have the same level of educational attainment as non-Indigenous people are projected to have, and furthermore, when calculating, employment, income, and output, we use the non-Indigenous employment rate and average employment income for each bin (each age-

[43] Employment status in this context refers to whether an individual had positive, non-zero employment income in 2020, as this is the group over which average employment income is calculated.

sex-province-educational attainment combination). In doing so, we simulate a future in which all three gaps have been fully closed; one in which First Nations individuals experience largely the same labour market outcomes as non-Indigenous Canadian

Results & Discussion

a) Overnight Model

Table 11 presents the results of the overnight model of gap closure under four different scenarios: the education gap closes, the income gap conditional on education closes, the employment rate gap conditional on education closes, and a final scenario where all three gaps close simultaneously. These figures represent the estimated economic benefits which would accrue to First Nations people and Canadians generally if the key gaps between the First Nations and non-Indigenous populations were to close instantaneously or 'overnight' in 2021. Table 12 presents analogous figures from Part I of our previous report, recording the benefits of overnight gap closure that we estimated based on 2016 Census data. We now move to discuss the results from each gap closure scenario in turn.

Table 11: Estimated Economic Benefits by Gap Closure Scenario, Overnight Approach, 2021

		Measures of Economic Benefit							
		New Employment from gap closure (# of jobs)	**First Nations share of Canadian employment before gap closure**	**First Nations share of Canadian employment after gap closure**	Total Canadian Employment Income pre-closure (millions)	Total Canadian Employment Income post-closure (millions)	**Change in Total Employment Income (millions)**	**Change in FN Total Employment Income (percent change)**	**Change in Canadian Total Employment Income (percent change)**
Gap Closure Scenario	**Closing Education Gap**	70,913	**2.04%**	**2.44%**	$804,820	$810,359	$5,538	**41.3%**	**0.69%**
	Closing Income Gap Conditional on Education	**NA**	**2.04%**	**2.04%**	$804,820	$806,117	$1,297	**9.7%**	**0.16%**
	Closing Employment Rate Gap Conditional on Education	26,061	**2.04%**	**2.19%**	$804,820	$805,656	$835	**6.2%**	**0.10%**
	Closing All Three Gaps Simultaneously	85,020	**2.04%**	**2.52%**	$804,820	$812,485	$7,664	**57.1%**	**0.95%**

Note: All monetary estimates provided in 2015 Canadian dollars.
Source: CSLS Estimates

Table 12: Estimated Economic Benefits by Gap Closure Scenario, Overnight Approach, 2016 (Estimates from Previous Report)

		Measures of Economic Benefit							
		New Employment from gap closure (# of jobs)	**First Nations share of Canadian employment before gap closure**	**First Nations share of Canadian employment after gap closure**	Total Canadian Employment Income pre-closure (millions)	Total Canadian Employment Income post-closure (millions)	**Change in Total Employment Income (absolute) (millions)**	**Change in FN Total Employment Income (percent change)**	**Change in Canadian Total Employment Income (percent change)**
Gap Closure Scenario	**Closing Education Gap**	68,469	**1.88%**	**2.27%**	$793,564	$798,562	$4,998	**44.8%**	**0.63%**
	Closing Income Gap Conditional on Education	**NA**	**1.88%**	**1.88%**	$793,564	$795,596	$2,032	**18.2%**	**0.26%**
	Closing Employment Rate Gap Conditional on Education	41,759	**1.88%**	**2.12%**	$793,564	$794,681	$1,117	**10.0%**	**0.14%**
	Closing All Three Gaps Simultaneously	94,783	**1.88%**	**2.42%**	$793,564	$802,202	$8,638	**77.5%**	**1.09%**

Note: All monetary estimates provided in 2015 Canadian dollars.
Source: CSLS Estimates

i) The Education Gap

The closure of the educational attainment gap between the First Nations and non-Indigenous populations is found to produce the most significant gains of the three individual gaps which we consider. In total, the closure of the gap is associated with over $5.5 billion in additional employment income for the First Nations population, representing a 41% increase in the total employment income earned by First Nations people in Canada. This would also represent a 0.69% increase in total Canadian employment income. Significant gains in employment are also associated with the closure of the education gap. We estimate that the First Nations population would enjoy about 71,000 additional jobs post-gap-closure. This would raise the share of total Canadian employment comprised by employed First Nations – what we call the First Nations employment share – from 2.04% to 2.44%.

As anticipated by our observation that the educational attainment gap between the two populations had widened since 2016, the estimated gains from the overnight closure of the education gap have increased compared to the estimates offered in our previous report. Previously, we had estimated gains in total First Nations employment income of just under $5 billion – this figure grows by more than half a billion when performing the exercise with 2021 census data. Similarly, we had previously estimated employment gains of about 68,000 additional jobs: a figure which is found to about 2,000 jobs higher when using 2021 data. These larger absolute gains are also generally reflected in the relative measures of economic gain that we provide. As a proportion of total Canadian employment income, the gains estimated in this report are 0.06 percentage points higher than those estimated in our previous report (0.69% using 2021 Census data vs. 0.63% using 2016 Census data). Similarly, the increase in the First Nations employment share that we observe when the education gap closes is slightly higher in these

updated estimates (0.40 percentage points here vs. 0.39 percentage points in previous report). Interestingly though, the gains in total employment income as a proportion of total First Nations employment income have fallen from 44.8% in our previous estimates to 41.3% in our updated estimates. This reflects the fact that, as observed in the "State of the Gaps" section of this report, the First Nations population has experienced tremendous growth in wages over the 2016-2021 period; the average real wage for First Nations people has increased by 11.6% since 2016, while the real average wage for non-Indigenous average wages has grown by less 1% over the same period. As such, although the estimated gains from the overnight closure of the education gap have grown substantially compared to our previous report, the total employment income of the First Nations population has grown even *faster*. Therefore, even though estimated gains in employment income have grown in absolute terms compared to our previous report, this specific measure of relative gain has decreased somewhat.

ii) The Income Gap Conditional on Educational Attainment

In terms of the estimated income gains associated with gap closure, the closure of the income gap conditional on educational attainment is found to be the second most important of the three individual gaps we consider. In total, the closure of the gap is associated with about $1.3 billion in additional employment income: a substantial increase to be sure, but significantly smaller than the gains associated with the closure of the education gap. This represents a 9.7% increase in First Nations total employment income and a change in total Canadian employment income of 0.16%. There are also no employment gains associated with the closure of this gap. This is because the closure of the conditional income gap is defined as the equalization of the average earnings per employed person conditional on education across the First Nations and non-

Indigenous populations. It does not entail any altering of the employment rates faced by First Nations people – the source of employment gains when we close the conditional employment rate gap – nor does it move individuals to higher educational categories where they might enjoy higher rates of employment – the source of employment gains when we close the education gap.

The gains we estimate from the closure of the conditional income gap here are substantially smaller than the gains we estimated from our previous report. Based on the data available in the 2016 Census, we had previously estimated total employment income gains of about $2 billion. The gains estimated based on 2021 Census data, meanwhile, are about $735 million or 36% smaller. However, this is very much expected given just how much the employment income disparities between the two population have shrunk since 2016; naturally, with smaller gaps to close, the benefits from gap closure are much smaller. Notably though, as a proportion of First Nations total employment income, these gains have fallen even more sharply compared to our previous estimates, decreasing by about half (9.7% in this report vs. 18.2% in our previous report). This reflects the same dynamic observed when estimating the gains from closing the education gap; the impressive growth that the First Nations population has experienced in average employment incomes and employment rates has boosted total First Nations employment income substantially compared to 2016. As a result, the drop from our previous report in the estimated benefit of closing the income gap is magnified in this measure of relative gain. The numerator in the calculation – the absolute gain in First Nations employment income – has fallen, while the denominator in the calculation – the total employment income of the First Nations population – has grown very substantially. The result is a drop in relative gain that is larger than what we observe when looking at the absolute economic gains.

iii) The Employment Rate Gap Conditional on Educational Attainment

Closing the employment rate gap conditional on educational attainment is associated with the smallest income benefits of the three individual gaps we consider in the overnight model. Gains in employment income from the closure of the conditional employment rate gap are estimated to be about $0.8 billion, representing a 6.2% increase in total First Nations employment income and a 0.1% increase in total Canadian employment income. Again, while these gains are certainly meaningful, they do not compare to the estimated gains accrued from the closure of the education gap, which we estimate to be about 7 times larger. In terms of additional employment, the closure of the conditional employment rate gap is associated with about 26,000 additional jobs for First Nations people: a change which would boost the First Nations employment share from 2.04% to 2.19%.

As with the conditional income gap, the gains estimated from this gap closure scenario are significantly smaller compared to the gains we estimated in our previous report. Previously, we had estimated employment income gains of about $1.1 billion. Our updated estimate represents a decrease of $0.3 billion or about 25% compared to our previous findings based on 2016 Census data. Still, the differential between reports here is smaller than for the conditional income gap. Our estimates for the gains in employment from the closure of the gap, meanwhile, fell by about 16,000 jobs or 37%. As noted with the conditional income gap, these changes in the estimated gains associated with gap closure reflect the substantial amelioration of the gaps over the 2016-2021 period. Moreover, for similar reasons as described above, the relative gains, expressed as a proportion of total First Nations employment income, have fallen quite substantially compared to our previous report (6.2% here compared to 10.0% in our previous report).

iv) Closing All Gaps Simultaneously

The final scenario which we simulate in the overnight model is one where all three individual gaps – the educational attainment gap, the income gap conditional on educational attainment, and the employment rate gap conditional on educational attainment – are closed simultaneously. As one might expect, this scenario is associated with the largest gains of all the scenarios we consider in the overnight model. In total, we estimate that the simultaneous closure of all three gaps is associated with an increase in First Nations employment income of $7.6 billion: a magnitude of benefit that is about $2 billion or 38% larger than what we estimate for the closure of the education gap alone. This represents a 57% increase in total First Nations employment income and a 0.95% increase in total Canadian employment income. The associated gains in employment are similarly impressive, with an estimated 85,000 additional jobs for First Nations post-closure and a boost in the First Nations employment share from 2.04% to 2.52%.

Notably, the employment income gains from this scenario are essentially equal to the sum of the employment income gains from the individual gap closure scenarios. On the contrary, the gains in employment are markedly smaller than the sum of gains from the individual scenarios. This is a consequence of the sequence in which we close the three gaps in this final scenario and the fact that the employment rate gap shrinks at higher levels of educational attainment. When closing all three gaps simultaneously, we begin by closing the education gap, before proceeding to close the conditional employment rate gap and ultimately the conditional income gap. This process moves First Nations individuals into higher educational attainment categories than they would have inhabited in the scenario where only the conditional employment rate gap closes. These higher educational attainment categories tend to feature smaller gaps in employment rates between the First Nations and non-Indigenous populations. As such, the gains from closing the

conditional employment rate gap in this final scenario tend to be smaller than they would be if only the conditional employment rate gap closed and not the education gap alongside it.

Compared to the estimates offered in our prior report, the gains presented here are modestly smaller. Previously, based on 2016 Census data, we had estimated employment income gains of about $8.6 billion. Our current estimate of $7.7 billion therefore represents a decrease of about $1 billion or about 11%. A similar differential is observed for the estimated gains in employment from closing all gaps simultaneously. Again, our estimates presented here are lower, in this case by 10% or about 10,000 jobs. The reason for this follows from our analysis of the individual gap closure scenarios. Although the size of the education gap has increased, and therein the benefits of closure as well, the conditional employment income and employment rate gaps have closed considerably. These two trends have conflicting effects on the size of gains from the all-gaps-closed scenario. Still, given that the gains have dropped considerably compared to our previous estimates, it seems that the effect of smaller employment rate and income gaps outweighs the effect of a larger education gap.

b) Longitudinal Model

Table 13 and 14 presents our estimates for the economic benefits accrued for various gap closure scenarios under the longitudinal model of gap closure. We consider five scenarios in total. In each scenario, the relevant gaps close gradually over the course of the 2021-2041 period. The scenarios we consider are: the education gap fully closes, the education gap closes halfway, the conditional employment income gap closes, the conditional rate gap closes, and a final scenario where all three individual gaps close simultaneously. All measures of benefit are

calculated by comparing the scenario of interest with baseline projections of key economic indicators like GDP, employment, and labour productivity for the 2021-2041 period.

Table 13 presents estimates for the economic benefits accrued in 2041, the final year of the gap closure process. Table 14, meanwhile, compares the estimates developed using 2021 Census data with estimates from our previous report based on 2016 Census data. These results are somewhat analogous to the results produced by way of the overnight model, in that they quantify the benefits of gap closure accrued within a single year of the gap closure scenario. Notably though, the figures here represent the results of closing the projected gaps in 2041 and not the gaps observed in the 2021 Census. Moreover, the employment income and employment rate gaps in this context are conditional not just on educational attainment but also on gender, age group and province/territory of residence.

In contrast, Table 15 presents estimates for the cumulative economic benefits across the entire 2021-2041 period from the gradual closure of the relevant gaps in each scenario. Table 16 compares these results with those produced for our previous report using 2016 Census Data. Gains in these tables are calculated by comparing projected GDP and employment each year between the relevant gap closure scenario and the baseline projections. The differences in these variables which develop each year are then summed across the entire period. This long-term approach to measuring the benefits of gap closure also allows to quantify the effect of each scenario on the annual growth rates of GDP, employment, and labour productivity.

We now move to discuss the results for each gap closure scenario in turn. Interestingly, the projections for First Nations GDP, employment, and labour productivity in 2041 are somewhat lower than those produced in our last report. The baseline projected GDP contribution of First Nations people in 2041, for example, is estimated to be $64.4 billion: a little under $4

billion less than the $68.3 billion in GDP that we estimated in the same exercise in our previous report. We interpret this as stemming mainly from the fall in employment rates observed between the 2016 and 2021 Censuses. This effect is further pronounced by the application of First Nations population and educational attainment projections to the year 2041, and in particular, the manner in which different population weights are attached to different bins by these projections. Different age-sex-province/territory-educational attainment bins are estimated to experience different levels of growth in the period leading up to 2041 (2021-2041 for this report, 2016-2041 for the previous report). In particular, the bins which have experienced more drastic drops in employment between 2016 and 2021 seem to experience greater projected rates of population growth. What results is an aggregate First Nations employment rate for our baseline 2041 projection that is meaningfully lower than in our previous report (49.0% in this report vs. 51.3% in the previous report). As mentioned in the "Understanding the 2021 Census" section, there are also slight differences in the educational attainment categories considered in the longitudinal model between this report and our previous report. This inconsistency may also contribute to the discrepancy observed here, though we estimate the impact to be small.

Table 13: Main Longitudinal Results Based on 2021 Census Data, Projections for First Nations in 2041 by Scenario

		Baseline	Education Gap Closes	Education Gap Half Closes	Employment Rate Gap Closes	Income Gap Closes	All Three Gaps Close
Scenario			1	2	3	4	5
	GDP Gains (2015 dollars)						
	Total FN Contribution to GDP (billions)	64.4	89.1	76.8	74.3	69.1	103.5
	% change over baseline	-	38.3%	19.2%	15.4%	7.3%	60.7%
	Total GDP (billions)	3,081	3,106	3,094	3,091	3,086	3,120
	% change over baseline	-	0.80%	0.40%	0.32%	0.15%	1.27%
	Employment Income Gains (2015 dollars)						
	Total FN Employment Income (billions)	32.2	44.5	38.4	37.2	34.6	51.8
	% change over baseline	-	38.3%	19.2%	15.4%	7.3%	60.7%
	Total Canadian Employment Income (billions)	1,541	1,553	1,547	1,546	1,543	1,560
	% change over baseline	-	0.80%	0.40%	0.32%	0.15%	1.27%
	Employment Gains (# of jobs)						
	Total FN Employment (thousands)	643	749	696	766	643	827
	% change over baseline	-	16.4%	8.2%	19.1%	0.0%	28.7%
	Total Canadian Employment (thousands)	23,284	23,389	23,337	23,407	23,284	23,468
	% change over baseline	-	0.45%	0.23%	0.53%	0.00%	0.79%
	Labour Productivity Gains (2015 dollars per worker)						
	FN Labour Productivity	100,164	118,978	110,285	97,032	107,523	125,122
	% change over baseline	-	18.8%	10.1%	-3.1%	7.3%	24.9%
	Aggregate Canadian Labour Productivity	132,340	132,796	132,569	132,068	132,543	132,967
	% change over baseline	-	0.35%	0.17%	-0.21%	0.15%	0.47%

Source: CSLS Estimates

Table 14: Main Longitudinal Results by Report & Census Data Year, Point Estimates for Benefits in 2041 by Gap Closure

		Education Gap Closes	Education Gap Half Closes	Employment Rate Gap Closes	Income Gap Closes	All Three Gaps Close
Scenario		1	2	3	4	5
Gains in First Nations Contribution to GDP (2015 dollars)						
Previous report based on 2016 Census	Absolute Change (billions)	30.2	15.1	11.1	8.7	48.4
	% change over baseline	44.2%	22.1%	16.3%	12.7%	70.9%
Current report based on 2021 Census	Absolute Change (billions)	24.7	12.3	9.9	4.7	39.1
	% change over baseline	38.3%	19.2%	15.4%	7.3%	60.7%
Gains in First Nations Employment Income (2015 dollars)						
Previous report based on 2016 Census	Absolute Change (billions)	15.1	7.6	5.6	4.3	24.2
	% change in baseline	44.2%	22.1%	16.3%	12.7%	70.9%
Current report based on 2021 Census	Absolute Change (billions)	12.3	6.2	5.0	2.4	19.6
	% change over baseline	38.3%	19.2%	15.4%	7.3%	60.7%
Gains in First Nations Employment (# of jobs)						
Previous report based on 2016 Census	Absolute Change (thousands)	105	52	139	0	188
	% change over baseline	15.5%	7.8%	20.7%	0.0%	27.8%
Current report based on 2021 Census	Absolute Change (thousands)	106	53	123	0	184
	% change over baseline	16.4%	8.2%	19.1%	0.00%	28.7%
Gains in First Nations Labour Productivity (2015 dollars per worker)						
Previous report based on 2016 Census	Absolute Change	25,182	13,497	-3,654	12,847	34,113
	% change over baseline	24.9%	13.3%	-3.6%	12.7%	33.7%
Current report based on 2021 Census	Absolute Change	18,814	10,122	-3,132	7,359	24,959
	% change over baseline	18.8%	10.1%	-3.1%	7.3%	24.9%

Source: CSLS Estimates

Table 15: Main Longitudinal Results Based on 2021 Census Data, Cumulative Gains Over 2021-2041 Period

		Baseline	Education Gap Closes	Education Gap Half Closes	Employment Rate Gap Closes	Income Gap Closes	All Three Gaps Close
Scenario			1	2	3	4	5
	GDP Projections (2015 dollars)						
	Total GDP (billions)	54,905	55,138	55,021	54,999	54,950	55,274
	% change over baseline	-	0.42%	0.21%	0.17%	0.08%	0.67%
	Employment Projections (# of job-years)						
	Total Canadian Employment (thousands)	445,573	446,619	446,096	446,790	445,573	447,395
	% change over baseline	-	0.23%	0.12%	0.27%	0.00%	0.41%
	Effect on Annual GDP Growth						
	Annual GDP Growth Rate	1.71%	1.75%	1.73%	1.73%	1.72%	1.77%
	absolute change	-	0.04pp	0.02pp	0.02pp	0.01pp	0.06pp
	% change over baseline	-	2.37%	1.19%	0.96%	0.46%	3.75%
	Effect on Annual Employment Growth						
	Annual Employment Growth Rate	0.95%	0.97%	0.96%	0.98%	0.95%	0.99%
	absolute change	-	0.02pp	0.01pp	0.03pp	0.00pp	0.04pp
	% change over baseline	-	2.41%	1.21%	2.80%	0.00%	4.19%
	Effect on Annual Labour Productivity Growth						
	Annual Productivity Growth Rate	0.75%	0.77%	0.76%	0.74%	0.76%	0.78%
	absolute change	-	0.02pp	0.01pp	-0.01pp	0.01pp	0.02pp
	% change over baseline	-	2.31%	1.16%	-1.37%	1.03%	3.16%

Source: CSLS Estimates

Table 16: Main Longitudinal Results by Report & Census Data Year, Cumulative Estimates for Benefits of Gap Closure Over 2021-2041 Period

		Education Gap Closes	Education Gap Half Closes	Employment Rate Gap Closes	Income Gap Closes	All Three Gaps Close
Scenario		1	2	3	4	5
Cumulative Gains in GDP (2015 dollars)						
Previous report based on 2016 Census	Absolute Change (billions)	286	143	105	82	457
	% change over baseline	0.52%	0.26%	0.19%	0.15%	0.83%
Current report based on 2021 Census	Absolute Change (billions)	233	117	94	45	369
	% change over baseline	0.42%	0.21%	0.17%	0.08%	0.67%
Cumulative Gains in Employment (# of job-years)						
Previous report based on 2016 Census	Absolute Change (thousands)	1,035	518	1,379	0	1,857
	% change in baseline	0.23%	0.12%	0.31%	0.00%	0.42%
Current report based on 2021 Census	Absolute Change (thousands)	1,046	523	1,217	0	1,822
	% change over baseline	0.23%	0.12%	0.27%	0.00%	0.41%
Effect on Annual GDP Growth						
Previous report based on 2016 Census	Absolute Change (percentage points)	0.05pp	0.02pp	0.02pp	0.01pp	0.08pp
Current report based on 2021 Census	Absolute Change (percentage points)	0.04pp	0.02pp	0.02pp	0.01pp	0.06pp
Effect on Annual Employment Growth						
Previous report based on 2016 Census	Absolute Change (percentage points)	0.02pp	0.01pp	0.03pp	0.00pp	0.04pp
Current report based on 2021 Census	Absolute Change (percentage points)	0.02pp	0.01pp	0.03pp	0.00pp	0.04pp
Effect on Annual Labour Productivity Growth						
Previous report based on 2016 Census	Absolute Change (percentage points)	0.03pp	0.01pp	-0.01pp	0.01pp	0.04pp
Current report based on 2021 Census	Absolute Change (percentage points)	0.02pp	0.01pp	-0.01pp	0.01pp	0.02pp

Source: CSLS Estimates

i) Scenario 1: The Education Gap Fully Closes

The estimated gains from the full closure of the education gap under the longitudinal model are substantial. Using projections based on 2021 Census data, we find that the closure of the gap is associated with an additional $24.7 billion in GDP in 2041 for the First Nations population (Table 14), boosting the 2041 First Nations contribution to GDP by 38%, from about $64 billion in the baseline projection to over $89 billion when the gap closes (Table 13). The closure of the gap is also associated with $233 billion in cumulative GDP gains over the 2021-2041 period (Table 16): an increase of 0.42% in total GDP over the period, which manifests as a 0.04 percentage point increase in the annual economic growth rate, from 1.71% to 1.75% (Table 15). The significance of gains in the annual growth rates of key variables like GDP, employment, and productivity is hard to overstate. These changes represent improvements in the growth trajectory of the country, the fruits of which will manifest annually and compound over time. Hence, even small changes in these rates represent important economic benefits. Still, the gains here are somewhat lower than the $30 billion in additional 2041 GDP and $286 billion in cumulative GDP gains that we estimated in our previous report, but they nonetheless represent very large gains in output and income for the First Nations population.

The gains in employment are similarly impressive. We estimate that the full closure of the education gap is associated with an additional 106,000 jobs for First Nations people in 2041, representing a 16.5% increase in total First Nations employment in 2041 and 0.45% increase in total Canadian employment in 2041. Over the 2021-2041 period, the closing of the gap is associated with about 1,046,000 additional yearly incomes for First Nations people or "job-years" as we call them (one job for one year). In total, this improves the annual growth rate of Canadian employment for the period by 0.02 percentage points, from 0.95% annually to 0.97%

annually. These estimates are actually slightly larger, in both absolute and relative terms, compared to the estimates offered in our previous report, with the estimated gains in employment being about 1,000 jobs and 11,000 job-years larger in the exercise performed here.

Total First Nations labour productivity, measured as annual output per worker is also found to improve significantly in this scenario, from about $100,000 per worker in the baseline projections for 2041 to about $119,000 when the education gap closes fully: an improvement of 18.8%. This causes the annual growth rate of Canadian labour productivity over the 2021-2041 period to rise from 0.75% to 0.77%: a significant gain given the slow rates of productivity growth that Canada has seen in recent years. These gains are about 25% smaller than those estimated in the previous report; in our previous projections we had found gains of about $25,000 in First Nations labour productivity in 2041. Labour productivity is essentially a ratio of total output to total employment, and hence, the decrease in First Nations labour productivity between the two reports is a result of both a) the smaller gains in output and b) the larger gains in employment that we observe here relative to the previous report.

ii) Scenario 2: The Education Gap Closes Halfway

As one would expect, the benefits from closing the education gap halfway over the 2021-2041 period are about half as large as the estimated benefits from closing the education gap completely. We estimate a total increase in 2041 First Nations GDP of about $12 billion and an increase in cumulative GDP over the 2021-2041 period of about $117 billion. In relative terms, this is an increase in 2041 First Nations GDP of about 19% and an increase in cumulative 2021-2041 GDP of about 0.21%. Altogether, this manifests as a 0.02 percentage point increase in the annual growth rate of GDP over the 2021-2041 period. These figures are again somewhat

smaller than those estimated in our previous report, with 2041 GDP and cumulative GDP gains being about 13% and 19% smaller, respectively.

Employment gains from the half-closing of the education gap are found to be significant as well, with gains in 2041 employment estimated at about 53,000 jobs and cumulative gains over the 2021-2041 period estimated at about 523,000 job-years. This represents an increase in the annual rate of Canadian employment growth of 0.01 percentage point. Again, these gains are slightly larger compared to those we found in our previous report. The half-closing of the education gap is also associated with around a $10,000 or a 10.1% increase in labour productivity, augmenting the annual rate of labour productivity growth by 0.01 percentage points. These gains in labour productivity are slightly smaller than those found in the previous report for this scenario.

iii) Scenario 3: The Conditional Employment Rate Gap

The closing of the conditional employment rate gap is, too, associated with very substantial gains. We estimate that the closing of the gap would generate about $9.9 billion in additional First Nations output in 2041: an increase of about 15% over the baseline projections. Furthermore, over the 2021-2041 period, we estimate that the closing of the gap would generate an additional $94 billion in cumulative GDP, boosting total cumulative GDP over the period by 0.17% and raising the annual GDP growth rate by 0.02 percentage points to 1.73% annually. These estimates are largely comparable to those offered in the previous report, albeit slightly attenuated. For example, previously we had estimated gains in 2041 GDP of $11.1 billion; this figure has fallen by about 11%.

The most impressive gains from the gradual closing the conditional employment rate gap are related to the additional employment generated for the First Nations population. In all, the closing of the gap is associated with 123,000 additional jobs for First Nations people and about 1,200,000 additional yearly incomes or job-years for the First Nations population. Worth noting is that these gains in employment are the largest of all of the individual gap closure scenarios -- even larger than those found when closing the full education gap. This would seem to indicate that, despite closing substantially over the 2016-2021 period, the conditional employment rate gap continues to be an important source of disparity between the First Nations and non-Indigenous populations. These gains manifest as a 0.03 percentage point increase in annual employment growth, bringing the annual growth rate of Canadian employment from 0.95% per year to 0.98% per year. These gains, despite their impressive size, are again slightly smaller than those estimated in our previous report.

Finally, as a result of these massive gains in employment being paired with more modest gains in output, the labour productivity of First Nations people actually falls by almost $3,000 or about 3.6% compared to baseline. This pushes the annual rate of labour productivity growth down by 0.01 percentage points. What we are observing here is a sort of composition effect; existing First Nations workers are not individually becoming less productive. Rather, the largest gaps in employment rates between the First Nations and non-Indigenous populations tend to occur within lower categories of educational attainment. As such, most of the gains in employment that we see when we close the conditional employment rate gap in this scenario stem from jobs added in these lower categories, where workers tend to be less productive. The measures of labour productivity expressed here find the labour productivity of the average First Nations worker by distributing total First Nations output across the total number of First Nations

workers. With the addition of these low-productivity jobs, the 'average' First Nations worker is less productive than in the baseline scenario. Notably though, the fall in First Nations labour productivity found here is smaller than what we found in our previous report, implying that the imbalance between added output and added employment is less severe here.

iv) Scenario 4: The Conditional Income Gap

Although still meaningful, the impacts from closing the conditional income gap are the smallest among all the scenarios considered by a significant margin. The closure of the gap is associated with an additional $4.7 billion in GDP in 2041 and $45 billion in additional cumulative GDP over the 2021-2041 period, representing a 7.3% increase over baseline GDP in 2041 and a 0.08% increase in cumulative output over the gap closure period. This is reflected as a 0.01 percentage point increase in the annual economic growth rate for the 2021-2041 period. While Scenario 4 was also found to be of least impact among the scenarios considered in our previous report, the gains reported here are markedly smaller than the gains found previously. Before we had estimated about $8.7 billion in additional output in 2041: a figure which has fallen by about $4 billion. Similarly, we had projected cumulative gains of $82 billion in GDP in our prior report: a magnitude of benefit almost twice as large as what we find here. With that said, this is hardly cause for concern as these lower estimated benefits are a natural consequence of the significant progress made in closing the income gap between the 2016 and 2021 Censuses.

Notably, there are no employment gains to the closure of the conditional income gap, as there is no change to the employment rates facing the First Nations population (see Methodology section for a more detailed explanation). However, as a result, the gains in output seen here translate directly into gains in First Nations labour productivity. Essentially, the numerator in the labour productivity calculation – total output – is growing, while the denominator – total

employment – remains static. Consequently, when the conditional income gap closes, we observe about a $7,000 increase in the average output of First Nations workers and a 0.01 percentage point increase in the annual growth rate of Canadian labour productivity. These gains are again somewhat smaller than what we observed in our previous report.

v) Scenario 5: All Gaps Close

In this scenario, we simulate the simultaneous closure of the education gap, the conditional income gap, and the conditional employment rate gap. As such, the gains from this scenario are by far the most significant among the five scenarios we consider in the longitudinal model. Altogether, we estimate that the simultaneous closure of all three gaps is associated with an increase in 2041 First Nations GDP of about $39 billion: a staggering 60.7% increase over baseline. Furthermore, over the 2021-2041 period, we estimate that the simultaneous closure of the three gaps is associated with an increase in cumulative GDP of about $369 billion or 0.67% over baseline. In total, this augments the annual growth rate of GDP for the 2021-2041 period from 1.71% in the baseline scenario to 1.77% when all gaps. Despite the massive size of these gains, it is worth acknowledging that these estimates are substantially lower than their analogues in the previous report. Estimated gains in 2041 GDP totalled to about $48 billion in the previous report; the gains found here thus represent a decrease of $9.3 billion or about 19%. Similarly, cumulative gains in GDP over the 2021-2041 period were estimated to be about $457 billion previously. The estimate offered here is $88 billion, or again, about 19% smaller compared to our previous report.

Gains in employment from the simultaneous closure of three gaps are equally impressive. We estimate that the scenario is associated with an increase in First Nations employment of about 184,000 jobs: about a 29% increase over baseline. Across the 2021-2041 period, we also

see about an increase in total job-years of about 1,800,000 or 0.41% over baseline. This manifests in a 0.04 percentage point increase in the annual growth rate of Canadian employment over the 2021-2041 period, boosting it from 0.95% per year in the baseline projections to 0.99% per year. These estimates are largely comparable to the estimates from our previous report.

These immense gains in output and employment contribute to a substantial increase in First Nations labour productivity relative to baseline. In total, output per First Nations worker rises by about $25,000 or 25% relative to the baseline projections. This brings First Nations labour productivity up to $125,122 per worker or about 94% of the Canadian average ($132,967 per worker): a significant improvement from the baseline, where First Nations labour productivity was just over 75% of the Canadian figure. This is reflected in the annual labour productivity growth for the 2021-2041 period, which rises from 0.75% per year to 0.78% per year. Compared to our previous estimates, this jump in labour productivity is somewhat attenuated although still very substantial. In our prior report, we had estimated an increase in First Nations labour productivity of about 34,000 and hence, our estimates in this report represent a decrease of about 27%.

c) Comparing the Models

Table 17 presents the relative gains in First Nations employment and income associated with each gap closure scenario for both the overnight model and the longitudinal model. On balance, the estimated gains from the longitudinal model follow closely with the gains estimated through the overnight model, though given the distinct methodologies used for each approach, there are some key differences in the findings of the two models. For example, the estimated gains from gap closure in 2041, which we produce through the longitudinal model, tend to be larger in absolute terms than the gains estimated in the overnight model. This is largely because

of changes in the First Nations population and the Canadian labour market which occur in the 20-year period from 2021-2041.

Table 17: First Nations Income and Employment Effects by Gap Closure Scenario and Model Used, Percentage Change over Baseline

	Scenario 1 (Full Education)	Scenario 2 (Half Education)	Scenario 3 (Employment Rate Gap)	Scenario 4 (Income Gap)	Scenario 5 (All Gaps)
First Nations Employment Income					
Overnight	41.27%	-	6.23%	9.66%	57.11%
Longitudinal	38.32%	19.16%	15.41%	7.35%	60.72%
First Nations Employment					
Overnight	20.03%	-	7.36%	-	24.02%
Longitudinal	16.45%	8.22%	19.13%	-	28.66%

Source: CSLS Estimates

In this period, we project that the First Nations working-age population almost doubles, from 764,750 in 2021 to 1,313,000 in 2041. Hence, the gains from closing any of the gaps tend to be larger in the longitudinal model simply due to the larger population and workforce which is affected by any given gap closure scenario. As an example, holding all else equal, a $1,000 increase in the average employment income earned by First Nations is more impactful, in absolute terms, for a large population than a small one. Imagine a small population of only 10 individuals with a total employment income of $100,000 (Population A) and a larger population of 100 with a total employment income of $1,000,000 (Population B). The average employment income in both populations is $10,000; all individuals work and earn a wage in this hypothetical scenario. If both populations experience a $1,000 increase in the average wage earned by workers, that manifests as a gain of $10,000 for Population A ($1,000 increase on average for 10 people = $10,000) and a gain of $100,000 for Population B ($1,000 increase on average for 100

people = $100,000). In both populations, total employment income rises by 10%, but the absolute size of the gain in Population B is larger thanks to the larger population. A similar dynamic is observed between the First Nations population in 2021 and the projected First Nations population in 2041, and hence the absolute gains from the longitudinal model of gap closure tend to be larger than those produced in the overnight model.

Another factor contributing to systematically higher gains in the longitudinal model compared to the overnight model is that the longitudinal model projects substantial real wage growth in the 2021-2041 period. Based on projections developed by the CSLS, we assume that real growth in wages will be equal to about 1% annually, in line with projected productivity growth. Over the period, this results in the wages of First Nations and non-Indigenous people growing by 23% compared to the wages used in the overnight model.[44] In absolute terms, this means that the absolute size of the gaps, and hence the gains from closing the gaps, will have increased by 23%, even if all other variables, including the relative size of the gap has stayed the same.[45] For all of these reasons, it is generally more interesting and appropriate to compare relative measures of gain between the two models. We now move to describe in greater depth how the results of the two models compare to one another.

[44] The wages provided in the 2021 Census are for the year 2020. As such, the assumed rate of annual real wage growth is compounded 21 times to obtain wages in 2041.

[45] It is important to note that the phenomenon described here does not refer to changes in the price level between the two periods. All income data presented and mobilized in this report is in 2015 dollars, unless explicitly stated otherwise. Hence, changes in price levels between different period have already been taken into consideration. Rather, this phenomenon stems from real wage growth – change in wages after adjusting for changes in the price level.

i) The Closing of the Education Gap

Of the three individual gaps explored across the models, the education gap is found to be the most impactful in terms of potential benefits from closure in both the overnight model and the longitudinal model. Within the framework of the overnight model, we find that the closing of the education gap is associated with a 41.3% increase in total First Nations employment income (Table 17).[46] Repeating the exercise using the longitudinal model, we estimate that the income gains from closing the gap represent a 38.3% increase in the total employment income of First Nations: a comparable albeit slightly smaller figure. This seems to suggest that the returns to educational attainment in terms of higher average wages and higher employment rates are less substantial once we control for additional variables like age group, gender, and province/territory of residence in the longitudinal model.

A similar story is seen with the employment gains associated with the closure of the education gap. In the overnight model, new employment as a proportion of existing First Nations employment is about 20%, while the same figure for the longitudinal model is about 16%. The gains from closing the education gap stem from individuals earning more and experiencing higher employment rates as they are moved to higher educational attainment categories. As such, the smaller gains in the longitudinal model compared to the overnight model suggest that returns to additional educational attainment become somewhat attenuated when we control for additional variables. Specifically, it implies that some of what we had previously observed as differences in labour market outcomes between attainment categories was really the result of unobserved

[46] Given that the overnight model does not provide estimates for the gains in GDP (output) associated with each gap closure scenario, we focus primarily on employment and employment income in comparing the results of the two models. Since we make the assumption that the labour income share for Canada is 0.5 (i.e., half of national income accrues to labour), relative gains are identical for employment income and GDP in the longitudinal model. As such, though we do not discuss gains in output specifically, they are implicitly reflected in the comparison conducted here.

differences in the age, gender and province/territory characteristics of individuals within each educational attainment category.

Box 3: Estimating Returns to Educational Attainment

Consider the following hypothetical: imagine that men and women are equally likely to attain a bachelor's degree, but that men are much more likely to attain a degree above the bachelor level. On the surface, it will seem that individuals with a degree above the bachelor level earn significantly more on average than individuals who have a bachelor's degree as their highest credential. Part of this difference in average earnings is simply reflecting the fact that men tend to earn higher wages than women, all else equal, and that individuals with a degree above the bachelor level are more likely to be men.

If we were to compare only between individuals of the same gender, the difference in earnings across the two attainment categories would likely be less dramatic. This difference would also more closely reflect the benefit an individual would receive from improving their level of educational attainment (i.e., the causal effect of educational attainment on labour market outcomes). We do not account for these types of demographic differences in the overnight model, however we do control for the age, gender, and province/territory of residence of respondents in the longitudinal model. As such, the **estimated returns to educational attainment** differ between the two models. The gains from closing the education gap therefore differ as well, since they reflect the returns accruing to First Nations individuals as they are moved to higher educational attainment categories.

ii) The Closing of the Conditional Income Gap

A similar discrepancy arises between the estimated gains from closing the conditional income gap across the two models. In the overnight model, the closure of the gap is associated with a 9.7% increase in the total employment income earned by the First Nations population. Meanwhile, under the longitudinal model, the same figure drops to 7.3%. While the 2.4

percentage point difference between the measures does not appear too substantial in itself, it becomes somewhat more noteworthy when considering the already small magnitude of the gains compared to other scenarios. This differential between the models indicates that the employment income gap between First Nations people and non-Indigenous people of the same educational attainment level becomes smaller once we control for gender, age group, and province/territory of residence. Once again, this suggests that the income gap conditional on education that we observed earlier in this report was partially a result of differences in the frequency of age, gender, and province/territory characteristics between First Nations people and non-Indigenous people of the same level of attainment.

iii) The Closing of the Conditional Employment Rate Gap

In contrast to the previous two gaps, the benefits from the closure of the conditional employment rate gap grow in magnitude when the additional controls added in the longitudinal model. Whereas the overnight model estimates gains in total First Nations employment income of about 6.2% when the conditional employment rate gap is closed, the longitudinal model estimates that the closure is associated with much more substantial gains of 15.4% relative to baseline. Measures of relative gains in employment tell a similar story. Within the overnight model, the closing of the conditional employment rate gap is associated with gains in employment of about 7.4%. However, using the longitudinal model, this measure rises to an estimated increase of 19.1%: the largest increase in employment of all three individual gap closure scenarios. In contrast, while the gains in employment are substantial in the overnight model, they are less, in both relative and absolute terms, than the employment gains accrued when the education gap is closed. The differential between the two models again underscores

that controlling for additional variables in the longitudinal model can drastically affect the size of the gap being closed. In this case though, controlling for age, gender, and province/territory of residence enlarges the conditional employment rate gap massively. This suggests that the conditional employment rate gap observed earlier in the report actually masks some deeper disparities between the First Nations and non-Indigenous populations with respect to the employment rates they faced in 2021. Specifically, it tells us that the distribution of age, gender, and province/territory characteristics between the two populations made the gap appear smaller than it otherwise would have, if the two populations had been identical on these dimensions.

Across both the longitudinal and overnight models, the all-gaps-closed scenario was, as one would expect, the most significant scenario in terms of gains for employment and income. In the overnight model, we estimate that the closure of the gap is associated with an 57.1% increase in total First Nations employment income. We found comparable gains in the longitudinal model, estimating a 60.7% increase in total First Nations employment income in 2041 when all gaps are closed. Here, the gains from the longitudinal model are higher than those from the overnight model, even when using relative measures. This tracks with our previous observations that controlling for additional variables in the longitudinal model can widen or shrink the gaps being closed, depending on the distribution of demographic characteristics across the First Nations and non-Indigenous populations. Given that the gains from the all-gaps-closed scenario are larger in the longitudinal model compared to the overnight model, controlling for these variables seems to have enlarged the underlying gaps.

One might expect that the discrepancy between the two models in the individual gap closure scenarios would sum to equal the discrepancy between the two models when the three scenarios are combined, and this holds fairly true. In total, the discrepancies across the three

individual scenarios sum to a difference of about 3.8 percentage points. This is driven by small negative discrepancies (i.e., the longitudinal model gains are smaller than the gains in the overnight model) for the closure of the education gap and the closure of the conditional income gap, and a strong positive discrepancy (i.e., the longitudinal model gains are larger than the overnight gains) in the case of the gains from closing the conditional employment rate gap. This matches up very closely with the observed discrepancy in the all-gaps-close scenario of about 3.6 percentage points between the longitudinal and overnight models. Additionally, when discussing the results from the all-gaps-close scenario in the overnight model, we noted that the sum of both absolute and relative gains across the three individual scenarios matched the gains seen in the all-gaps-closed scenario. The same dynamic is observed here; absolute and relative gains in income from the three individual scenarios equal almost exactly the absolute and relative gains in the all-gaps-closed scenario.

iv) The Closing of All Three Gaps Simultaneously

In terms of benefits to employment from the all-gaps-closed scenario, the gains we find in the longitudinal model again outstrip the gains we find in the overnight model. Using the overnight model, we estimate gains in employment of about 24%. However, with the longitudinal model, we find gains of about 29%: a difference of about 5 percentage points. This tracks with our previous observation that the employment rate gap becomes substantially larger once we control for age, gender, and province/territory of residence. Still, this discrepancy in employment gains is larger than the discrepancy we find between the two models with respect to income gains. However, this makes some sense; with respect to relative gains in employment, the closing of the conditional income gap has no effect here. Compare this to our discussion of

income gains, where the conditional income gap shrunk when we controlled for additional variables in the longitudinal, leading to smaller gains in the longitudinal model compared to the overnight model. Without this moderating effect, the relative employment gains from closing all gaps are meaningfully larger in the longitudinal model than the overnight model, stemming primarily from the larger employment rate gap that arises once we control for additional variables. With that said, when looking at employment benefits, the gains from the individual gap closure scenarios do not sum to equal to the total estimated gains in the scenario: an observation that holds true for both the longitudinal and overnight models. This likely reflects a dynamic that we discussed earlier in this section; as the education gap closes, individuals are moved to higher educational attainment categories where the employment rate gap tends to be smaller compared to lower categories. As a result, when both the education gap and the conditional employment rate gap close together, this, all else equal, has somewhat of a shrinking effect on the effective gap in employment rates that we close compared to when we only close the conditional employment rate gap.

Challenges in Closing the Gaps

While the main objective of this report has been to estimate the magnitude of benefits which would follow *if* the educational attainment gap, and the related gaps in employment rates and employment incomes, were to close, it must be acknowledged that the closing of these gaps is extremely challenging and far from straightforward, given the large proportion of the First Nations population that is already in the labour force and unlikely to pursue further education. It would not be sufficient for First Nations youth to attain the same average level of educational attainment as non-Indigenous youth going forward to 2041. Rather, First Nations youth would need to stay in school *longer* and achieve *higher* levels of attainment than non-Indigenous youth

in order to balance out the lower levels of attainment of previous generations. Future research might seek to map out exactly what this process of closure might require by breaking down educational attainment trends by age group and making assumptions regarding the lifelong educational attainments of different groups.

The half-closure of the education gap may be more attainable within the 2021-2041 timeframe. As noted in the "State of the Gaps" section of the report, the educational attainment level in the non-Indigenous population is a moving target, improving every year, sometimes at a faster rate than the First Nations figure, as was the case in the 2016-2021 period. This is complicated by the high level of immigrants which Canada accepts each year, the majority of which are economic immigrants accepted based on their skillset (Government of Canada, 2023c). These immigrants are often highly-educated, and hence the average non-Indigenous level of educational attainment can also move upward thanks to this compositional effect.

The bottom-line is that the closure of the educational attainment gap between the First Nations population and the non-Indigenous population requires the development of a well-designed and comprehensive action plan to address the disparity on multiple fronts. Identifying such a strategy is beyond the scope of this report, but we do wish to highlight some areas of focus and offer a few key means of achieving parity in educational attainment between First Nations people and non-Indigenous people. Reasons for high-school drop-out rates for First Nations people need to be addressed. Targeted investments into educational staff and infrastructure on-reserve might help to address this by instilling in young First Nations students a stronger appreciation for school and a lifelong drive to learn. Such policies could help students develop a strong base of knowledge and skills early on and enhance their overall educational

experience: outcomes which would pay long-term dividends by making them more likely to complete secondary school and pursue additional education.

Post-secondary education, in particular university, needs to be strongly emphasized and encouraged. This might be aided by the increased provision of First Nations-specific skills, training, and degree programs which emphasize Indigenous knowledge systems and target skills and subjects tailored to the specific needs of communities and Nations. Scholarships and funding opportunities represent an important tool to this end as well, given the substantial socioeconomic barriers that confront many First Nations people with interests in higher education.

In order to address the historically lower levels of educational attainment within the First Nations population, any action plan must also integrate and promote a principle of lifelong learning – of returning to school later in life and continually upgrading one's skills. Such a principle would make equalizing educational attainment levels across the populations much more feasible (albeit still challenging) by encouraging improvement at all levels of the First Nations population and not just for the cohort still in school. All of these efforts might be further bolstered by an increased number of well-educated role models within First Nations communities: figures who would set a high standard of achievement, promote the value of education, and exemplify the principle of lifelong learning.

Conclusion

Our analysis in this report finds that, although significant progress has been made in closing the employment income and employment rate gaps faced by First Nations people in Canada relative to non-Indigenous Canadians, the educational attainment gap between the two populations has actually grown since 2016. The educational attainment of the First Nations

population did improve since 2016, growing from 12.07 years on average in 2016 to 12.24 years on average in 2021. However, the educational attainment of the non-Indigenous population grew faster, from 13.34 years on average in 2016 to 13.53 years in 2019. As a result, the gap between the two populations grew from 1.26 years, on average, in 2016 to 1.29 years in 2021. Similarly, as a proportion of the average years of education in the non-Indigenous population, the average years of education within the First Nations population fell from 90.53% in 2016 to 90.45% in 2021.

Because of this, the estimated gains from closing the gaps in educational attainment and labour market performance facing First Nations people are still extremely significant. Using the overnight model of gap closure, we estimate that the closure of the education gap in 2021 is associated with $5.5 billion in additional employment income and an additional 71,000 jobs for First Nations people. This rises to $7.7 billion in employment income gains and an additional 85,000 jobs in the scenario where all three gaps – the educational attainment gap, the employment income gap conditional on education, and the employment rate gap conditional on education – close simultaneously in 2021.

An even larger magnitude of benefit is found when simulating the closure of key gaps by way of the longitudinal model. In total, we estimate that the full closure of the education gap over the 2021-2041 period is associated with an additional $24.7 billion in GDP for First Nations in 2041 as well as 106,000 additional jobs for the First Nations population in 2041. Across the entire period, we estimate that the closure of the gap is associated with $233 billion in cumulative GDP gains and a cumulative gain of 1 million job-years for the First Nations population compared to our baseline projection. This augments the annual economic growth rate of Canada over the 2021-2041 period from 1.71% to 1.75%. The gains are, as one might expect,

found to be even larger under a scenario where all three gaps close simultaneously. Altogether, we estimate that the simultaneous closure of all three gaps over the 2021-2041 period is associated with gains of $39.1 billion in additional GDP and 184,000 additional jobs for First Nations in 2041. Over the entire period, we estimate cumulative gains of about $369 billion in total GDP and 1.8 million additional yearly incomes for the First Nations population. Consequently, the annual Canadian economic growth rate would rise from 1.71% to 1.77%.

Ultimately, this report finds that, though there has been substantial progress made in improving the on-the-ground realities of First Nations people in Canada, there is still a substantial amount of work to do. The educational attainment gap and the lack of success in ameliorating it over the 2016-2021 period is of particular concern; if current trends continue, it is possible this gap may never close. Still, as demonstrated in this report, there are immense economic benefits – to say nothing of the humanitarian benefits -- which would accrue not just to First Nations people, but to Canadians more broadly, if these gaps were to close. However, as evidenced by the generally slow pace of progress in closing the education gap, it seems very unlikely that such an outcome will come to pass without intentional action and intervention on the part of all Canadians. Indeed, the complete closing of the gaps facing First Nations people will likely require consistent, concerted efforts from policymakers and community leaders to support First Nations education and to engender a culture of lifelong learning.

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