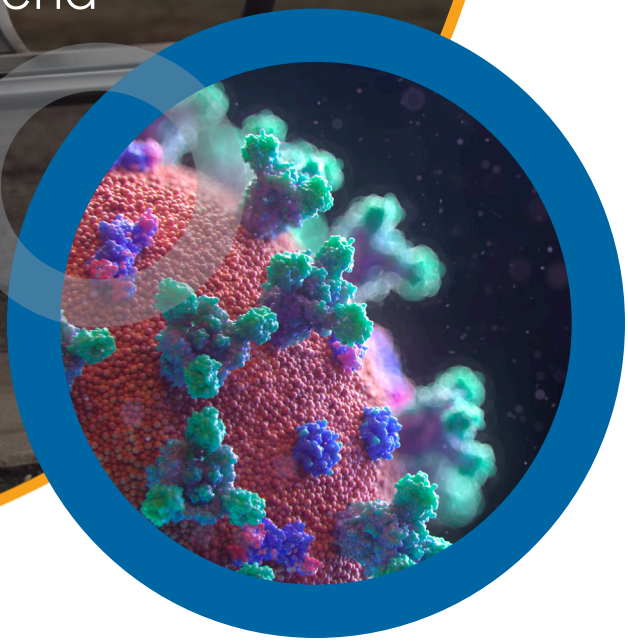
The Impact of COVID-19 on the Economy of Northern Ontario

Research Paper | July 2022

By: Derek Patterson, Dr.Robert Petrunia, Dr. Karl Skogstad, Dr. James Townsend



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NPI – Who We Are

Land Acknowledgement

NPI would like to acknowledge the First Peoples on whose traditional territories we live and work. NPI is grateful for the opportunity to have our offices located on these lands and thank all the generations of people who have taken care of this land.

Our main offices:

- Thunder Bay on Robinson-Superior Treaty territory and the land is the traditional territory of the Anishnaabeg and Fort William First Nation.
- Sudbury is on the Robinson-Huron Treaty territory and the land is the traditional territory of the Atikameksheng Anishnaabeg as well as Wahnapitae First Nation.
- Kirkland Lake is on the Robison-Huron Treaty territory and the land is the traditional territory of Cree, Ojibway, and Algonquin Peoples, as well as Beaverhouse First Nation.
- Each community is home to many diverse First Nations, Inuit, and Métis Peoples.

We recognize and appreciate the historic connection that Indigenous peoples have to these territories. We support their efforts to sustain and grow their nations. We also recognize the contributions that they have made in shaping and strengthening local communities, the province, and Canada.

This report was made possible through the support of our partner, Northern Ontario Heritage Fund Corporation. Northern Policy Institute expresses great appreciation for their generous support but emphasizes the following: The views expressed in this commentary are those of the author and do not necessarily reflect the opinions of the Institute, its Board of Directors or its supporters. Quotation with appropriate credit is permissible.

Author's calculations are based on data available at the time of publication and are therefore subject to change.

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A note on data

2022 is an exciting year for data. Statistics Canada will be releasing a series of census datasets throughout the year that researchers, decision-makers, and you can use to understand what is going on in Ontario's northern regions and communities.

Now having said this, one of the limitations of this report is that where census data was used, it was primarily based on 2016 data. As 2022 progresses, more data from the 2021 census will be released.

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Executive Summary

The COVID-19 pandemic was a major blow to communities around the world. From pressures on frontline workers and job losses to mental health concerns, the impact has been significant. However, not all communities' experiences were the same. This paper dives into those differences, specifically between that of Northern and Southern Ontario from an economic perspective. Understanding these differences and how the pandemic unfolded in each part of the province can inform future policy and program development. As well, this understanding can positively impact the sustainability of local businesses during crises, the accessibility of services from students to seniors, and the ability of local decision-makers to tailor appropriate responses for their residents.

The paper found that infection rates were much lower in Northern Ontario than in Southern Ontario, and the timing of the waves of infections in the North did not match up with those in the South. Even in the North there were differences in the infection rates across public health units. Potential reasons for this include a regional industrial composition difference that could influence the ability of shutdowns to be effective, as well as Northern communities, are less densely populated.

From a labour market perspective, the first wave of COVID-19 resulted in a slightly less reduction in employment in Northern Ontario than in the rest of the province, but in the second wave, the north experienced a much greater fall in employment. It could, partly, be due to the cyclical nature of Northern Ontario's economy. For males, the employment rate dropped sharply in Ontario, and even more severely for Northern Ontario. A possible reason could be that private-sector employment was much more responsive to the COVID-19 crisis, and more men were employed in the private sector than in the public sector in both regions. On the other hand, females in Northern Ontario were less likely to become unemployed due to their over-representation in the public sector. Finally, drilling down to local communities, the paper also found that labour markets in some Northern communities were largely spared from the impact of COVID-19 and related public health policies – much like the differing case counts throughout Northern Ontario.

Based on the findings, several policy recommendations were presented:

1. Public health policies should be implemented at a regional level.

2. The distribution of vaccines and other health resources should be undertaken with consideration of the vulnerabilities of a particular community.

3. Additional employment support following a shutdown can be limited in time, as labour markets appear to recover quickly.

4. The pandemic has affected employment more in Northern Ontario than in the rest of the province; additional short-term supports might be required for the region.

5. Males, the self-employed, and those in the private sector in Northern Ontario are in particular need of additional support.

6. Future public spending cuts should consider the disproportionately negative effect they will have on Northern Ontario, a region already characterized by relatively low incomes.

Introduction

The first case of SARS-CoV-2 (hereafter COVID-19) in Ontario was recorded at the end of January 2020. In March of that year, the Ontario government responded to community transmission of the virus by declaring a state of emergency. The other provinces took similar actions at this time. This declaration resulted in the closure of multiple sectors of the economy, including schools, daycares and non-essential businesses. Where possible, employees were encouraged to work from home. This action had an immediate economic impact. For Ontario workers between the ages of 20 and 64, total weekly work hours declined by 32 per cent between February and April, while employment declined by 14 per cent (Lemieux et al. 2020). Workers in public-facing occupations (for example, food and accommodations) experienced a disproportionate number of job losses. These workers are typically younger, paid hourly (as opposed to salaried), and have lower earnings (ibid). The job losses over this period were unprecedented for Canada as a whole, exceeding the combined job losses of the previous three recessions (Tobin and Sweetman 2020).

Data from Statistics Canada show that, for all workers in Ontario over the age of 15, just over a million jobs were lost between February and April 2020. The number of new cases of the virus dropped over the summer of 2020, resulting in the reopening of the economy. Employment increased rapidly between May and September, with 770,000 jobs added. Job growth slowed between September and October as the second wave of the pandemic began. As cases increased, restrictions on businesses and gatherings were reintroduced, although these restrictions were not as severe as they were during the initial lockdown. New cases peaked in January 2021, coinciding with a loss of 273,000 jobs in Ontario between November and January. The economy subsequently rebounded, gaining 250,000 jobs between January and March 2021. Restrictions were again implemented with a third wave in spring 2021, although once again these were less restrictive than earlier lockdowns. Cases peaked in mid-April. Between March and May, job growth was stagnant, with a small gain of 10,000 jobs.

While much has been written about the economic impact of the pandemic at both a national and provincial level, little is known about how different regions have been affected.[1] We attempt to fill this gap by comparing the effect of the COVID-19 pandemic on the economies of Northern and Southern Ontario. Since the two regions differ in substantial ways, there is strong reason to believe that the virus and the various policy measures used to control it will have affected them differently.

We begin this study by outlining the differences between the two regions, providing a justification for why they might have been affected differently by the pandemic. We then describe the different ways the virus itself affected the two regions. We find that the pattern of the virus's spread in Northern Ontario was substantially different from that in Southern Ontario. We also look in more detail at the timing of the use of various policies in the two regions. Next, we provide an in-depth analysis of the employment data, which show that the virus and related policy measures did lead to different economic outcomes in the North than in the South. We conclude the study by providing some policy recommendations for the ongoing recovery and future pandemics.

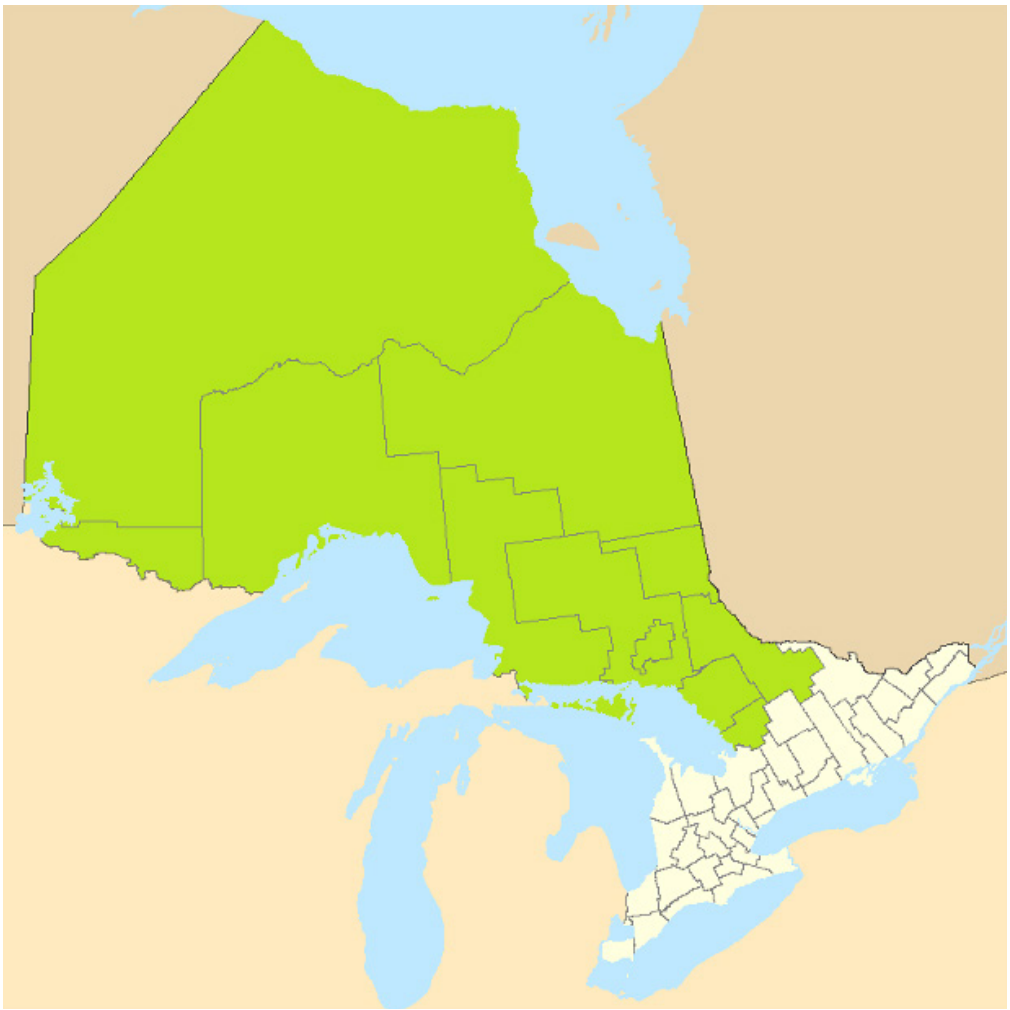
1 One notable exception is a report issued during the early months of the pandemic; see Financial Accountability Office of Ontario (2020).

The Differences between Northern Ontario and Southern Ontario

To understand the pandemic's divergent effects on Northern and Southern Ontario, we must first understand how the two regions differ. To do this, we used pre-pandemic data for the two regions and identified substantial differences that might have led to different outcomes from the virus and from the policies put in place to deal with it; we note, however, that differences could also arise for other reasons. The data we used to identify these differences come from the 2016 census, the most recent pre-pandemic census.

To compare Northern Ontario and Southern Ontario, a necessary step is to define the boundary between the two regions. Statistics Canada divides Ontario into 49 census divisions based on the political boundaries of the province (cities, counties, and districts). We define Northern Ontario as the following 12 census divisions: Muskoka, Nipissing, Parry Sound, Manitoulin, Sudbury, Greater Sudbury, Timiskaming, Cochrane, Algoma, Thunder Bay, Rainy River, and Kenora. These are shaded in red in Figure 1.

Figure 1: Map of Ontario, by Census Divisions



Note: Northern Ontario divisions are shaded in green. Source: Wikipedia, modified by authors.

Using the census data, we then compared the two regions across the following dimensions: industrial composition of employment, demographics, density, income, education, and access to medical services.

Employment by Sector

Given Southern Ontario's much larger population (12.60 million versus 0.84 million in the North), total employment in all sectors of the economy is much larger in the South than in the North. A comparison of employment shares by sector in the two regions provides a more informative indication of labour market differences, since the effects of the pandemic and associated policies likely vary across sectors of the economy (Barrott, Grassi, and Sauvagnat 2020). Certain sectors saw large reductions in employment due to changing consumption patterns. For instance, activities such as in-person dining, going to the gym, and travelling experienced large reductions, either because these activities were seen as too risky to engage in voluntarily or because government policies forced temporary shutdowns. Other sectors might have seen smaller reductions, or even boosts in demand if they were called upon to deal with the pandemic (Cavallo 2020).

Table 1: Employment Shares by Industry, Northern and Southern Ontario, 2016

Industry	Employment Share		
	Northern Ontario	Southern Ontario	Difference
	(per cent)		
Health care and social assistance	15.3	10.5	4.8
Mining, quarrying, and oil and gas extraction	4.7	0.2	4.5
Public administration	7.8	5.8	2.0
Construction	8.5	6.7	1.8
Retail trade	12.6	11.2	1.5
Accommodation and food services	7.7	6.8	0.9
Agriculture, forestry, fishing and hunting	2.0	1.4	0.6
Educational services	8.1	7.5	0.6
Utilities	1.0	0.7	0.3
Transportation and warehousing	4.8	4.7	0.1
Other services (except public administration)	4.2	4.3	–0.1
Management of companies and enterprises	0.0	0.2	–0.1
Arts, entertainment and recreation	1.9	2.1	–0.2
Real estate and rental and leasing	1.4	2.1	–0.7
Administrative and support, waste management and remediation services	3.9	4.9	–1.0
Information and cultural industries	1.3	2.6	–1.3
Wholesale trade	2.2	4.0	–1.7
Finance and insurance	2.2	5.7	–3.5
Manufacturing	6.0	10.0	–4.1
Professional, scientific and technical services	4.1	8.4	–4.3

Source: 2016 Census.

Table 1 shows total employment in the two regions in 20 different industries. A larger value in the final column – the difference in employment in the two regions — indicates that this industry is a relatively large source of employment in the economy of Northern Ontario compared to that of the rest of the province. The table shows that there are some clear differences between the two regions in terms of industrial composition. Northern Ontario's economy relies more on primary and resource extraction sectors than does Southern Ontario, with a substantially larger employment share in the mining sector, and agriculture and forestry sectors. Remote work, or working from home, does not generally occur in these industries (Dingel and Neiman 2020). Construction, utilities, and transportation and warehousing also form a large share of the Northern Ontario economy and are industries with limited remote work opportunities.

There are a few variables to consider with regard to the ability of an industry to pivot to remote work. Job losses are likely to occur if an industry cannot operate remotely when lockdowns are put into place. This might not be the case, however, if an industry is considered essential. Ontario identified 74 types of essential businesses when the first lockdown was put in place, later reduced to 44.[2] A business in an essential industry is unlikely to suffer large job losses, but allowing such businesses to remain open might increase the spread of the disease, which might lead to further shutdowns and effects on other industries.

Retail trade and accommodation, and food services are two sectors of the economy with little remote work and are not considered essential. For this reason, these sectors suffered large job losses throughout the pandemic. In Ontario, total employment fell by 15 per cent between February and May 2020. In the wholesale and retail trade sector, however, employment fell by 20 per cent and in the accommodation and food services sector by 45 per cent (Statistics Canada, table 14-10-0355-01), both sectors relatively more important to the economy of Northern Ontario than to that of the South.

The public service sector is the final category that is relatively more important in Northern Ontario. This sector includes health care and social assistance, educational services, and public administration. The health care and social assistance sector likely has experienced a difficult conversion to remote work, while the other two likely will have converted to remote work more readily. All three sectors are considered essential, and thus likely to have seen fewer job losses than other sectors of the economy. We note that the health care and social assistance sector has the largest share of employment in Northern Ontario.

The data in Table 1 suggest extra vulnerability from the virus itself and associated government mandated restrictions for the Northern Ontario economy. In 2016, retail trade and accommodation and food services made up 20.3 per cent of Northern Ontario employment, compared with only 18.0 per cent in Southern Ontario. These sectors have suffered large job losses. Acting as a buffer for the Northern Ontario economy, however, has been the relatively large public sector. Combined, health care and social assistance, educational services, and public administration made up 31.2 per cent of employment in Northern Ontario in 2016 versus 23.8 per cent in Southern Ontario. Workers in these sectors have been less likely to lose their employment due to their continued need during the pandemic (health care) and for the relative ease with which many of these jobs can be done from home (Dingel and Neiman 2020).

Admittedly, some caution should be taken when looking at these sectors, as not all employees in any sector will have been deemed essential. For instance, support staff in education might have been affected, while some health care services, such as many dental services, were shut down. Lemieux et al. (2020) find sizeable losses in the first quartile of the earnings distribution for workers in educational services and the second quartile for workers in health care and food services. A possibility is that certain occupations in these sectors were more likely to see their labour status impacted by the virus. However, if we are willing to assume that this was true in both regions of the province and that the proportion of occupations likely affected was similar in the two regions, then the large size of this sector in Northern Ontario will still have been advantageous.

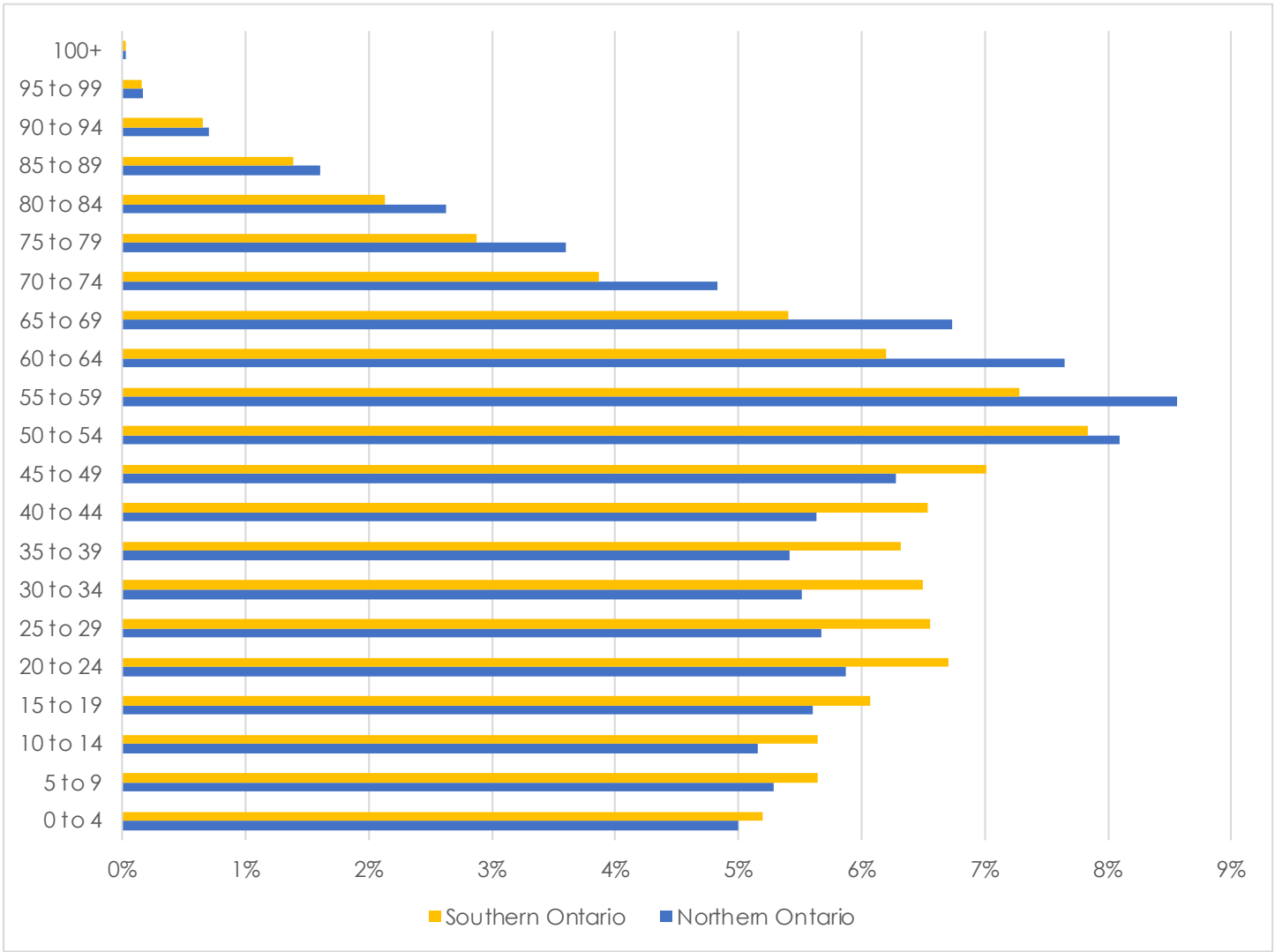
2 For the relevant regulation, see https://www.ontario.ca/laws/regulation/200082/v4.

Demographics

In 2016, Northern Ontario and Southern Ontario also differ in terms of their demographics. We explore these differences by examining their age profiles, immigration status, and relative size of the Indigenous population.

The population of Northern Ontario is slightly older than that of Southern Ontario, with the mean age of 43.4 in in the former compared with 40.8 in the latter. Figure 2 breaks down the population of both regions into age categories. For instance, we see that 5 per cent of the population of Northern Ontario was between the ages of 0 and 4 in 2016, while this value was 5.2 per cent for Southern Ontario. For comparison, by 2021, the mean age for Northern Ontario and Southern Ontario's population increased to 44.1 and 41.7, respectively.

Figure 2: Population by Age Group, Northern and Southern Ontario, 2016



Source: 2016 Census.

The figure also reveals, for each age category above age 50, that Northern Ontario had a relatively large share of their population in these brackets according to the 2016 census. Since COVID-19 is known to have a more severe impact on older individuals (Canada 2021b), Northern Ontario's relatively older population is at greater risk from the disease than the relatively younger Southern Ontario. However, the fact that Northern Ontario has a smaller share of its population in the school-age and working-age categories might indicate that the spread of the disease might have been more mitigated in that region. Whereas retired individuals might have the option to stay home and thus avoid contracting and spreading the disease, younger individuals might be compelled to go to work or attend school, perhaps making the disease more likely to spread in Southern Ontario.

The demographics of the two regions also differ in other significant ways. In terms of citizenship, 98.5 per cent of Northern Ontarians are Canadian citizens, as opposed to 91.9 per cent in the South. Immigrants make up a much larger proportion of the population of Southern Ontario (30.6 per cent) than in Northern Ontario (6 per cent). Moreover, 81 per cent of Northern Ontario residents identify as third-generation Canadian or longer, while only 44 per cent do so in Southern Ontario. These differences might have affected people's trust in government, familiarity with resources, and need to work in the two regions (Kazemipur 2012).

Finally, Indigenous peoples are a much larger proportion of Northern Ontario's population than Southern Ontario's: 16 per cent of Northern Ontarians identify as Aboriginal, compared with only 2 per cent in the South. Moreover, the federal government identified this population as being particularly vulnerable to COVID-19 (Canada 2020).

Population Density

Since the virus spreads through close contact with an individual who is already carrying it (Canada 2021a), examining the population densities of the two regions sheds light on the ability of the virus to spread within these areas.

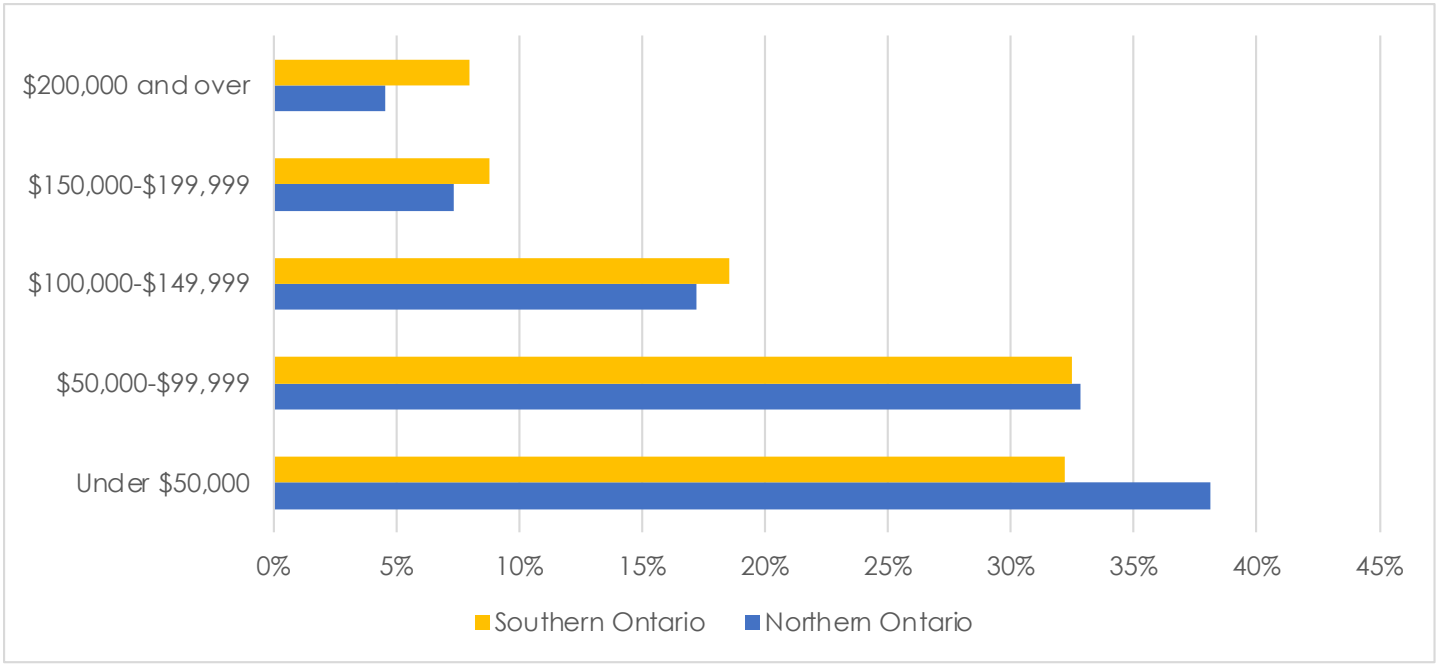
Finding an appropriate variable to measure population density is somewhat difficult. Simply dividing the population of each region by its area is not informative, as both regions have large expanses of land that are largely uninhabited. One way of measuring density within cities is to look at what proportion of dwellings are single detached houses versus those that are in apartment structures or attached to another in some form. In 2016, in Northern Ontario, 72 per cent of dwellings are single detached houses versus only 53 per cent in Southern Ontario. Only 4 per cent of dwellings in Northern Ontario are in an apartment building with five or more storeys compared with 18 per cent in Southern Ontario. We can also compare the average number of individuals living in a household in both regions. The average household size is larger in Southern Ontario at 2.58 individuals versus only 2.29 in Northern Ontario. For comparison, according to 2021 census, 71 percent of the dwelling in Northern Ontario were single detached houses, and 4 percent of them were in apartment buildings with five or more stories. So, there has not been a major change in dwelling mix in Northern Ontario over the last five years.Both of our measures indicate that people in Southern Ontario tend to live in denser living arrangements, which allows for more interactions and greater likelihood of spreading the virus.

Income

Given the different industrial makeup of the two regions, it is unsurprising that household income profiles of the two regions also vary significantly. In 2016, the mean pre-tax household income in Northern Ontario was $81,740 compared with $99,061 for Southern Ontario, while the mean after-tax household income was $69,003 and $81,167, respectively.

Although the means of these values are useful, examining the distribution of income can shed more light on the differences. Figures 3 shows the distribution of household income for the two regions. The figure breaks down household income into five categories, with the length of the bar for each category indicating which proportion of the population of a region earns that level of household income. For instance, we see that, in 2016, 38 per cent of households in Northern Ontario earned less than $50,000, whereas this value was only 32 per cent for Southern Ontario. Figure 3 clearly shows that larger proportions of households in Southern Ontario are in the higher-income brackets.

Figure 3: Household Income Distribution, Northern and Southern Ontario, 2016



Source: 2016 Census.

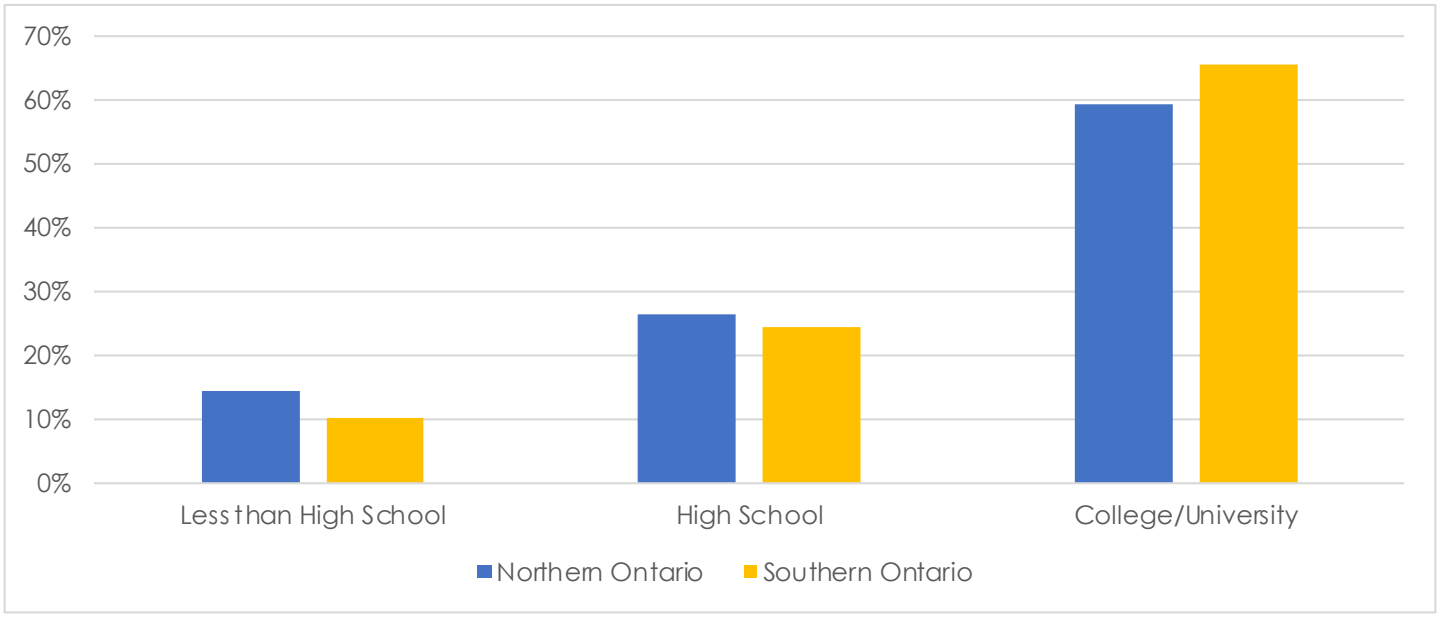
The figure can also help to explain the potential impact of COVID-19 on the two regions. More financial resources afford a household greater flexibility in its decision-making process. When looking at households that are engaged in the labour market, generally those with a higher income are likely to have higher levels of savings and financial resources (Attanasio and Székely 1998). For instance, low-earning households might not have the option to leave the labour force to avoid contracting the virus or take the time off to stay home with children when their schools close or to get vaccinated. Low-earning households are also likely to be in a more difficult financial position if wage earners lose their job. However, the introduction of government relief programs, such as the Canada Emergency Response Benefit, might have mitigated the vulnerability of low-earning households.

All else equal, Northern Ontario's lower incomes indicate that the impact of COVID-19 on the region's households is likely to have been more severe than in Southern Ontario.

Education

Figure 4 shows the maximum level of education attained by those ages 25 to 64. For instance, 59 per cent of the working-age population of Northern Ontario had completed some form of post-secondary education by 2016 compared with 65 per cent in Southern Ontario.

Figure 4: Maximum Level of Education Attained by Workers Ages 25–64, Northern and Southern Ontario, 2016



Source: 2016 Census.

A breakdown of the highest level of educational attainment shows that Northern Ontarians are more likely to have a college education as opposed to a university education. Notable differences for working-age populations include: (i) 31 per cent in Northern Ontario versus 24 per cent in Southern Ontario have a college diploma; (ii) 13 per cent of Northern Ontario versus 22 per cent in Southern Ontario have a bachelor's degree; and (iii) 3 per cent in Northern Ontario versus 8 per cent in Southern Ontario have a master's or PhD degree.

Education could matter in several ways. The more education one has the more resilient one is to losing employment. Additionally, the data show that workers who are able to work from home typically earn higher wages (Irlacher and Koch 2021). Having a college diploma or university degree allows for employment in a larger array of industries when compared with having only a high school diploma or not having completed high school at all.[3] Finally, one may suppose that a higher levels of education would be associated with a greater trust in science and greater willingness to listen to public health officials and be vaccinated, although Statistics Canada data indicate that this might not in fact be the case (Statistics Canada 2021). All things considered, however, the higher levels of education observed in Southern Ontario likely would be a benefit for that region's economy.

3 Data from Statistics Canada show that higher levels of education are associated with lower unemployment rates.

Medical Access

Finally, we examined whether access to medical treatment varies between North and South. Using data from the Canadian Institute for Health Information, we calculated the amount of per capita medical resources available in the two regions.

At the beginning of the 2019/20 fiscal year, there was 416 hospital beds per 100,000 people in Northern Ontario, but only 233 beds per 100,000 in Southern Ontario. We also looked specifically at access to intensive-care beds, as these are needed in the more serious cases. Northern Ontario had 14.9 intensive-care beds per 100,000 compared with 13.2 per 100,000 in Southern Ontario. We note, however, that travel times to beds in Northern Ontario might be longer due to the larger area and lower population density.

Having access to beds alone is not sufficient if there are not enough people to staff them. At the beginning of fiscal year 2019/20, Northern Ontario had 140 family doctors per 100,000 residents, while Southern Ontario had 124 family doctors per 100,000 residents, but in terms of specialists, there were 84 per 100,000 residents in the North and 130 per 100,000 residents in the South.

Together, these data indicate that, as the province entered the COVID-19 pandemic, Northern Ontarians had access to more beds per capita and more family physicians per capita, but much lower access to specialists, which might have partially or fully offset these advantages. Overall, it does not appear obvious that one region benefited from access to more medical resources than the other.

COVID-19 in Ontario

As we have seen, some major differences between Northern and Southern Ontario might have led to differences in the effects of the pandemic on the two regions. One can think of two channels through which these differences could influence the regions. The first channel is the pace of community spread and the vulnerability of the population to becoming seriously ill and possibly dying. The second channel is the economic impact on the two regions brought about by both the virus itself and the effect of public health measures. This section investigates the first of these two questions by looking at how the rate of infection and death rates varied between the two regions. Before doing so, we provide a brief overview of the public policy measures used in the province to combat the pandemic.

COVID-19 Public Health Policy

The first case of COVID-19 identified in Ontario was reported on January 25, 2020. However, no major public health policies were implemented until nearly two months later, after the World Health Organization declared a global pandemic on March 11. The following day, Premier Doug Ford announced the two-week closure of all publicly funded schools across the province following March break. In these early days when the severity of the virus was still unknown, there was mixed messaging coming from various government organizations. For instance, the premier encouraged families to "travel" and "have fun" when the closure was announced (Global News 2020). Only two days later, however, the messaging from the federal government shifted radically, urging Canadians to return home, as "new restrictions may be imposed with little warning" (McQuigge 2020).

On March 16, the province recommended the closure of recreational programs, libraries, private schools, daycares, churches, and bars and restaurants (except those that offered takeout or delivery). The next day, on March 17, the premier declared a state of emergency in Ontario, ordering some businesses to be closed. On March 18, the prime minister announced an agreement between Canada and the United States restricting all non-essential travel across the border.

Over the following month the virus spread throughout the province, and the state of emergency and closures of non-essential businesses were extended. At the end of April, the province announced a three-stage framework for reopening (Ontario 2020b). On June 8, the province declared that some regions (including the North) would enter Stage 2 of the COVID-19 recovery plan, which allowed Ontarians to gather in groups of 10 and reopened places of worship with physical distancing measures in place (Patton 2020). On July 17, much of the province entered Stage 3, which saw further relaxations of the rules regarding capacity constraints. The entire province reached that stage by August 12.

The policies implemented by the province during the spring and summer of 2020 generally did not have any regional variation. When the initial lockdown was announced in March 2020, no consideration was given for regional differences. Small communities with no reported cases of the virus were forced to lockdown in the same way as Toronto. The reopening following this first wave were localized to public health units (PHUs). Given that so many PHUs had similar levels of the virus, the province largely reopened at the same rate, with the notable exceptions of Toronto and Windsor.

By September 28, with the province reporting more than 700 new cases a day, the provincial government announced that we were officially in the second wave of the pandemic. As a result, additional restrictions were put into place, and some PHUs reverted to Stage 2 of the reopening process.

On November 3, the province introduced a new five-tiered colour-coded system for public health units to regulate themselves during the pandemic (Ontario 2020a). Figure 5 shows these different levels: Prevent (standard measures — green), Protect (strengthened measures — yellow), Restrict (intermediate measures — orange), Control (stringent measures — red) and Lockdown (maximum measures — grey).

Figure 5: Ontario Colour-Coded Response Framework

Framework: Adjusting and Tightening Public Health Measures

Act earlier by implementing measures to protect public health and prevent closures

Gradually loosen measures as trends in public health indicators improve

Objective	PREVENT (Standard Measures)	PROTECT (Strengthened Measures)	RESTRICT (Intermediate Measures)	CONTROL (Stringent Measures)	LOCKDOWN (Maximum Measures)
Tactics	Focus on education and awareness of public health and workplace safety measures in place. Restrictions reflect broadest allowance of activities in Stage 3 absent a widely available vaccine or treatment. Highest risk settings remain closed.	Enhanced targeted enforcement, fines, and enhanced education to limit further transmission. Apply public health measures in high risk settings.	Implement enhanced measures, restrictions, and enforcement avoiding any closures.	Implement broader-scale measures and restrictions, across multiple sectors, to control transmission. Restrictions are the most severe available before widescale business or organizational closure.	Implement widescale measures and restrictions, including closures, to halt or interrupt transmission (Return to modified Stage 1 or pre-Stage 1). Consider declaration of emergency.

Source: Ontario 2020a.

Just prior to Christmas 2020, the premier announced a "province-wide shutdown" beginning on Boxing Day and lasting for four weeks. Originally, this shutdown was to last only two weeks for Northern Ontario, but was later extended to align with the rest of the province. Schools shifted to online learning throughout January, except in Northern Ontario. In February 2021, the province began to reinstate its colour-coded pandemic restriction system as the province-wide shutdown ended. In April, the Ontario government moved to activate an "emergency brake" for four weeks, moving all 34 PHUs into shutdown in response to the surge in cases and hospitalizations that marked the beginning of the third wave (Ontario 2021a).

As the data in the next subsection will show, Thunder Bay experienced a spike in cases that did not coincide with those experienced by communities elsewhere in the province. The divergent trend began toward the end of October when at least 29 cases were related to spread among people who had played pickleball between November 3 and 13 (CBC News 2020). This resulted in the district health unit's second death (TBNewsWatch.com 2020).

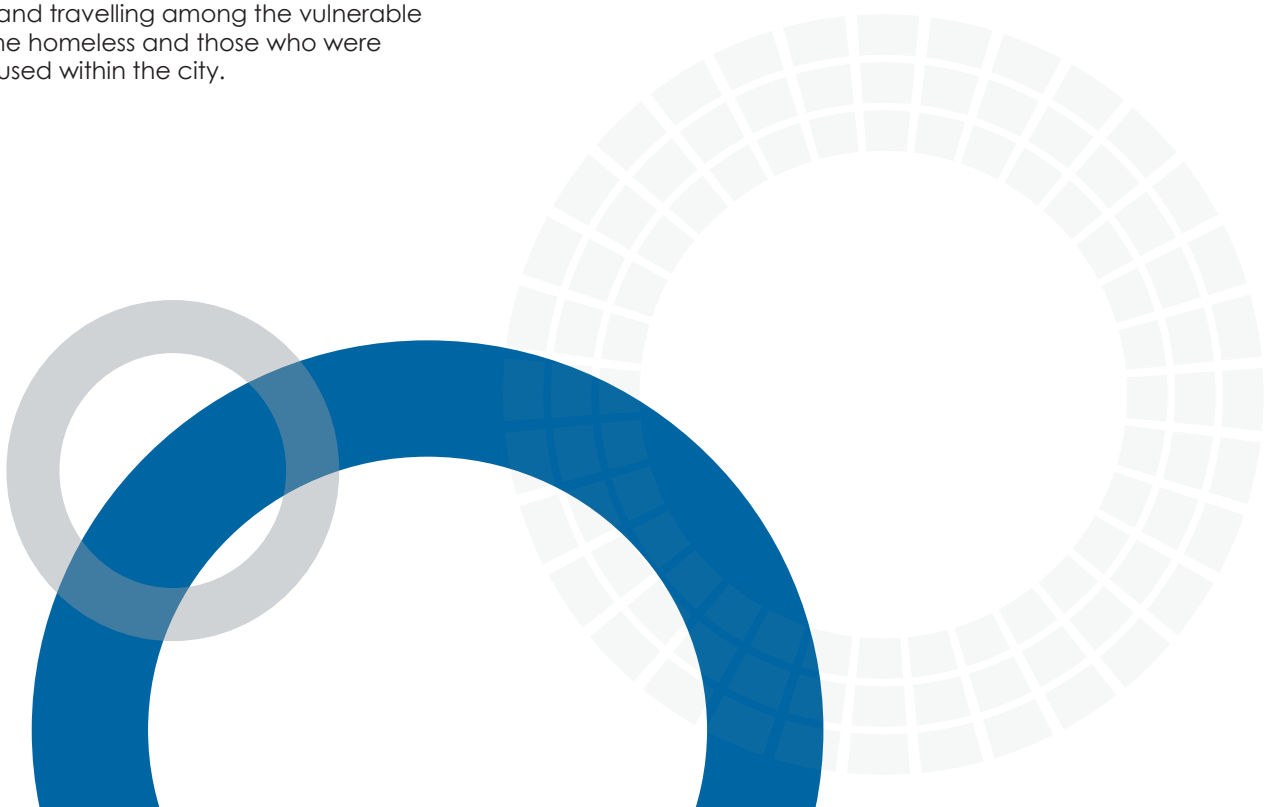
Cases in the North fell with the rest of the province after entering the Boxing Day lockdown. A few weeks after reopening, however, Thunder Bay became inundated with cases. After the province had returned to the original colour-coded framework, Thunder Bay emerged in the Red-Control stage. By February 22, two Thunder Bay schools would be closed for in-person learning after outbreaks had been declared in the week of February 15–19 (CBC News 2021). Cases began an upward spiral where, by February 25, the district health unit had an active case count of 315, with 257 reported in the previous week alone. The virus was soon in the Thunder Bay District Jail and travelling among the vulnerable population of the homeless and those who were precariously housed within the city.

According to provincial guidelines, the health region should have been moved into the Grey "Lockdown" zone; however, the health unit elected not to move and stayed in line with the rest of the province, despite having the highest relative case count in the entire province.

This prompted local officials to hold a press conference urging senior levels of government for more assistance and prioritizing the North's access to vaccines. The province, however, elected to stay the course and to prioritize the Toronto, Peel, and York regions.

The Lakehead District School Board at this time passed a motion to receive approval from the health unit, the Ministry of Health and the Ministry of Education to transition all schools to virtual learning for two weeks as cases continued to soar in the community. In-person learning was officially suspended on March 1, where it would remain until the end of the school year.

Finally, in May 2021, as vaccine rollout was beginning, the province announced a three-step reopening plan, based on vaccination rates. As vaccines rolled out quickly throughout the summer of 2021, the province quickly moved to the final stage of reopening on July 16 (Ontario 2021b).

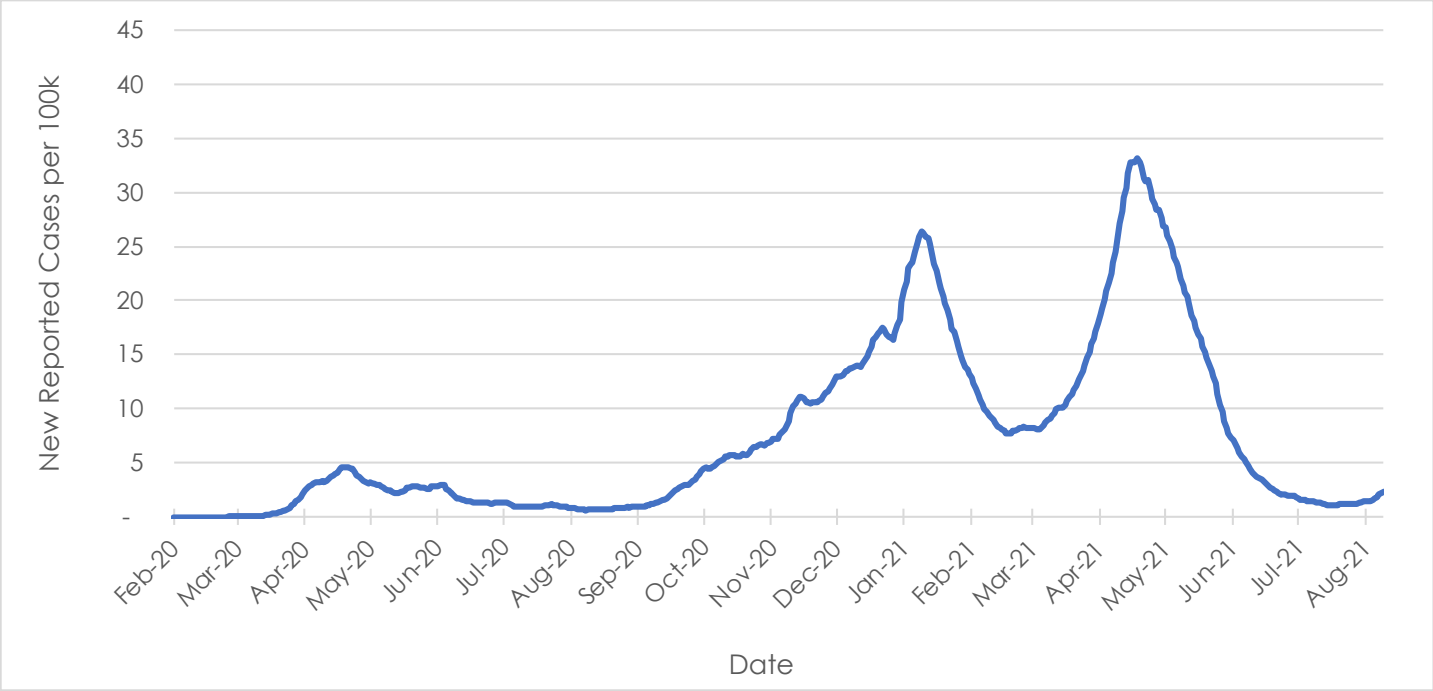


Case Numbers

As we have just discussed, a regional framework for closures and reopening existed, although the entire province was generally subject to the same policies. Here we examine infection numbers at the regional level to see if such a broad-stroke approach was warranted.

Figure 6 shows the reported number of new COVID-19 cases per 100,000 people per day in Ontario from February 1, 2020, to August 9, 2021.[4]1COVID clearly hit the province through a series of waves.

Figure 6: Reported New COVID-19 Cases per 100,000 People, Ontario, February 2020–August 2021



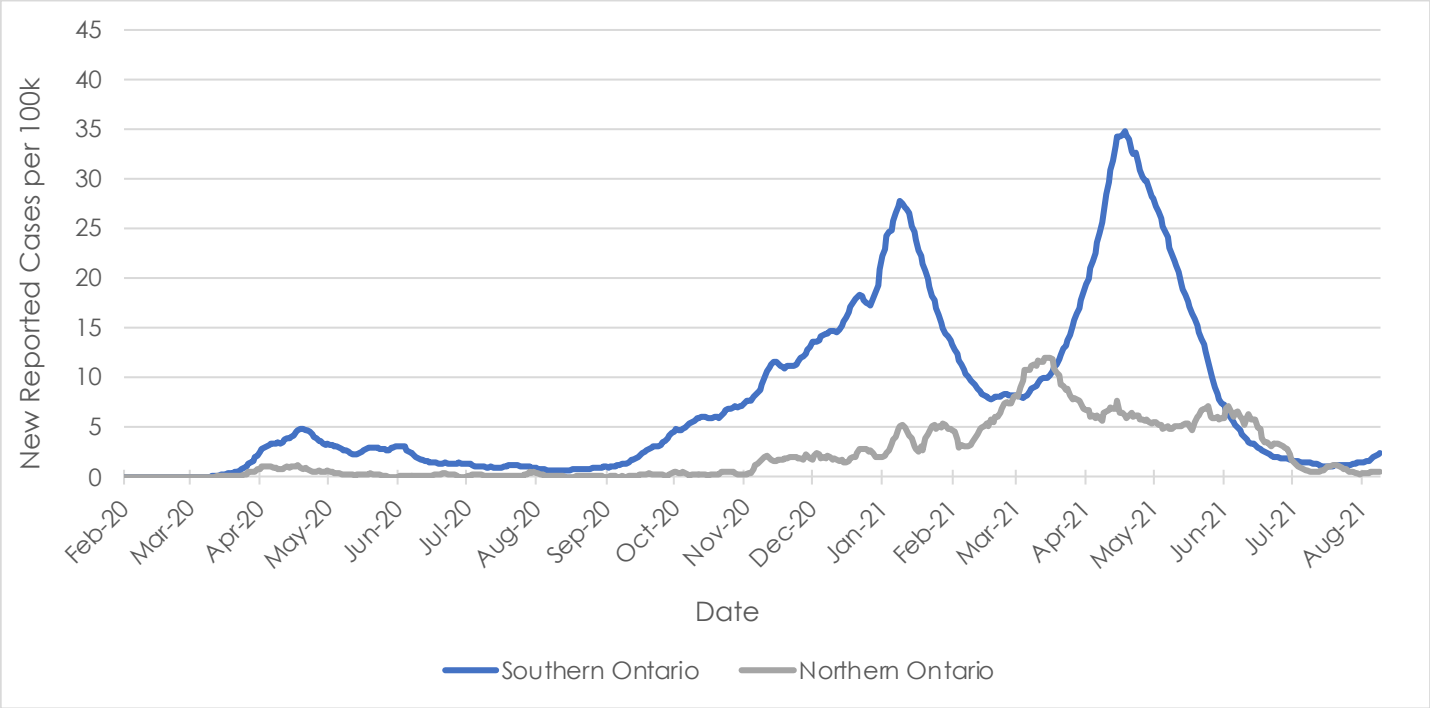
Note: Seven-day moving average. Source: Government of Ontario.

The first wave began at the end of March 2020, peaked one month later on April 17, and fell off gradually over the following three months. The second wave began in mid-September 2020, and was much more severe than the first. New daily cases peaked around January 7, 2021, before quickly falling off. February and early March 2021 represented a trough, although daily new cases were nearly double what they had been at the peak of the first wave. The third wave began toward the end of March 2021, as new daily cases rose quickly. The peak of this third wave occurred on April 14. The third wave dissipated as quickly as the second wave, and daily case counts were once again low in summer 2021. It is likely that future waves of infection will occur, fueled by variants of the disease.

The data clearly illustrate three distinct waves of COVID-19 hitting the province. We next examine the data at a regional level. Of the province's 34 PHUs, 7 cover nearly all of Northern Ontario as defined by the census, with two discrepancies. First, these northern PHUs exclude the Algonquin Provincial Park portion of Nipissing; however, given the small population of the area, this is not a major concern. Second, Muskoka is not considered part of Northern Ontario based on PHUs, but is included based on the census.

4 Note that, for the remainder of this section, the term "new cases" refers to newly reported cases per 100,000 persons per day.

Figure 7: Reported New COVID-19 Cases per 100,000 People, Northern and Southern Ontario, February 2020–August 2021



Note: Seven-day moving average.

Source: Government of Ontario.

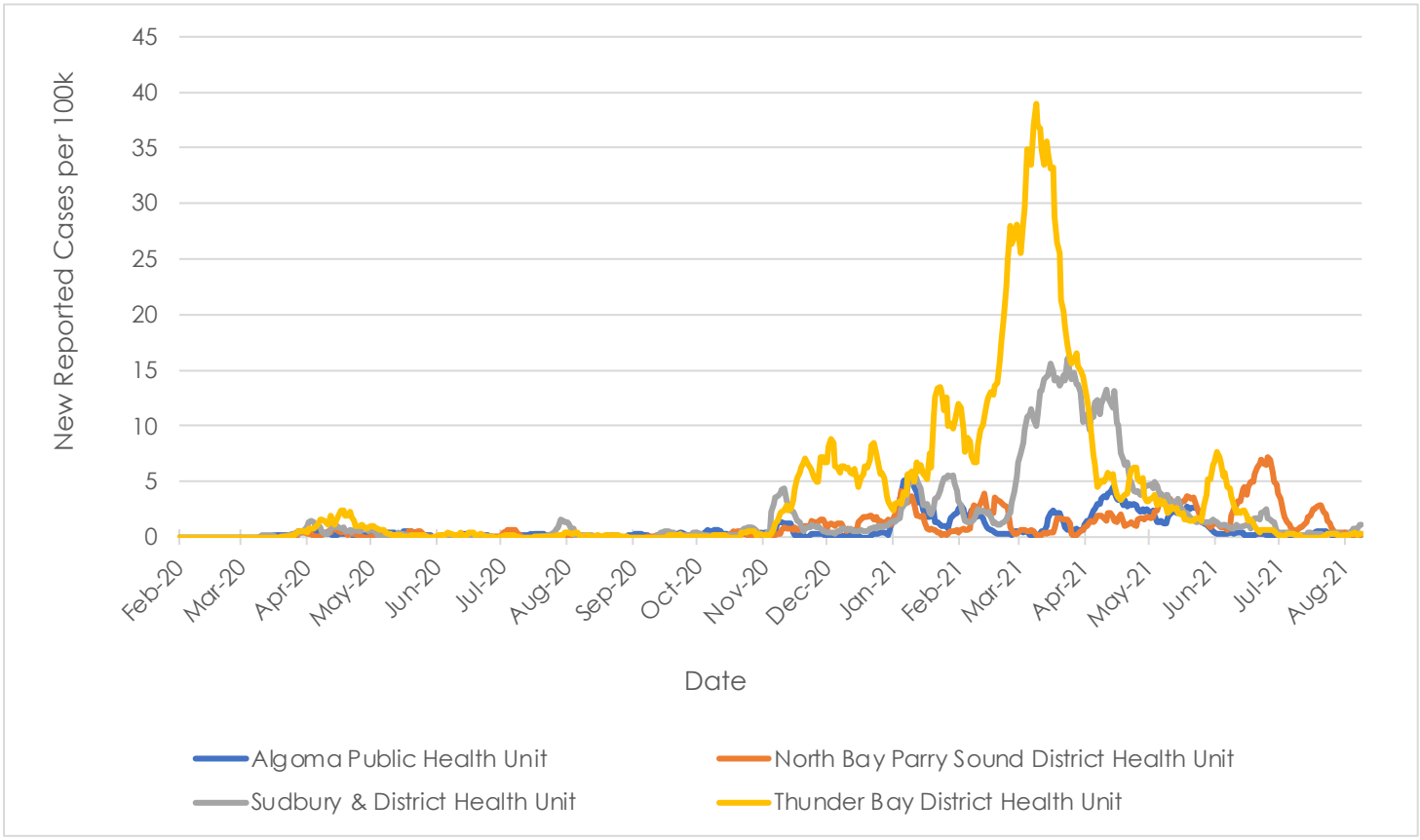
Figure 7 shows the number of new cases for both Northern and Southern Ontario, as defined by the PHUs. Not surprisingly, the patterns observed in Southern Ontario closely match those of the province as a whole, while the patterns for Northern Ontario differ in a number of ways. Although the cause of these differences is not the immediate focus of this paper, we can speculate that they are likely related to some of the key differences we outlined earlier. Although the timing of the first wave coincided for both regions, the first wave was much less severe in Northern Ontario. At the peak of the first wave, new cases in Northern Ontario were approximately one-quarter of those in Southern Ontario. The first wave also dissipated much faster in Northern Ontario.

We observe bigger differences occurring during the second and third wave. In Southern Ontario, the second wave began sooner and was more severe than in Northern Ontario. When Southern Ontario's second wave peaked on January 21, 2021, daily new case rates in Northern Ontario were less than one-fifth of those in Southern Ontario. After this date, daily new case rates in Southern Ontario began to fall, while they continued to rise in Northern Ontario, and did not peak until March 11. This peak was also much less severe, with daily new case rates less than half of Southern Ontario's second-wave peak value. Northern Ontario experienced a more prolonged decline in cases from the peak of the second wave. Finally, Northern Ontario did not experience a clear third wave, as the rest of the province did. By July 2021, new cases in both regions converged again at a very low number.

We can take our analysis one step further by breaking down the Northern Ontario data to the city level. In the following section of this report, our analysis of economic outcomes will focus on the four largest metropolitan areas of Northern Ontario, namely Sudbury, Thunder Bay, Sault Ste Marie, and North Bay. For this reason, we examine the trends for these four urban centers by looking at the COVID data for the PHUs in which they are situated. These urban centres contain the largest portion of the population of their respective PHUs, so it is reasonable to attribute the COVID-19 patterns in their PHUs to the cities themselves.

Figure 8 shows the number of new cases for the Algoma Public Health Unit (Sault Ste. Marie), the North Bay Parry Sound District Health Unit (North Bay), Sudbury and District Health Unit (Sudbury), and the Thunder Bay District Health Unit (Thunder Bay). The figure clearly shows that COVID-19 has affected each of these communities in different ways.

Figure 8: Reported New COVID-19 Cases per 100,000 People, Selected Public Health Units, Northern Ontario, February 2020–August 2021



Note: Seven-day moving average.

Source: Government of Ontario

Sault Ste. Marie was largely spared from COVID-19, as case counts there remained low throughout the period, although there were periodic increases in case counts that coincided with the three waves experienced by the province. A similar situation occurred in North Bay, which largely escaped the effects of COVID-19, but experienced isolated outbreaks of the disease throughout the period.

Sudbury experienced a very small first and second wave compared to the rest of the province. Additionally, its second wave occurred slightly later than the province's. Sudbury experienced a third wave slightly before the province did. The third wave was by far the most severe for the city, although much less severe than for the province as a whole.

Thunder Bay's experience was quite different from that of the other three cities and the rest of the province, but it is not clear why. The city's first wave was the most severe of the northern cities, although mild compared to Southern Ontario's. Its second wave began two weeks after Southern Ontario's and finished by early January, just as the province's second wave peaked. Thunder Bay experienced a large third wave that began in late January 2021 and reached a peak in early March. This peak coincided with the trough between Southern Ontario's second and third waves. This peak was severe, with a higher rate of new cases than the maximum rate experienced throughout the pandemic for the province as a whole. Thunder Bay's third wave was largely over by the beginning of April, just as the third wave was about to crest in Southern Ontario.

Since the number of cases of COVID-19 in Northern Ontario does not reflect the provincial trend, the next question to investigate is whether the outcomes of these cases differ substantially across the province. As of August 9, 2021, there were 553,125 diagnosed cases reported in Ontario; 1.82 per cent of these cases were Northern Ontario. As of the same date, 9,409 deaths were attributed to the virus; 1.59 per cent of these deaths occurred in Northern Ontario. These numbers imply a lower case fatality rate (CFR, the proportion of deaths out of the total number of people diagnosed) in Northern Ontario (1.49 per cent) than in the South (1.70 per cent) and thus a higher survival rate in the North. Within Northern Ontario, as well, death rates vary. The Thunder Bay District Health Unit had the highest CFR, at 1.91 per cent, while the Northwestern Health Unit had the lowest, at 0.63 per cent.

To better understand these differences, Table 2 presents available age and gender demographic data about those who contracted the disease in the province. When comparing Northern to Southern Ontario, the distribution of cases across age groups is largely the same. The only major difference occurs in the below age 20 category. In Northern Ontario, this age group accounted for 22.5 per cent of cases, whereas in Southern Ontario it was only 16.1 per cent. This finding is surprising given that Southern Ontario has a younger population than Northern Ontario. The fact that older people contracted a higher share of cases in Southern Ontario, coupled with a higher death rate for people in their 80s (19 per cent vs 15 per cent), might account for the higher overall death rate in that region. Otherwise, death rates by age group were nearly identical in the North and the South.

Table 2: Age Distribution of Positive COVID-19 Cases, Northern and Southern Ontario, as of August 9, 2021

Age Group	Northern Ontario	Southern Ontario
	(per cent of cases)	
<20	22.5	16.1
20s	21.1	21.2
30s	15.2	16.3
40s	12.5	14.4
50s	11.8	14.2
60s	9.0	8.8
70s	4.3	4.4
80s	2.6	3.0
90+	1.1	1.6

Source: Government of Ontario

Both regions had a nearly 50-50 split in infection rates between males and females, so it is unlikely that this explains the different CFRs in the two regions.

Overall, although the provincial data show there were three waves of COVID-19 cases, the timing and severity of these waves were not the same across the province. In general, Northern Ontario experienced lower rates of infection than the South. In addition, the North experienced only two waves, not three, as in the South. Breaking down the Northern Ontario data further, we see that some cities were largely spared from the disease, while others, such as Thunder Bay, had periods that were much more severe than the rest of the province. Finally, we see that the North had a lower CFR than the South, although, as Thunder Bay shows, there was variability within the region. In sum, despite the lack of a significant regional policy approach to handling the virus, there were significant regional differences in both the rate of COVID-19 infections and deaths.

Economic Effects

What effects have the pandemic and associated public health policies had on Ontario's labour market? To answer this question, we used data from Statistics Canada's monthly Labour Force Survey, which collects basic demographic information on all non-institutionalized civilian household members ages 15 and older, and is conducted nationwide. It excludes persons living on reserves, members of the Canadian Armed Forces, and households in extremely remote areas with very low population density. Information collected includes labour force status — whether the individual was employed, unemployed, or out of the labour market — and, for those who are working, their hours of work, work arrangements (paid employee versus self-employed), occupation and industry of main job, unionization status, and wages/salaries.

The Labour Force Survey data were accessed using Real Time Remote Access (RTRA), an online tabulation tool that allows users to obtain summary results from the full master file in real time. The smallest geographic area available for analysis is the Census Metropolitan Area (CMA)/Census Agglomeration (CA) level. Out of necessity, we defined Northern Ontario as the amalgamation of two CMAs (Sudbury and Thunder Bay) and two CAs (North Bay and Sault Ste. Marie), and Southern Ontario as the province as a whole for the purpose of our labour market analysis.

Our main variable of interest was employment, which is a measure of how many people currently have a job. We compared employment levels at various points during the pandemic to pre-pandemic levels, keeping in mind that both seasonality and population growth affect labour markets. Employment might rise in certain months — for example, in summer since the construction sector requires more employment, while retail employment might rise in November and December to accommodate the increased demand from Christmas shopping. Ideally, our data series would be seasonally adjusted to reflect these annual trends. Statistics Canada does adjust data accordingly for some series compiled from the Labour Force Survey, but not for the two Census Agglomerations we use. For the sake of consistency, therefore, we used non-seasonally adjusted employment data.

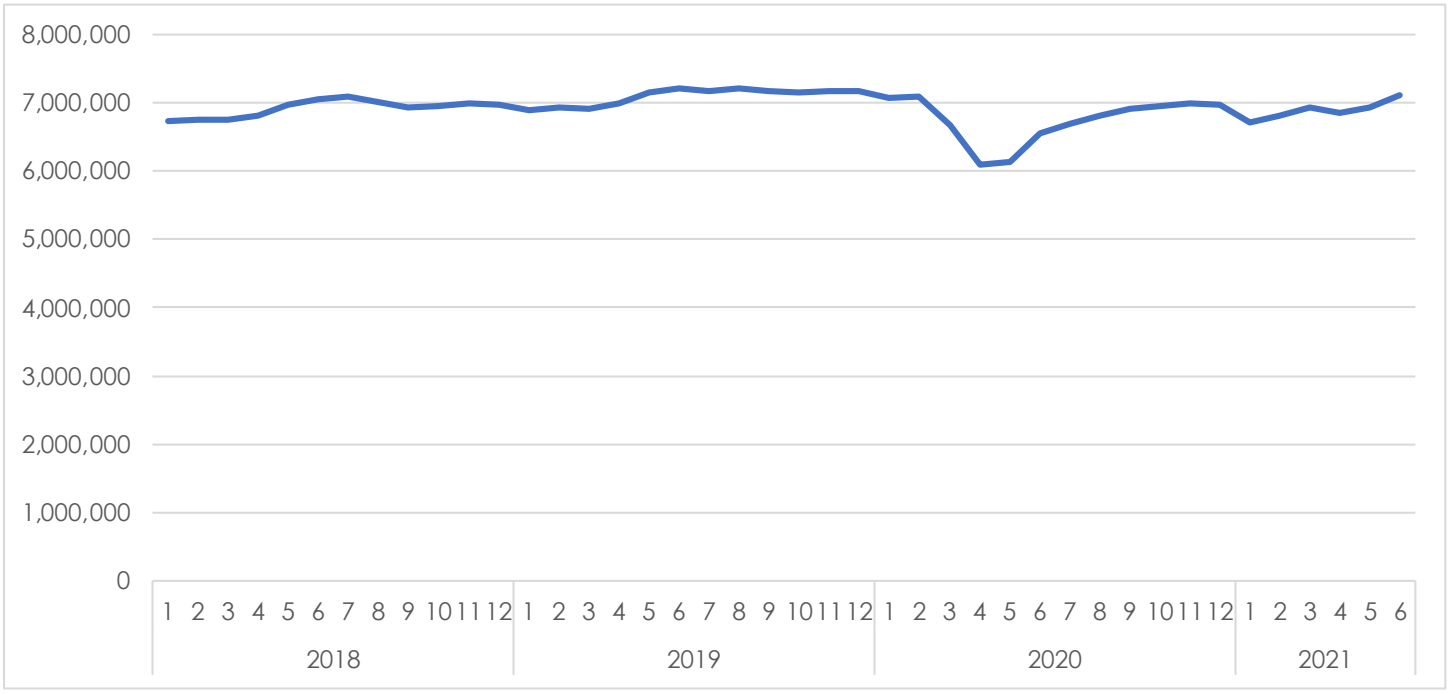
The second issue with our data relates to the number of people in the labour market. On the surface, one might think that a labour market has recovered from a shock when the number of people employed after the shock reaches the level that prevailed prior to the shock. This approach ignores the fact that a region's labour force might change as a result of both population growth and changes in the labour force participation rate. Population growth likely means a region has more individuals seeking employment. Thus, full recovery might imply that additional employment is needed for these new workers. The number of people wishing to participate in the labour force also might change. If people choose no longer to work, or if people who were not working begin to seek a job, then full recovery might require less or more employment than the pre-shock level.

For all these reasons, there is uncertainty in the level of employment needed for a region to have recovered fully from the impact of COVID-19. We did not seek to identify this exact number. Instead, our approach was to indicate when employment numbers returned to their pre-pandemic levels. This measure indicates a certain level of recovery, but still might be slightly over or under what a full recovery actually might be. At the end of the section, we use pre-pandemic trends in the employment rate and our own seasonal adjustments using data from the five years prior to the pandemic to forecast what employment would have been in 2020 and 2021 in the absence of the pandemic. These estimates are an alternative measure to gauge whether overall employment had recovered fully in the North by the end of our period of analysis.

Regional Employment

Figure 9 illustrates the number of individuals in Ontario employed between January 2018 and June 2021. Over 2018 and 2019, employment in Ontario was on an upward trend, increasing from 6.73 million in early 2018 to 7.15 million in early 2020. The shutdown of the economy in March 2020 led to a large reduction in employment in the province. At the peak of the province's first wave in April 2020, one in seven (14 per cent) previously employed Ontarians had lost their jobs. Historically, recoveries from recessions that are this deep take years. For instance, Canadian employment took over two years to recover fully from the three most recent severe recessions (1982, 1991, 2008). However, recovery occurred much more quickly than this during the summer of 2020. By December 2020, employment had nearly recovered to its pre-pandemic levels. The province's second wave (January 2021) and subsequent lockdown affected Ontarians much less than the first wave, despite the higher number of cases. The result was a 3.8 per cent reduction in employment in the province. Employment suffered once again during the third wave and the associated lockdown in April 2021. This time, however, the loss of jobs was smaller still, with only a 1.3 percent reduction in employment in the province. Overall, as of June 2021, employment in Ontario had recovered to its pre-pandemic level.

Figure 9: Total Employment, Ontario, January 2018–June 2021



Source: Statistics Canada Labour Force Survey.

Given the different patterns observed in COVID-19 infections across the province, we next examined whether employment patterns in Northern Ontario followed those in the rest of the province. Figure 10 shows the number of individuals in Northern Ontario — defined as our four northern CMAS: Sudbury, North Bay, Sault Ste. Marie, and Thunder Bay — employed over the January 2018 to June 2021 period.

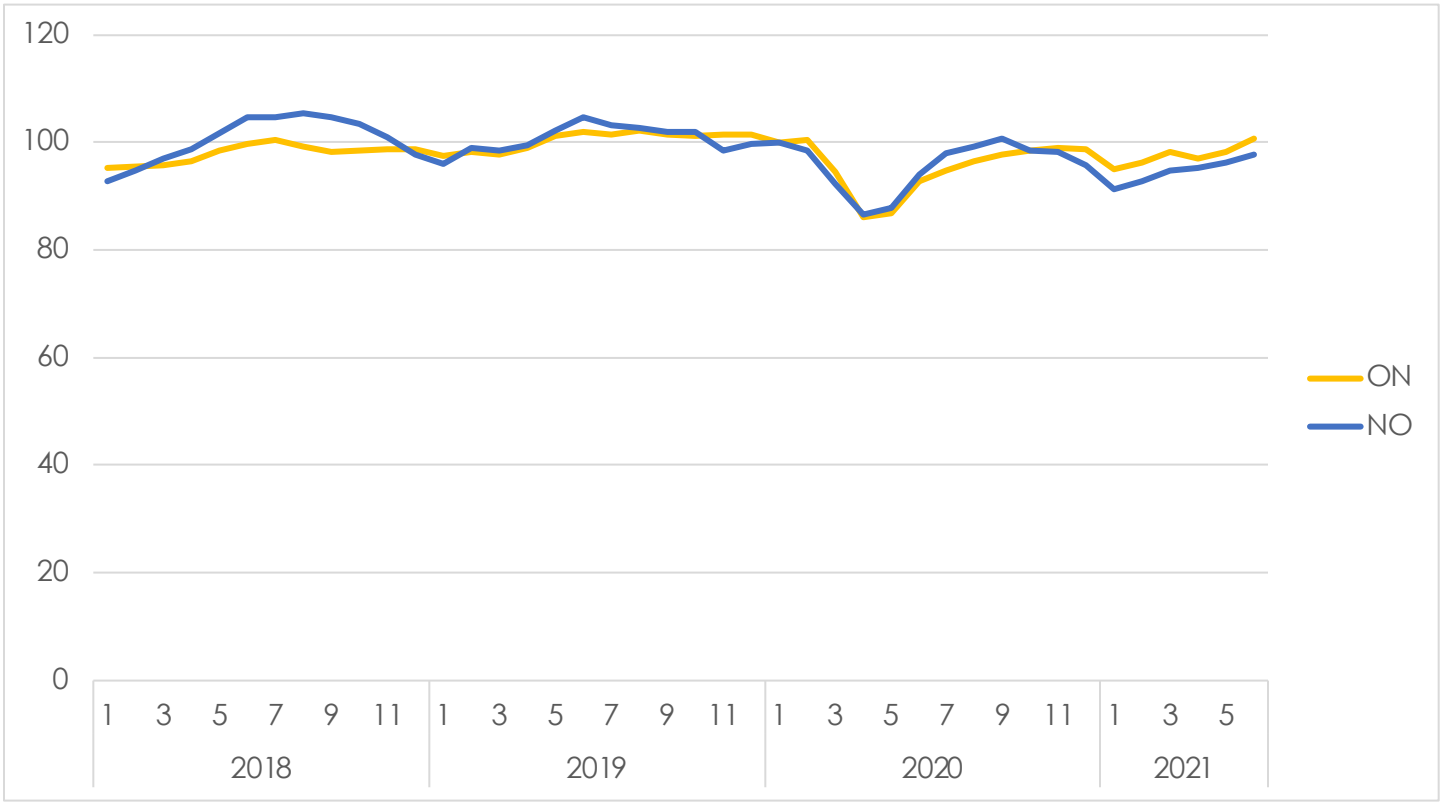
Figure 10: Employment, Northern Ontario, January 2018–June 2021

Source: Statistics Canada Labour Force Survey.

The first thing to note about this figure is that Northern Ontario's pre-pandemic employment pattern differed from the rest of Ontario. Unlike in Southern Ontario, employment was not growing in Northern Ontario, but instead exhibited a cyclical pattern, with employment booms during the summer months. On average during this period, the number of employed in Northern Ontario remained fairly constant at slightly over 200,000.

Next, we examined the impact of COVID-19 on employment in the region and in the rest of the province. To make this comparison easier, Figure 11 presents indexed employment levels over the 2018–21 period. The January 2020 values were used as reference values for both regions. The employment index was produced by dividing employment in a given month by employment in January 2020 and multiplying the resulting figure by 100. Employment for each month is then expressed as a percentage of employment in January 2020. For example, a value of 102 in a particular month indicates that employment in that region for that month was 2 per cent higher than in January 2020.

Figure 11: Indexed Employment, Ontario and Northern Ontario, January 2018–June 2021 (January 2020 = 100)

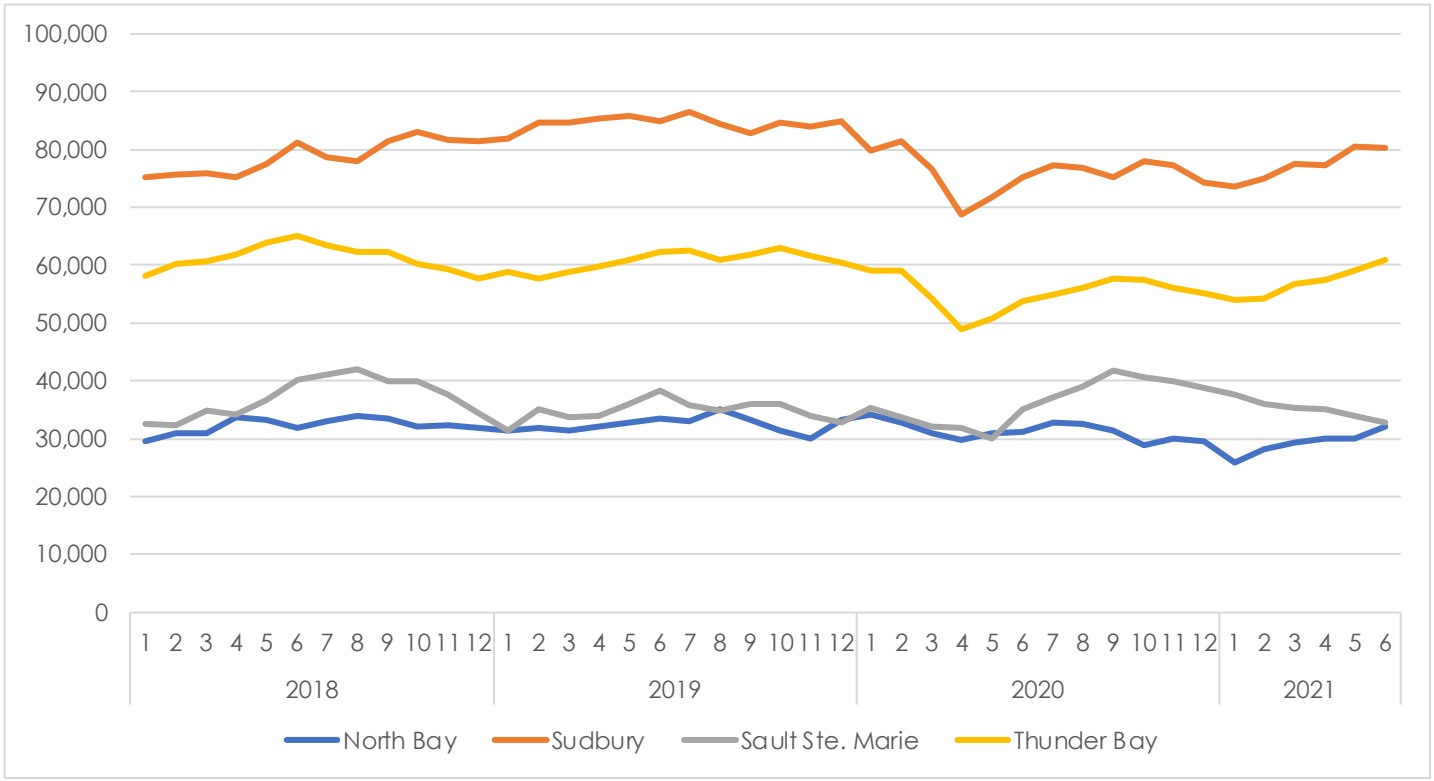


Source: Statistics Canada Labour Force Survey.

The first wave resulted in a reduction in employment in the North of 13.4 per cent, slightly less than for the rest of the province. Employment in Northern Ontario then recovered much more quickly than in the rest of the province, although a large component of this likely reflects the seasonal patterns of employment in the region. Employment levels in Northern Ontario were close to pre-pandemic levels by September 2020, whereas this did not occur until December in the rest of the province.

This level of resilience was not observed during the outbreaks in 2021. Recall that the three clear waves of COVID-19 observed elsewhere in the province were not seen in Northern Ontario. Instead, the second wave in Northern Ontario started later and was not clearly separate from the third wave. As a result, we do see different employment patterns in Northern Ontario during this period as well. Employment in Northern Ontario began to fall in late 2020, prior to the arrival of the second wave, likely a reflection of the cyclical nature of employment in the North, which sees large reductions in employment during the winter months. When the second wave hit the province, employment in Northern Ontario fell by a greater amount than in the rest of the province, falling by 7.5 per cent between September 2020 and January 2021. Again, part of this large decline likely can be attributed to the normal cyclical nature of the Northern economy. Employment in the North grew throughout the rest of 2021, and no decline was observed during the province's third wave, again likely because the North experienced no distinct third wave. Despite this growth in employment, the Northern Ontario economy still had not recovered to pre-pandemic employment levels by June 2021, whereas the rest of the province had done so. Recall that we previously identified that the spread of COVID-19 varied across Northern Ontario. To examine whether the economic effects were also different across the region, Figure 12 shows the employment data for Northern Ontario's four CMAs: North Bay, Sault Ste. Marie, Sudbury, and Thunder Bay.

Figure 12: Employment, Northern Ontario CMAs/CAs, January 2018–June 2021



Source: Statistics Canada Labour Force Survey.

We can immediately observe from this figure that Thunder Bay and Sudbury appear to have been affected in a similar way throughout the pandemic. Both communities were hit hard by the first wave, and neither was able to recover fully before the start of the second wave. Both communities experienced the normal cyclical employment losses that occur in the North during the winter, and these occurred in tandem with job losses associated with the second wave of COVID-19. In both communities, these job losses were not as large as those experienced during the first wave. Both communities experienced employment gains throughout early 2021. By June 2021, employment in Thunder Bay had returned to its pre-pandemic level, but Sudbury remained below its pre-pandemic level.

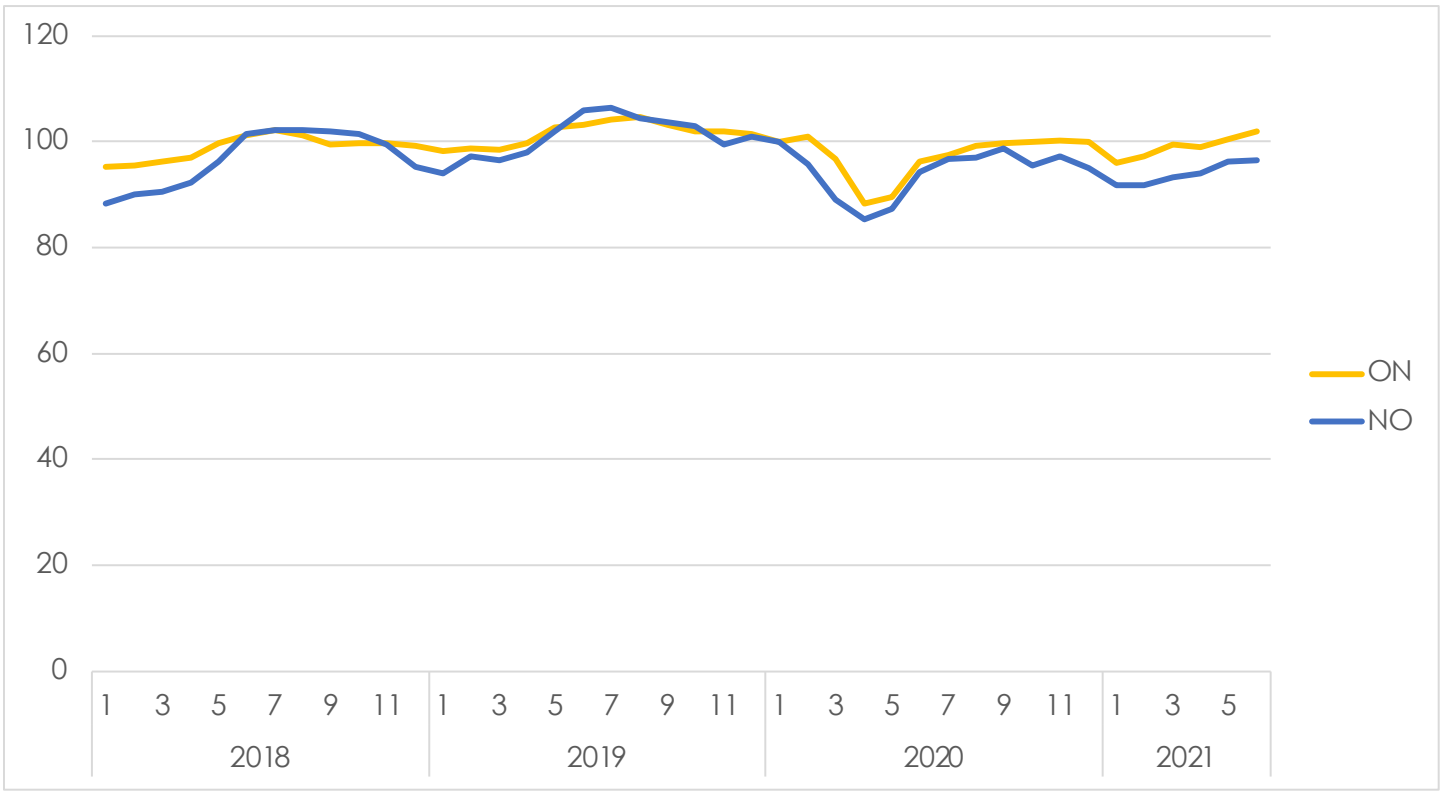
In contrast, employment in North Bay and Sault Ste. Marie appears to have been much less affected by the pandemic. Both communities experienced very small levels of employment losses in the first wave. Employment in Sault Ste. Marie rebounded very strongly in the summer of 2020, reaching levels not experienced throughout all of 2019. The cyclical nature of employment in the North can be seen in that community, and very few job losses from COVID-19 occurred during the study period. Employment in North Bay declined slightly following the initial onset of the pandemic, with a noticeable fall in January 2021. By the summer of 2021, however, nearly all the previously lost jobs had been recovered.

Employment by Demographic

With a sense of how employment has varied within the province during the COVID-19 pandemic, we can now turn to looking at how employment of different demographic groups was affected during our study period.

Beginning with employment by sex, Figure 13 shows indexed employment for men in Northern Ontario and the rest of the province. Again, employment is measured as a percentage of the employment in that region in January 2020. Before looking at the impact of COVID-19, it is helpful to look at the pre-pandemic patterns. In both regions in 2018 and 2019, total employment for men followed a cyclical pattern of rising from the beginning of the year until the late summer months and falling from the late summer months until early the next year. Typically, Northern Ontario men experience bigger employment increases in the summer months and bigger employment decreases during the rest of the year.

Figure 13: Indexed Male Employment, Ontario and Northern Ontario, January 2018–June 2021
(January 2020 = 100)



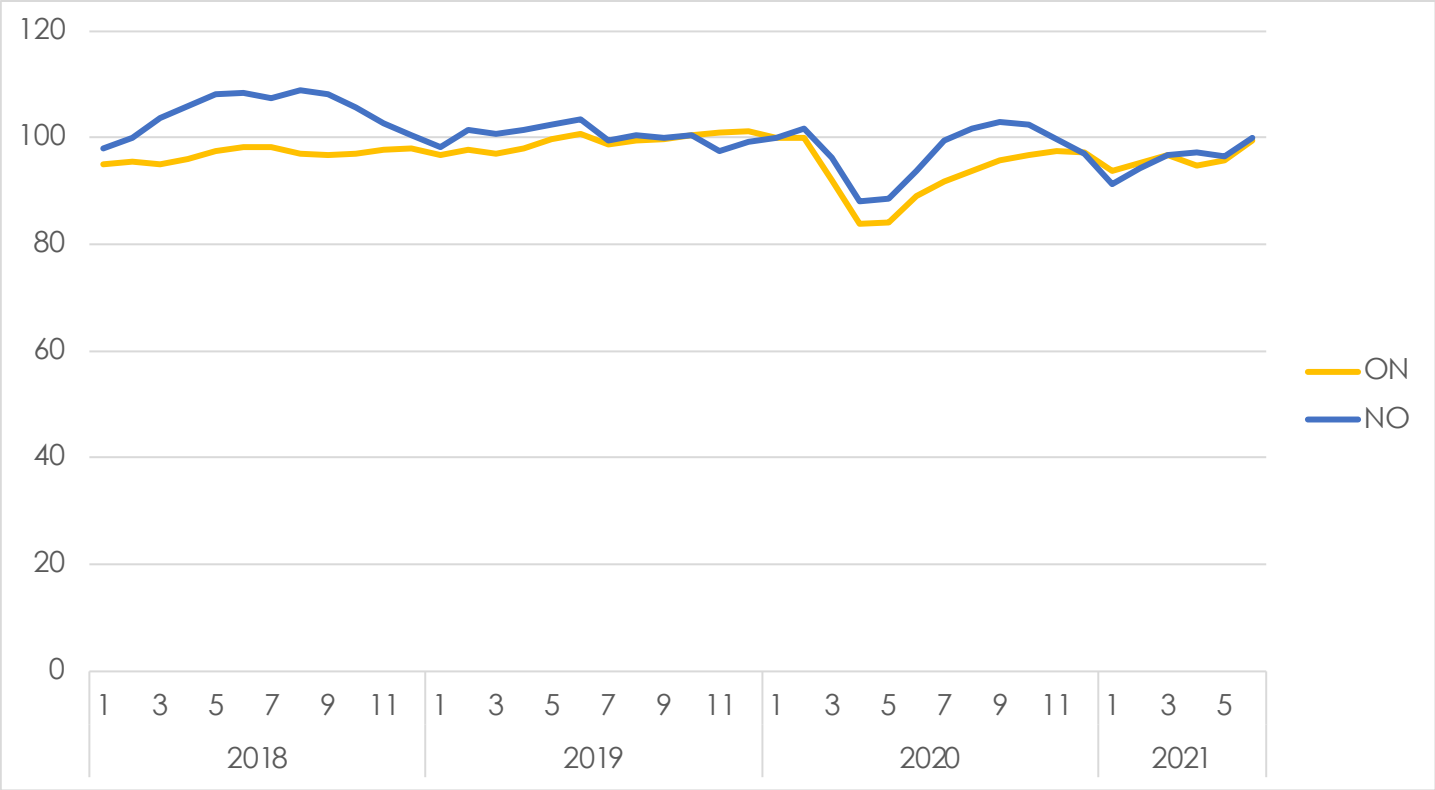
Source: Statistics Canada Labour Force Survey.

As the figure reveals, the impact of COVID-19 on male employment was quite severe. Employment dropped sharply during the first wave, more severely in Northern Ontario than in the rest of the province. By June 2021, employment in Northern Ontario, at around 4 per cent below pre-pandemic levels, still had not recovered fully from this initial drop. In Southern Ontario, employment had recovered by the end of 2020. Both regions saw a fall in male employment during the second wave. Following this, male employment in Southern Ontario was above pre-pandemic levels by summer 2021, while a 3–4 per cent shortfall still existed in Northern Ontario. Clearly the pandemic and associated public health policies hit men more severely in Northern Ontario.

Figure 14 presents the employment dynamics for women in Northern and Southern Ontario, again indexed to employment in the two regions in January 2020. In the pre-pandemic period, women in Northern Ontario had a cyclical employment pattern of rising early in the year and falling in the later part of the year. This pattern was substantial in 2018 and attenuated in 2019. For Southern Ontario women, employment rose consistently from January 2018 to January 2020 with a less pronounced cyclical pattern.

Figure 14: Indexed Female Employment, Ontario and Northern Ontario, January 2018–June 2021

(January 2020 = 100)



Source: Statistics Canada Labour Force Survey.

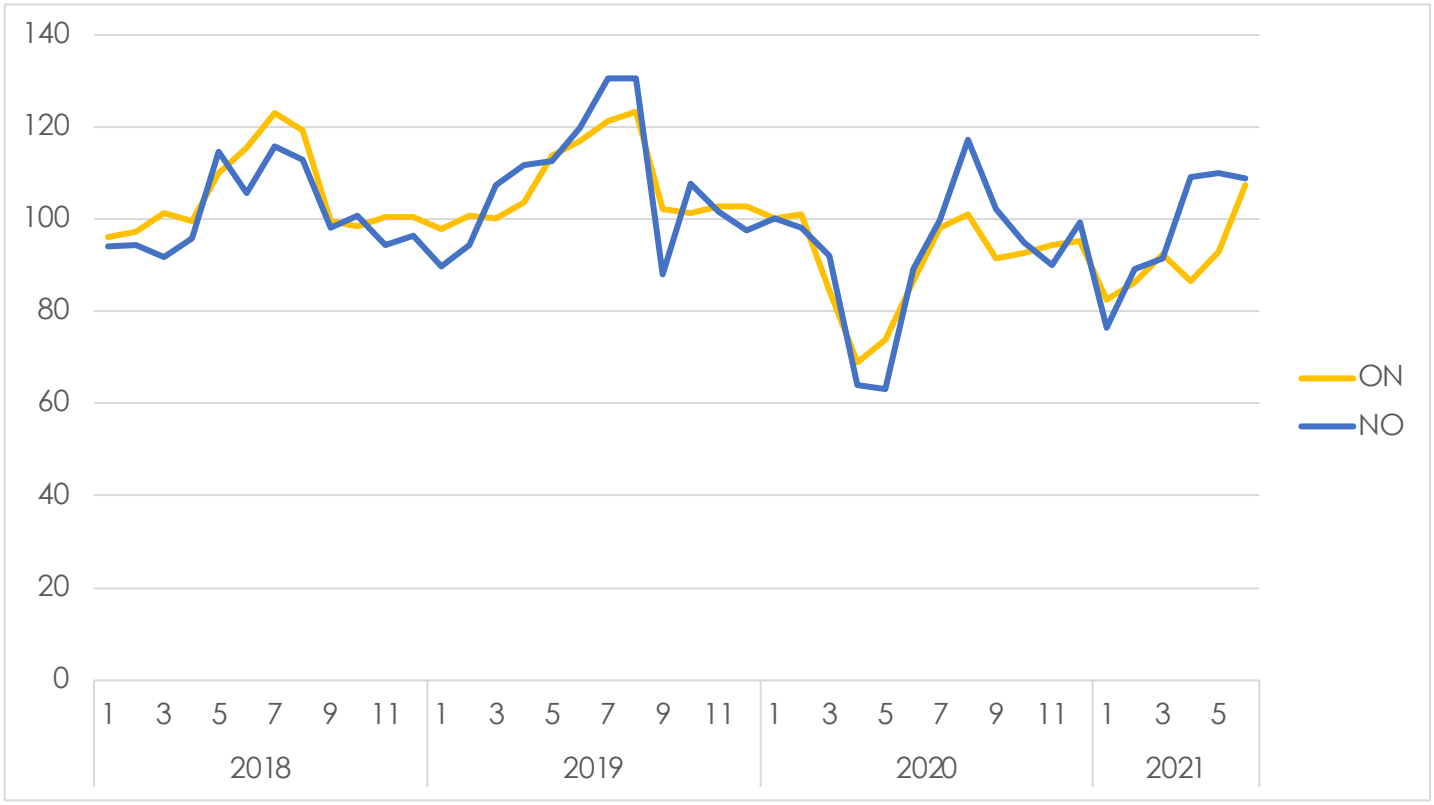
When the first wave of the pandemic hit, employment fell for women in both regions, but the impact on women in the North was less severe than on those in the South: employment fell by around 12 per cent in the North but by 16 per cent in the South. This is the opposite of what we observed for male employment. Employment for women also rebounded much faster in the North than in the South, and was above pre-pandemic levels in the North by the summer of 2020, whereas female employment in the South did not recover fully until summer 2021. This quick rebound in Northern Ontario likely is partially attributable to the strong cyclical nature of female employment in the region. This is somewhat confirmed by the decline in employment in the fall of 2020, prior to the onset of restrictions associated with the second wave of COVID-19 in the province. Female employment fell in both regions during the second and third waves — in fact, Northern women fared worse than their Southern counterparts during the second wave. By summer 2021, both groups converged to their pre-pandemic employment levels.

Overall, we do see some differences in the patterns of female and male employment in Northern Ontario versus Southern Ontario with respect to both the severity of employment loss and the length of time to recovery for both sexes.

Turning to youth employment (those ages 15–24), Figure 15 presents the dynamics of employment in the two regions over the study period. As a relatively small age cohort, sampling issues might affect the accuracy of the numbers reported by Statistics Canada. Taking our data at face value, we see that youth were affected similarly in both the North and the South during the first and second waves of the pandemic. Both groups experienced enormous job losses during the first wave, with employment falling by over 35 per cent in the North and over 30 per cent in the rest of the province. In both areas, employment quickly recovered thanks to the trend of high summer employment for this demographic group. Employment once again fell in winter 2021, but was quick to recover in summer 2021. Overall, youth employment trends were similar in both regions over the period.

Figure 15: Indexed Youth (Ages 15–24) Employment, Ontario and Northern Ontario, January 2018–June 2021

(January 2020 = 100)



Source: Statistics Canada Labour Force Survey.

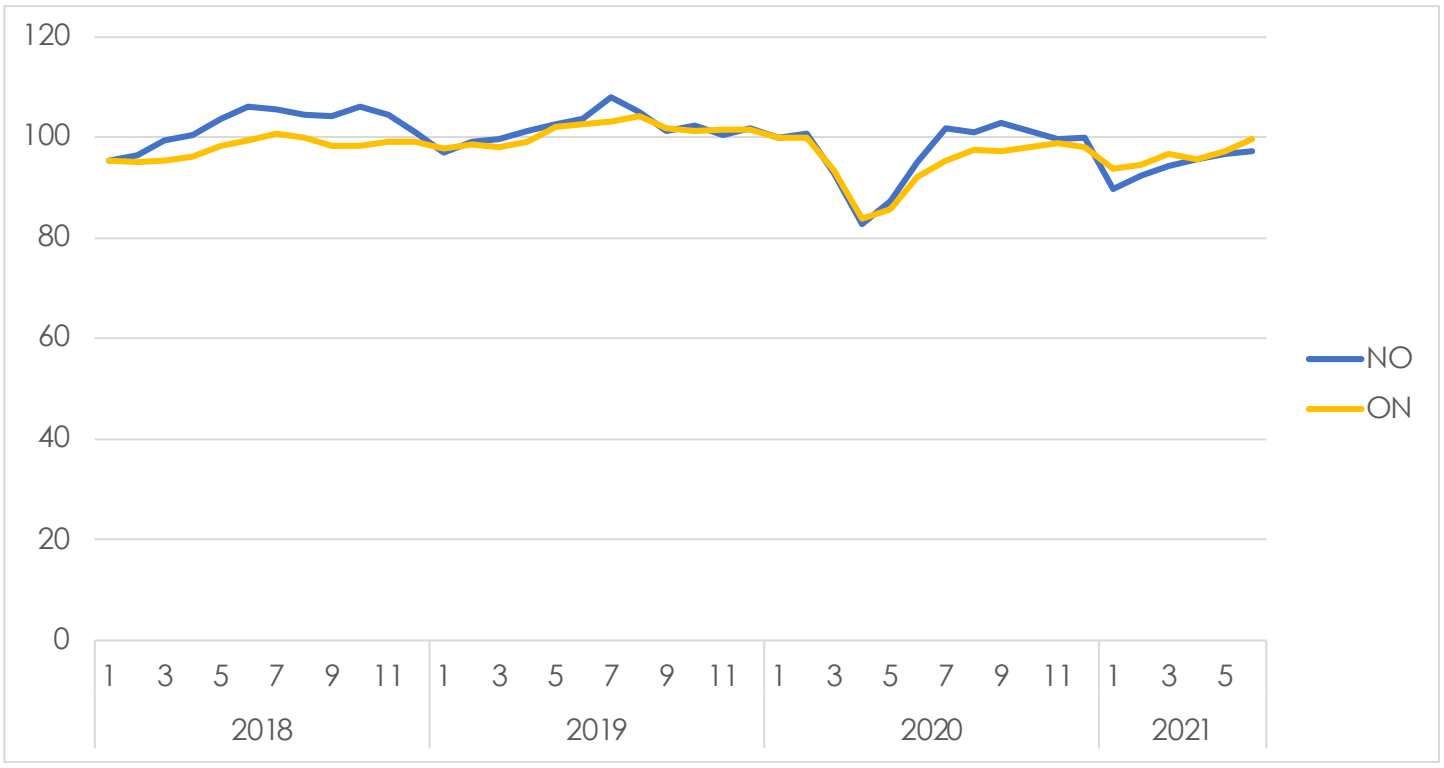
Overall, the data suggest that employment patterns did differ within the province by sex. Men suffered disproportionately more unemployment in the North, while women suffered disproportionately less employment in the North than did women in the rest of the province.

Employment by Sector

We next turn to employment in the private and public sectors. Figure 16 provides employment data for the private sector in both Northern and Southern Ontario. Again, the values here are relative to employment in January 2020.

Figure 16: Indexed Private Sector Employment, Ontario and Northern Ontario, January 2018–June 2021

(January 2020 = 100)



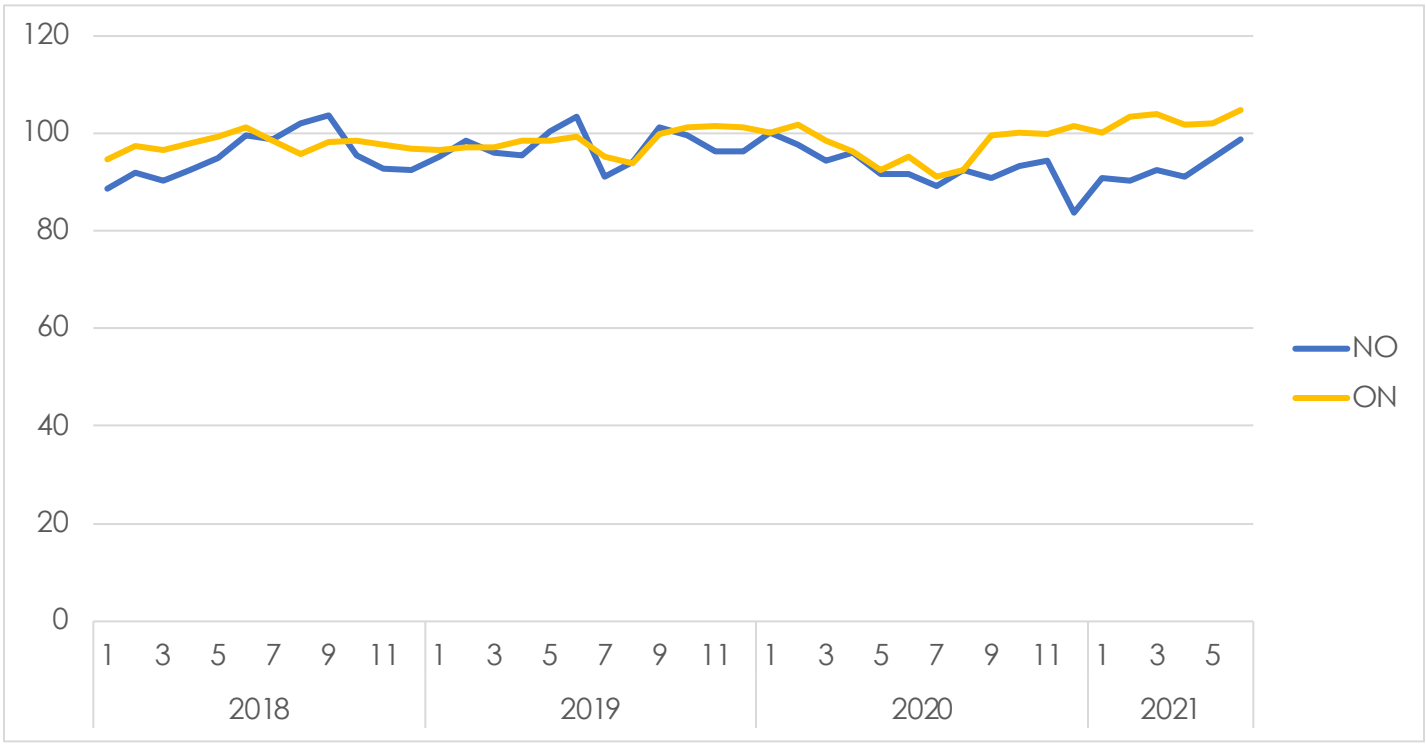
Source: Statistics Canada Labour Force Survey.

The first thing we observe is the symmetric fall of 16 per cent in private sector employment in both regions during the first wave of the pandemic. Employment then rebounded faster in Northern Ontario than in the South, again likely due to the cyclical nature of employment in the North, where employment tends to increase in the summer months.

When the restrictions associated with the second wave were imposed at the beginning of 2021, private sector employment fell in both regions, although the drop was much larger in Northern Ontario. When Southern Ontario experienced a small drop in private sector employment during the third wave, no such decline was experienced in the North. Again, this is perhaps explained by the lack of a distinguishable third wave in the North. By summer 2021, private sector employment in Southern Ontario had recovered fully to pre-pandemic levels, while a 3 per cent shortfall still existed in the North despite the history of employment surges in the summer.

Turning to public sector employment, Figure 17 shows that there was no significant drop in either of the two regions. Instead, we see a slow decline in both regions during the early months of the pandemic. Public sector employment reached a minimum in summer 2020, having followed a similar downward trajectory in both regions. In fall 2020, the two time series diverge. Public sector employment in Southern Ontario surged back to pre-pandemic levels, while it remained depressed in Northern Ontario. Additionally, whereas public sector employment in the North dropped during the restrictions associated with the second wave, no such fall was seen in the South. Public sector employment in the North did recover throughout the rest of 2021, but has not yet returned to pre-pandemic levels. This contrasts with the South, which sees higher public sector employment.

Figure 17: Indexed Public Sector Employment, Ontario and Northern Ontario, January 2018–June 2021
(January 2020 = 100)

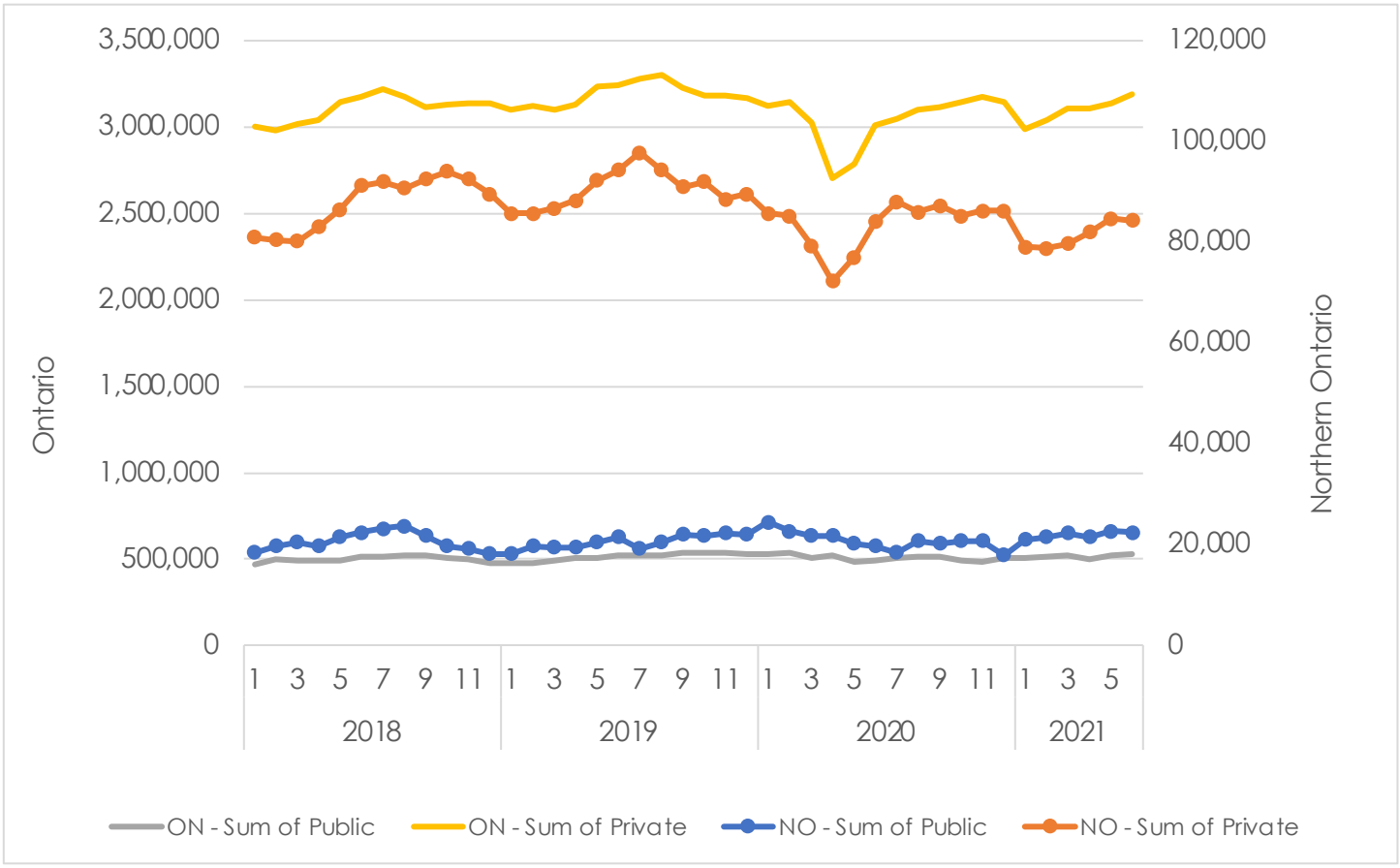


Source: Statistics Canada Labour Force Survey.

In general, the major findings are that, in both regions, private sector employment was much more responsive to the COVID-19 crisis than was public sector employment. By summer 2021, both sectors of the economy in Southern Ontario had returned to pre-pandemic levels, while a small reduction in employment could still be seen in Northern Ontario in both sectors.

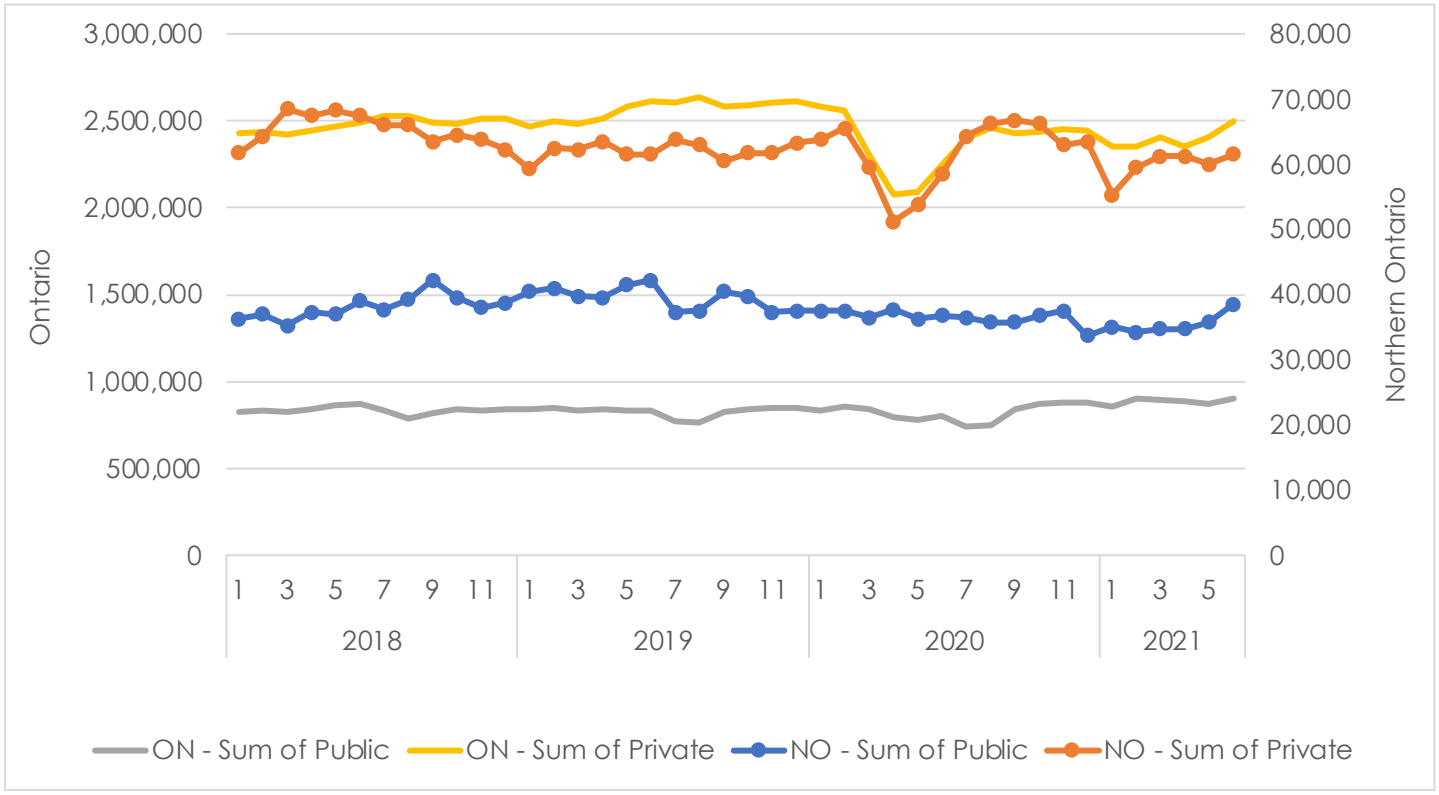
To better understand the results we have presented so far, we combined two of our variables. Figure 18 shows male employment in the public and private sectors in Northern and Southern Ontario, while Figure 19 shows female employment in the two sectors. The figures illustrate some interesting results, but interpreting them can be difficult.

Figure 18: Male Employment, Public and Private Sectors, Ontario and Northern Ontario, January 2018–June 2021



Source: Statistics Canada Labour Force Survey.

Figure 19: Female Employment, Public and Private Sectors, Ontario and Northern Ontario, January 2018–June 2021



Source: Statistics Canada Labour Force Survey.

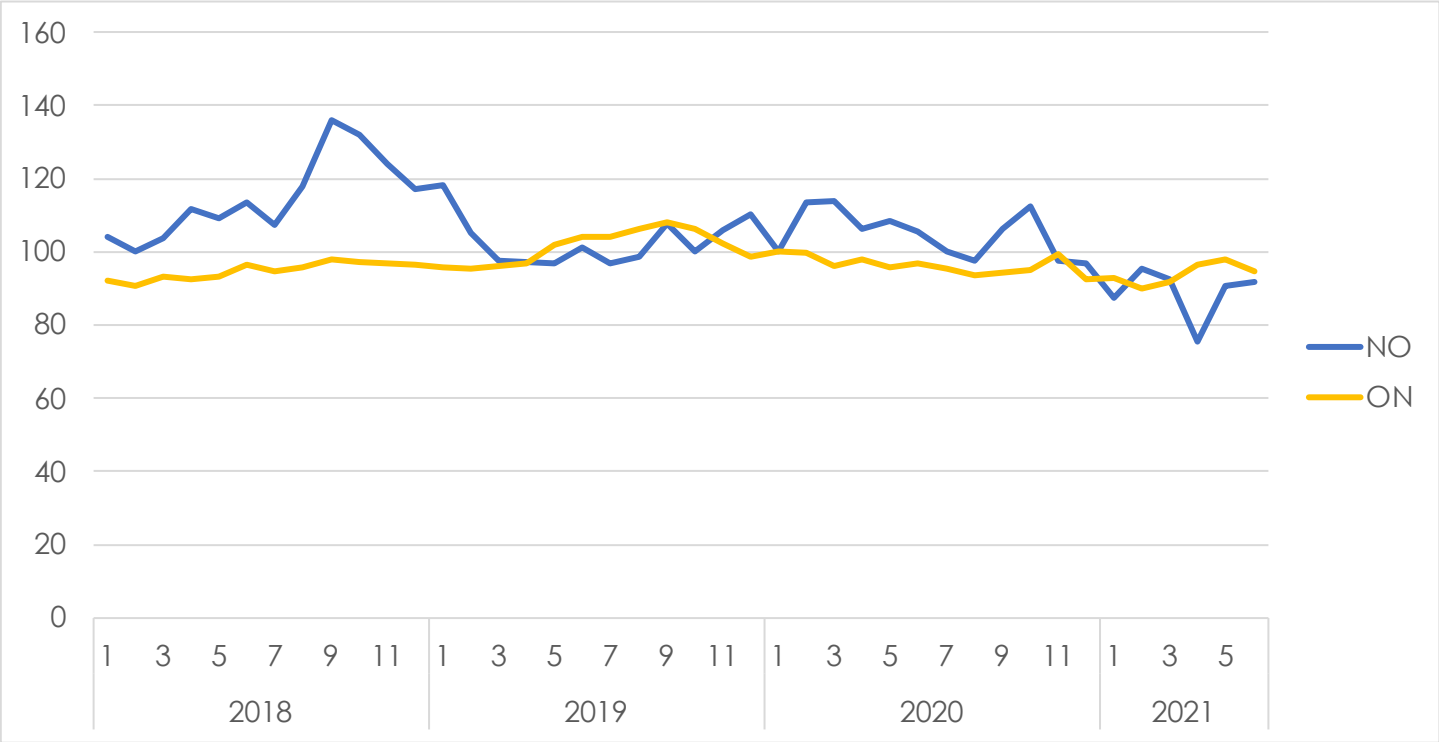
The first thing to note in Figure 18 is just how many more men are employed in the private sector than in the public sector in both regions. It is also worth noting that, in Northern Ontario, the share of men in the public sector is larger than in Southern Ontario. We clearly see the large dips to employment in the private sector in both regions associated with the first wave and the smaller dip associated with the second wave. However, we do not observe any such dips in the public sector.

When we compare male and female employment in the two sectors, the first thing we notice is that, in both regions, women are much more likely than men to be employed in the public sector. This difference is more pronounced in Northern Ontario, where 38 per cent of women work in the public sector compared with only 25 per cent of women in Southern Ontario; for men, the shares are 19 per cent and 14 per cent, respectively. A comparison of both Figures 18 and 19 shows that the public sector is larger in Northern Ontario for both sexes and that, in both regions, women are more likely to be in the public sector — indeed, Northern Ontario women rely heavily on the public sector for employment.

This fact helps explain the results we saw previously. In Figures 13 and 14, where we saw that Northern Ontario women were less likely to become unemployed than were Southern Ontario women and men in general, this was due to their being overrepresented in the public sector, which, as we saw in Figure 17, was much less likely to see job losses. Therefore, differing performances of men and women during the pandemic in Ontario were likely the result of different sectoral dispositions within the economy.

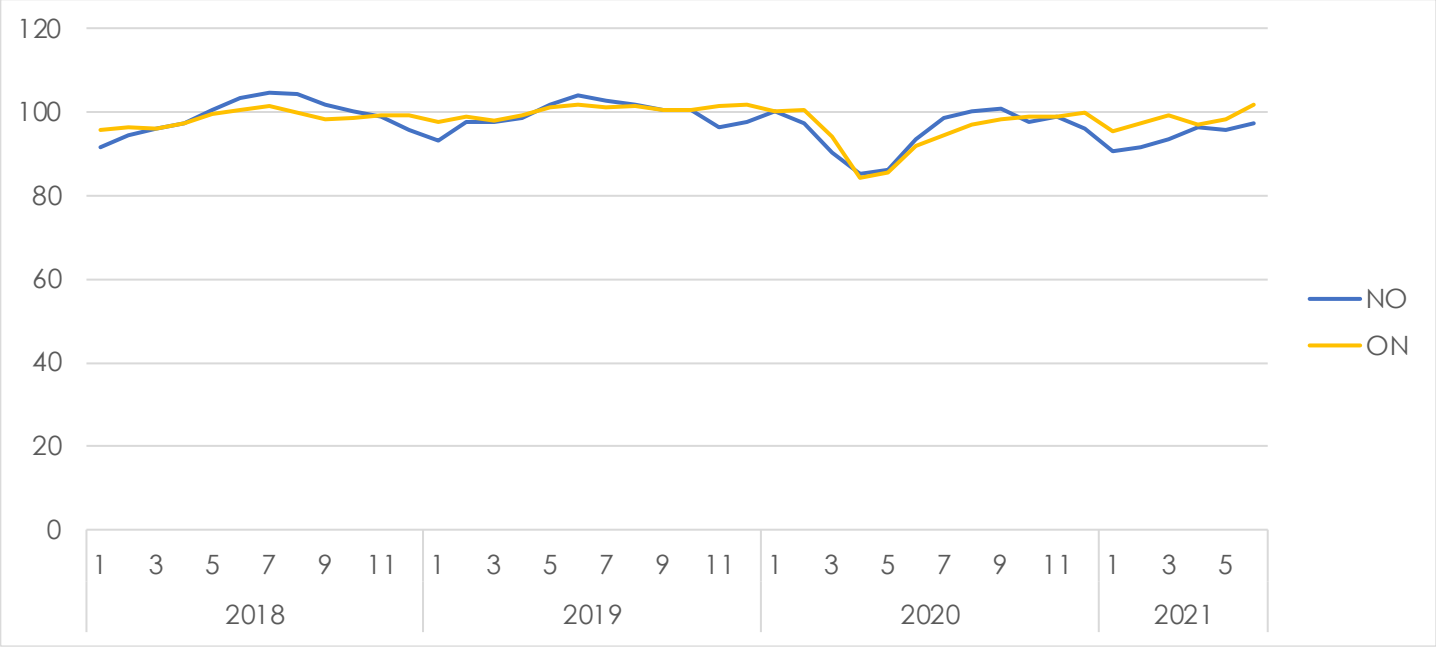
Finally, we examine the patterns of employment by the self-employed (Figure 20) compared with those in paid employment (Figure 21). Again, these are index numbers with a value of 100 for January 2020. We see that the pattern for individuals in paid employment in Northern Ontario was generally the same as that for overall employment shown in Figure 11. The pattern for the self-employed, however, is much different. We see no large drop in self-employment associated with any of the waves of COVID-19 that hit the province. We do see that, in both Northern and Southern Ontario, there has been a long-term reduction in the number of self-employed, but no major differences can be seen between the two regions.

Figure 20: Indexed Self-Employment, Ontario and Northern Ontario, January 2018–June 2021
(January 2020 = 100)



Source: Statistics Canada Labour Force Survey.

Figure 21: Indexed Non-Self-Employment, Ontario and Northern Ontario, January 2018–June 2021
(January 2020 = 100)

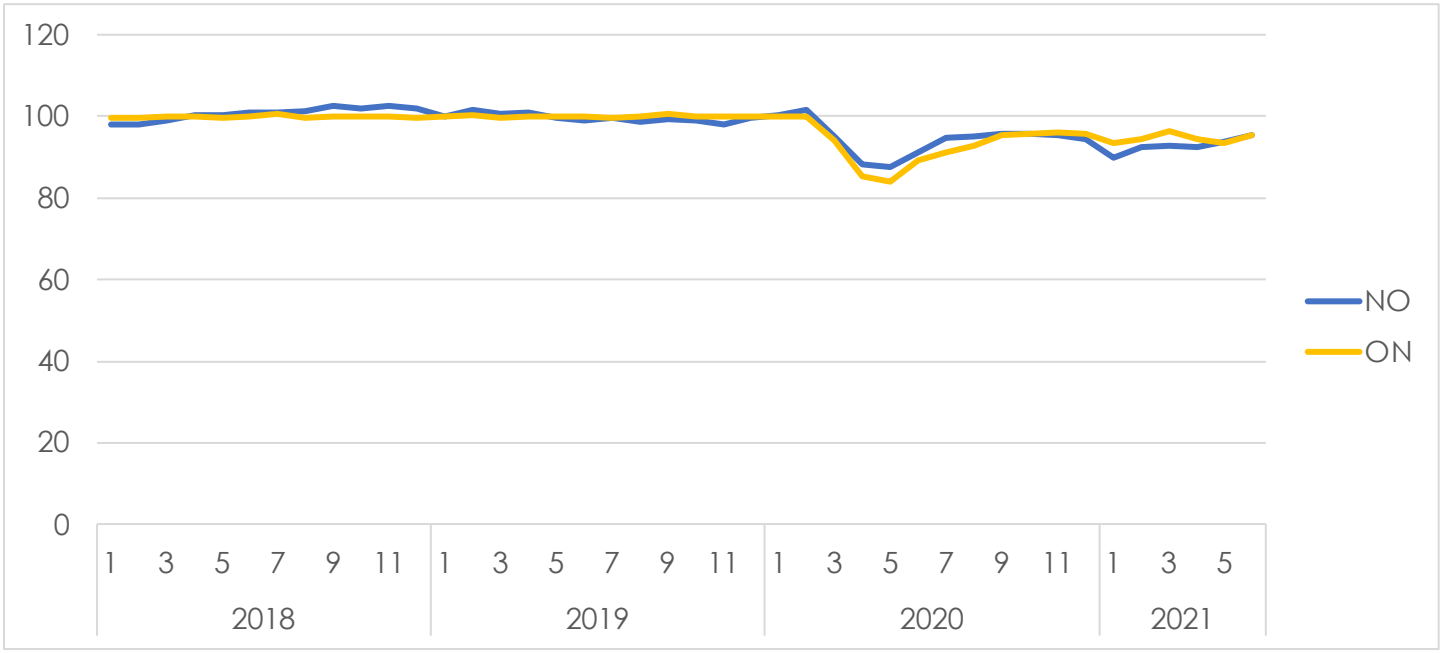


Source: Statistics Canada Labour Force Survey.

As noted above, our analysis does not explicitly take into account either population growth or seasonality in the two regions. Statistics Canada does not publish seasonally adjusted series for North Bay or Sault Ste. Marie, so we used the employment patterns over the five years prior to the pandemic to forecast employment rates into the pandemic period that take into account month-to-month variation arising from seasonality, in the employment rate.[5] These were then multiplied by the population to generate a counterfactual level of employment that would have prevailed had the economy continued to behave according to the pre-pandemic "norm." We normalized actual employment by dividing it by this predicted employment in each region and multiplying by 100. The results from 2018 to June of 2021 are shown in Figure 22.

5 Our approach is similar to that of Jones et al. (2021). We regressed employment rates on a quadratic trend and monthly dummies using the data for the five years prior to the pandemic (2015–21). We then forecast employment rates, which were converted to employment using the population in each month.

Figure 22: Indexed Normalized Employment, Ontario and Northern Ontario, January 2018–June 2021.
(January 2020 = 100)



Source: Statistics Canada Labour Force Survey.

Prior to 2020, the index measures how well predicted employment matched actual employment. The fit is good for both regions, staying within 3 per cent of the actual value. There is greater variation for Northern Ontario than for the South during this period, which might reflect greater sample variation in Northern Ontario, arising from the relatively small underlying sample. For the pandemic period, the patterns differ somewhat from what we found using the unadjusted series when benchmarking against employment in January 2020 (Figure 11). In particular, the initial drop in employment in Northern Ontario between February and May 2020 was somewhat smaller than implied by Figure 11, suggesting that part of the observed drop in the unadjusted numbers was related to seasonal patterns of employment. The subsequent drop in employment between September 2020 and January 2021 was larger in Northern Ontario, which is consistent with our previous plots. A striking difference is that, once we adjusted for changes in population and trends in employment rates, employment remained depressed in both regions as of June 2021.

Conclusions and Policy Recommendations

Conclusions

The goal of this report was to understand whether the impact of the COVID-19 pandemic has varied within Ontario — specifically between Northern and Southern Ontario, and also within Northern Ontario itself. We began by highlighting several factors that could have led to differing rates of infection and different economic effects in the two regions. Examining the data, we were able to show that, as expected, COVID-19 did affect Northern Ontario differently than the rest of the province.

First, infection rates were much lower in Northern Ontario than in Southern Ontario, and the timing of the waves of infections in the North did not match up with those in the South. Even within Northern Ontario we saw significant differences in infection rates across public health units. This led us to our first result:

1) There was no uniform trend to the spread of the disease within Ontario; different regions experienced the disease differently, even within the North.

We have no definitive answer as to why the rates diverged. However, we can offer some potential lines of investigation to explore. The industrial composition of a region will influence the ability of shutdowns to be effective. Given that essential businesses had to be kept open and that not all essential businesses could be operated remotely, a greater share of workers who are unable to work remotely will have led to a higher risk of the disease spreading. The density of residential areas is a second potentially fruitful avenue of investigation. By all measures, Northern Ontario and its cities are less densely populated than the rest of the province.

It is also worth discussing Northern Ontario's lower case fatality rate. Again, we are unable to offer a complete answer to why surviving the disease was more likely in the North than in the South, but we can offer some potential insights. Northerners had better access to hospital beds and family physicians prior to the start of the pandemic. These factors could have led to higher survival rates once the disease was contracted. Additionally, the disease was more likely to be contracted by younger people in Northern Ontario, despite that share of the population being smaller in the region. As a result, survival rates were likely to be higher.

Next, we documented the labour market impact of COVID-19 on Northern Ontario and examined how this differed from the pandemic's impact on the rest of the province. Again, we found significant differences:

2) The labour market bounced back much more quickly in Northern Ontario than in the rest of the province following the first wave of COVID-19, likely due to the seasonality of employment in that region, but it suffered much more from the shutdowns associated with the second and third waves.

3) While the province as a whole had rebounded to pre-pandemic employment levels by June 2021,[6] labour markets in Northern Ontario had not yet fully recovered, but are not far from doing so.

Part of this difference between the North and the rest of the province could be attributed to the cyclical nature of employment in the North. Strong summer job markets quickened the recovery following the first wave, while weak winter job markets exacerbated the weak job market in early 2021.

Once again, as with the differing case counts in Northern Ontario, we also find that the impact of the virus on Northern labour markets was not the same throughout the region, giving us our fourth result:

6 Although employment had recovered to pre-pandemic levels, the population of Ontario increased over the pandemic as well. Based on the model outlined in footnote 5, we estimate that, in August 2021, Ontario fell 95,000 jobs short of the number needed to reach the average employment rate for that month over the five years prior to the pandemic.

4) Labour markets in some Northern communities were largely spared from the impact of COVID-19 and related public health policies.

With these general labour market trends understood, we then turned our attention to the differing impact on various labour market segments. When examining workers in the public and private sectors, we found very different outcomes depending on the sector. From this observation, we arrived at our fifth result:

5) Public sector employment in the province was spared from the large swings experienced by the private sector, but declined slowly throughout most of the pandemic, which persisted longer in Northern Ontario.

Next, focusing on employment outcomes by sex across the province, we found significant differences between men and women with regards to the economic effects of the virus, and significant differences again when comparing effects by sex within Northern Ontario. These differences give us our sixth and seventh results:

6) In the province as a whole, women were more likely than men to lose their job, and it took them longer to recover their job.

7) In Northern Ontario, the opposite was true, with men more likely than women to lose their job, and the recovery took longer for men than for women.

This asymmetry is likely a result of the overrepresentation of women in the public sector in Northern Ontario. Women in the North are also more likely to be employed in the public sector than are women in the rest of the province. Since this sector suffered few job losses, Northern Ontario women were less affected by the economic impact of the virus.

Finally, we turned our attention to the self-employed versus non-self-employed individuals. The data here led us to our eighth and final result:

8) Self-employed individuals were less likely to lose employment as a result of a shutdown caused by a wave of COVID-19, but were more likely to experience job loss as the pandemic carried on.

Policy Recommendations and Looking Forward

With these results in hand, we can now provide some policy recommendations with regards to dealing with pandemics in Ontario. For this paper, these fall into two categories. The first is recommendations for future pandemics; the second is recommendations for recovery from the current pandemic.

One of the more important insights to come out of this study is that significant differences exist across the province in terms of vulnerability to disease and the impact that public health policies will have on the economies of these regions. As a result, the first policy recommendation is the following:

1) Public health policies should be implemented at a regional level. Even within the North, large variations exist, and policies should recognize and adapt to the unique circumstances of each community.

Province-wide policies that fail to recognize that outbreaks happen at a community level will lead to unnecessary shutdowns in some communities and premature openings in others. We note that regional approaches do come with some challenges, as linkages exist between regions. However, this might be a larger concern in Southern Ontario, where increased population density leads to more linkages between regions than in the North.

It is also clear that certain regions of the province have a larger share of more vulnerable populations. Vulnerability can be measured by different demographic characteristics, the ability to work remotely, and the health resources available in the region. A community with older residents, those who cannot work from home, and who lack good local health resources are more vulnerable. Accordingly, our second recommendation is as follows:

2) The distribution of vaccines and other health resources should be undertaken with consideration of the vulnerabilities of a particular community. More vulnerable communities would benefit from priority access to these resources.

Although Northern Ontario does have an older population, this is balanced by having more initial health resources. It is not clear if the ability to work from home is greater for those in the North than in the South.

Employment recovered from the shutdowns much more quickly than we typically would expect from a recession. Although we cannot comment on the effectiveness of shutdowns in stopping the spread of the virus, the resulting economic impact is clear: it generally seems to have been short-lived, and labour markets recovered very quickly. This leads to our third policy recommendation.

3) Additional employment support following a shutdown can be limited in time, as labour markets appear to recover quickly.

If a shutdown is necessary, the government should consider that there will be severe economic effects in terms of lost jobs and income. The shorter the shutdown, the quicker the recovery (and the less that needs to be spent on income supports, etc.). If an outbreak does occur, a lockdown can be implemented quickly and sharply to curtail the spread, following by reopening. There is a balancing act between a premature shutdown and one that is not implemented quickly enough: closing down too early comes with high economic costs; shutting down too late can come with high health costs.

Some caveats should be added here. First, the number of unemployed people in the economy is still somewhat high. There were over 150,000 more unemployed people in Ontario in September 2021 than in January 2020. Those who are unemployed also are tending to remain unemployed for longer. The share of the unemployed who had remained in that state for more than half a year increased from around 15 per cent prior to the pandemic to 30 per cent by September 2021. So, although the labour market as a whole appears to be robust, there are certainly those within it who might continue to require additional supports.

Turning now to look at the recovery from the pandemic, the first thing to consider is that Ontario had largely recovered in terms of employment by summer 2021; Northern Ontario was lagging behind the rest of the province but on a trajectory to full recovery. Still, there are concerns moving forward for Northern Ontario, and our fourth and fifth policy recommendations are based on the asymmetric effects of the pandemic within the province and within Northern Ontario itself.

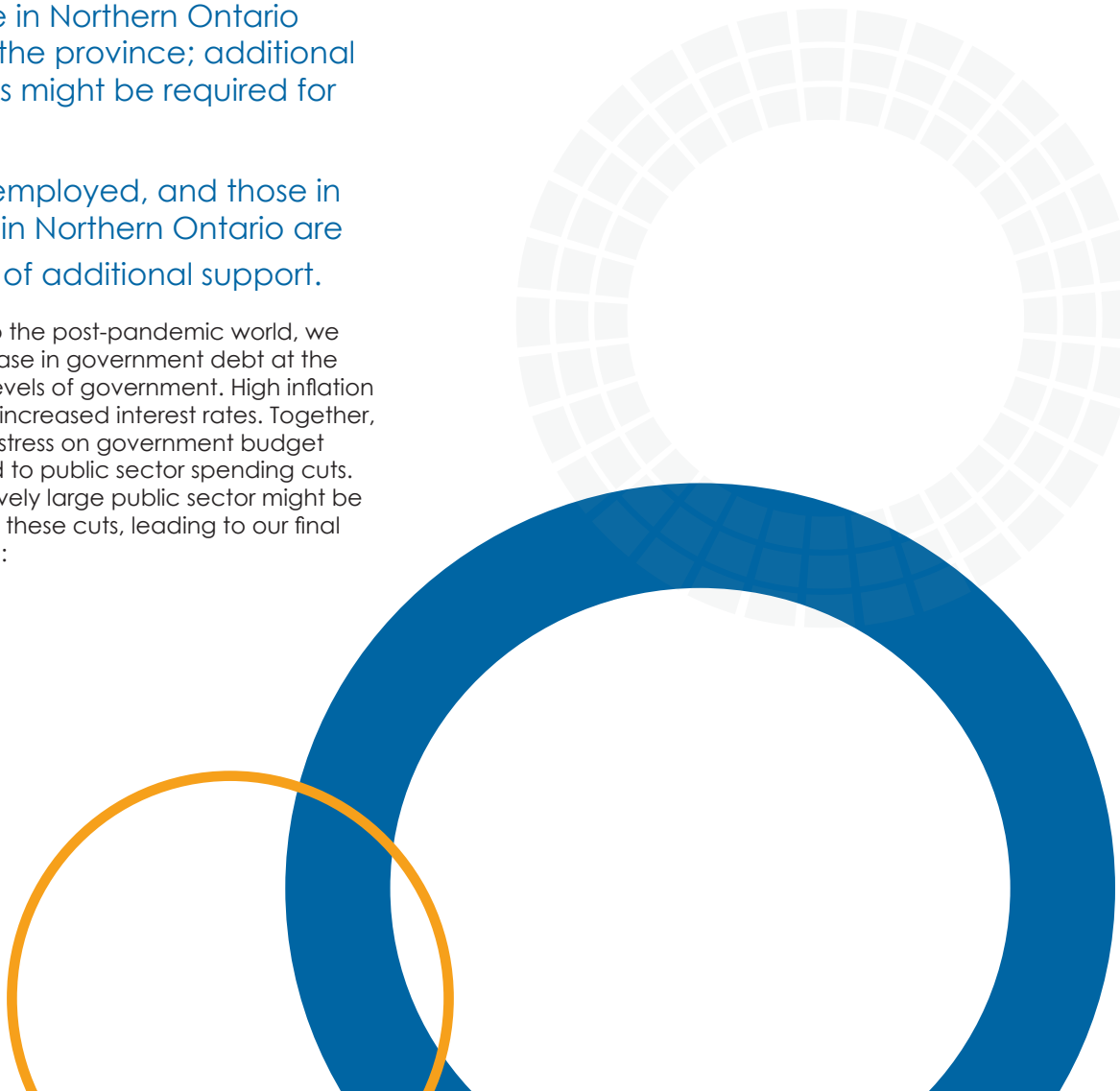
4) The pandemic has affected employment more in Northern Ontario than in the rest of the province; additional short-term supports might be required for the region.

5) Males, the self-employed, and those in the private sector in Northern Ontario are in particular need of additional support.

Finally, looking ahead to the post-pandemic world, we have seen a large increase in government debt at the provincial and federal levels of government. High inflation might be a precursor to increased interest rates. Together, these will put increased stress on government budget positions and might lead to public sector spending cuts. Northern Ontario's relatively large public sector might be hit disproportionately by these cuts, leading to our final policy recommendation:

6) Future public spending cuts should consider the disproportionately negative effect they will have on Northern Ontario, a region already characterized by relatively low incomes.

The pandemic has had a large impact on the economy of Ontario. The effects varied across regions, and going forward these regional differences should be acknowledged and accounted for. This paper provides an initial framework for doing so, but future research should be undertaken to gain a more complete understanding of these differences and the impact they have.



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