

INSTITUT DES POLITIQUES



Human Capital Series

Dr. Bahktiar Moazzami

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Northern Policy Institute is Northern Ontario's independent think tank. We perform research, collect and disseminate evidence, and identify policy opportunities to support the growth of sustainable Northern Communities. Our operations are located in Thunder Bay and Sudbury. We seek to enhance Northern Ontario's capacity to take the lead position on socio-economic policy that impacts Northern Ontario, Ontario, and Canada as a whole.

About the Series

This Human Capital Series is an update of an earlier series published in partnership with Northern Ontario Workforce Planning.

Workforce Planning Ontario is a network of 26 Workforce Planning Boards covering four regions across the province. Workforce Planning Boards gather intelligence on local labour market supply and demand, and work in partnership with employers, employment services, educators, researchers, economic development, government and other stakeholders to identify, understand and address labour market issues. This includes supporting and coordinating local responses to meet current and emerging workforce needs.

Given the unique geography and labour market issues that impact Northern Ontario, all 6 planning boards in the north have collaborated to form Northern Ontario Workforce Planning. They include: Algoma Workforce Investment Corporation (AWIC); Far Northeast Training Board (FNETB); The Labour Market Group (LMG); Northwest Training and Adjustment Board (NTAB); North Superior Workforce Planning Board (NSWPB); and Workforce Planning for Sudbury & Manitoulin (WPSM). FNETB and NSWPB are currently pilot sites for Local Employment Planning Councils (LEPC).

The objective of this series is to examine past and present trends in each Northern Ontario Census District and to forecast future challenges and opportunities. The author examines demographic trends as well as the labour market, including human capital composition, employment trends, the future occupational demand of the employed workforce, trends in industrial workforce composition of goods-producing and services-producing sectors, as well as labour income trends and gross domestic product (GDP).

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

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About the Author

Dr. Bahktiar Moazzami



Dr. Moazzami has taught Economics and Econometrics at Lakehead University since 1988. He is well known for his research activities particularly related to Northern Ontario.

He has written many reports on Northern Ontario's economic development challenges and opportunities. He was commissioned by the Ministry of Northern Development and Mines to undertake a comprehensive study of Northern Ontario's economy as a part of the research conducted for the Growth Plan for Northern Ontario. Included in the study were the identification of growing, declining and emerging industrial clusters in the region.

Professor Moazzami has also written extensively on Northern Ontario's Indigenous people and Northern Indigenous economy. Dr. Moazzami's expertise and influence reaches beyond Lakehead University and Northern Ontario. He has been a regular guest speaker at the University of Waterloo's Economic Development Program.

Executive Summary

Northwestern Ontario covers approximately 526,478 square kilometers and recorded a population of 231,691 in 2016. Increasing levels of out-migration by the working-age labor force, declining fertility rates, and lower levels of immigration have resulted in an age distribution of the population in Northwestern Ontario that is different from that of Ontario. These demographic changes have a significant impact on social and economic conditions in the region. The population will continue to age in the foreseeable future, with implications for healthcare costs, supply of labour, production capacity, and the ability of the Northwestern Districts to remain economically viable. The purpose of this report is to analyze demographic and labour market trends in Northwestern Ontario and Kenora District. Both past and current trends are examined, as well as future projections. This report is an update to a previous report published in 2017 but with updated information using 2016 census data, as well as additional sections including sector-specific projections for future labour market demand.

Key Findings

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Even though the population in Kenora District has fluctuated over time from 1991 to 2016, its population, generally, has increased from 58,748 in 1991 to 65,533 in 2016. The city of Kenora is the second most populated city in Northwestern Ontario.

The percentage of individuals age 65 years and older has grown from 9.5 per cent to 13.7 per cent over five census periods. All the while the share of individuals age 20 years and younger decreased from 33.8 per cent to 29.4 per cent. In 2016, the indigenous population accounted for 48.5 per cent of the total population in Kenora District, most of whom lived on reserves. The number of immigrants in Kenora rose from 2,330 in 2011 to 2,565 in 2016. Like Rainy River District, the majority of the population lived in rural areas in Kenora District, 77.1 per cent to be exact. The remaining 22.9 per cent lived in urban centres.

The population in the Kenora District is expected to grow in the next three decades from 72, 393 in 2019 to 77, 893 in 2041. It is also projected that the indigenous population will have a 26.2 per cent growth rate from 2015 to 2030.

However, the increasing population did not ameliorate the shrink in the labour market. It is shown that the participation rate among men in Kenora District dropped from 79.8 per cent to 71.6 per cent, and the participation rate for women went down 1 per cent between 2001 and 2016. A similar trend was observed for the employment rate.

In Kenora, 48.0 per cent of the labour force has postsecondary credentials. This percentage is lower among the indigenous population, with 30.8 per cent of the workforce containing postsecondary credentials. Lower levels of educational achievement within Kenora has resulted in higher rates of unemployment when compared to the provincial rates for those who have a high school diploma or less, and trade diplomas.

Recommendations:

Respond to the needs of the Indigenous population

Among the three districts in Northwestern Ontario, Kenora District has the highest indigenous population. However, the education level among its indigenous population is the lowest out of all districts. Given the fact that 60 per cent of working age Indigenous men and 57.3 per cent of working age Indigenous women are participating in the labour market, and less than half are employed, addressing issues concerning employment and education become pertinent for local economic growth.

Recruit youth to care for the elderly

Projections show a Healthcare cost/demand increase of approximately 39% for the Kenora District by 2041. The district's population cohort 65 years and over is projected to grow significantly in the coming years. The district can harness these trends to build upon the already growing healthcare and social assistance sectors, while recruiting more youth to the region to service this demographic in the coming years.

A rural knowledge economy and rural workforce requires infrastructure

Over three-quarters of the District of Kenora's population live in rural areas. Moreover, the rural population increased between 2011 and 2016, while the urban population declined slightly. In a knowledge and service-based economy, this settlement pattern is only sustainable if high speed internet access and other infrastructure (roads, rail, port, airport) are at the highest level. Such investment not only assures access to the global economy, but also contributes to higher human capital indices for the population as they are more likely to achieve better health and education outcomes if they can actually access those services.

Introduction

The objective of this report is to examine past and present trends and characteristics in the economy of Kenora District (hereafter also referred to as Kenora and not to be confused with the town of Kenora) and to forecast its future challenges and opportunities. We first examine population trends in Kenora and Northwestern Ontario. Then, we study the district's labour market. This includes its human capital composition; employment trends; the shifting occupational composition of the employed workforce; the shifting of the district's industrial composition from goods-producing to services-producing sectors; the declining share of the private sector; the district's rising dependency on the public sector; and the change in labour income and gross domestic product (GDP). The aging population and its impact on future demand for healthcare and education service providers are also examined. Finally, the report estimates the impact of an aging population on demand for workers in trade occupations in the district.

The report begins by examining demographic change in Kenora over the past three decades. We find that the district's population has increased by approximately 11.5 per cent between 1991 and 2016. We focus on three segments of the regional population, namely Indigenous, Francophone and Immigrants. The study looks ahead and provides projections for total and Indigenous populations of Kenora District between 2015 and 2030. We find that the Indigenous population is the fastest growing segment of the regional population. From these population projections, the study estimates future trends in the size and composition of the regional labour force. The impact of migration flows on the regional population is also discussed.

The report also examines population trends in urban and rural areas. We find that approximately 22.9 per cent of Kenora's population live in urban areas. The rest (77.1 per cent) live in rural areas. The majority (90.1 per cent) of the Indigenous population live in rural areas. These are mainly on-reserve Indigenous peoples. Approximately 9.9 per cent of the Indigenous population live in urban centres.

The next part of the study examines labour market trends, including participation, employment, and unemployment rates among various population groups between 2001 and 2016. Using demographic changes as well as labour market indicators, the study forecasts the size and composition of the future labour force in the Kenora district.

In the section that follows, the study defines and quantitatively measures the human capital composition of Kenora's workforce in the coming years. This section also discusses the implications of the growing application of technology in the production process and, accordingly, the future skill requirements of the workforce.

The report subsequently looks at the consequences of shifting the composition of the employed labour force in the district from goods-producing, which is dominated by private businesses, to services-producing, which is predominantly financed by the public sector. The study also examines the shifting occupational composition of the employed workforce, and the implication thereof for total employment income and GDP in Kenora District.

The study concludes by looking ahead and examining the future demand for healthcare and education service providers and for skilled trades workers in the coming years.

Data Sources:

The data used in this report are based on detailed information regarding individual census subdivisions (CSDs) in Kenora District and Northwestern Ontario obtained through special tabulations from Statistics Canada. We have also used population forecasts based on data made available by the Ontario Ministry of Finance. Some of the data displayed below may differ slightly from census population data, in instances where a custom tabulation was used to demonstrate unique characteristics of the target geography. In these instances, the discrepancies are due to the custom tables being based on 25% sample data, as oppose to 100% population data.

Population Groups Studied

The report provides information on the following four population groups:

- The total population;
- The Francophone population, defined as individuals who report their mother tongue to be French;
- The Indigenous population, defined by Statistics Canada as persons who reported identifying with at least one Indigenous group – that is, North American Indian, Métis, or Inuit – and/or those who reported being a Treaty Indian or a registered Indian, as defined by the Indian Act, and/ or those who reported they were members of an Indian band or First Nation;
- The immigrant population, defined as persons who are, or have ever been, landed immigrants in Canada.

The Geographical Specification of Northern Ontario

Northern Ontario is subdivided into the Northwest and the Northeast Economic Regions. The three most western census divisions, commonly known as districts – namely Rainy River, Kenora and Thunder Bay – constitute Northwestern Ontario, which is also referred to as the Northwest Economic Region. The region that lies north and east of lakes Superior and Huron constitutes Northeastern Ontario, which is also referred to as the Northeast Economic Region. It includes the following census divisions: Cochrane, Timiskaming, Algoma, Sudbury, Nipissing, Manitoulin, Parry Sound, and Greater Sudbury. The federal government and FedNor also include Muskoka District in their definition of Northeastern Ontario. However, the provincial government removed the district of Muskoka from the jurisdictional area of the Ministry of Northern Development and Mines and the Northern Ontario Heritage Fund Corporation in 2004. It has continued to include Parry Sound as a Northern Ontario division.

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Demographic Change in Northwestern Ontario: The Past Three Decades

Demographic Trends in Northwestern Ontario

Northwestern Ontario covers more than 526,478 square kilometres, almost 57.9 per cent of the province's total area, while accounting for only 1.72 per cent of Ontario's total population. With a population density of 0.4 persons per square kilometre, Northwestern Ontario is the province's most sparsely populated region.¹

Northwestern Ontario consists of the districts of Thunder Bay, Kenora, and Rainy River. Major communities in the region include Thunder Bay, Kenora, Dryden, Fort Frances, Sioux Lookout, Greenstone, Red Lake, Marathon, and Atikokan, as well as several dozen that are First Nations, Métis, and Inuit. Approximately 52.3 per cent of the region's entire population live in the Thunder Bay Census Metropolitan Area (CMA). Aside from the city of Thunder Bay, Kenora is the only other municipality in the entire region with a population greater than 10,000 people.

According to Statistics Canada's census of population, Northwestern Ontario's population grew from 231,378 in 1986 to 244,117 in 1996, but it declined to 234,771 in 2001 and 231,691 in 2016 (Figure 1). There appears to have been some population growth between 2011 and 2016, though incomplete data means the trend is difficult to gauge with precision.² The major population change has been related to the size of the Indigenous population, which increased from 38,225 in 2001 to 41,600 in 2011, and to 58,950 in 2016. The rise in the Indigenous population relates to a higher fertility rate as well as increased participation in the census.

¹On average, the population density equals 3.7 persons per square kilometre in Canada. It equals 47.6 persons per square kilometre in Thunder Bay CMA, compared to 249.58 persons per square kilometre in all CMAs in-Canada.

²In 2011, a series of wild fires prevented 13 First Nations in Kenora CD from being enumerated at census time. A special collection later that year found there were 8,520 people in these communities, though these totals are not included in the census figures for 2011. Pikangikum, one of the largest First Nations in the region, was not enumerated in 2016 due to 'other' reasons. Their 2011 population count was 2,280. If they experienced the same growth rate from 2011 to 2016 as 2006 to 2011, their population would be closer to 2,500.

Heritage Canadian Pacific Railway Station, Kenora ON



Figure 1: Population Trends in Northwestern Ontario

Source: Statistics Canada, Census of Population, various issues

Northwestern Ontario's share of the provincial population declined from 2.54 per cent in 1986 to 2.39 per cent in 1991, 2.06 per cent in 2001, 1.74 per cent in 2011, and 1.72 per cent in 2016. The declining population share has happened despite the fact the region has a higher total fertility rate than the provincial and the Canadian rates. The total fertility rate is defined as the average number of children that a woman will have during her lifetime. In Canada, the total fertility rate equaled 1.61 in 2011, compared with 1.55 in Ontario and 1.77 in Northwestern Ontario (Figure 2).



Figure 2: Fertility Rate by Age in Northwestern Ontario, Ontario and Canada in 2011

Statistics Canada, 2011 National Household Survey, special tabulation

The higher fertility rate in Northwestern Ontario compared with Ontario suggests that the declining size and share of the region's population are not due to natural population change. In fact, the data suggest that the number of births exceeded the number of deaths in Northwestern Ontario between 1987 and 2007. However, the level of natural increase has been declining in Northwestern Ontario. In fact, Kenora District experienced more deaths than births after 2005, further adding to the population decline in that region. The declining natural population increase is due to a gradual increase in the number of deaths compared with births, which is the result of three factors. The first factor is the aging of the population, which results in a greater share of the population in higher age categories and fewer women in childbearing age categories. The second factor relates to fertility rates that continue to be significantly below the generational replacement rate of 2.1. The third factor is the out-migration of women in childbearing age categories from Northwestern Ontario.

Population Trends in Kenora District & Northwestern Ontario

Kenora District covers 407,268 square kilometres and recorded a population of 65,533 in 2016. It has a population density of 0.2 persons per square kilometre, which is well below that of Ontario (14.8). According to Statistics Canada's Census of Population, Kenora's population rose from 58,748 in 1991 to 65,533 in 2016 – a 11.5 per cent increase (Figure 3). Lower regional population in 2011 is due to the incomplete enumeration of the Indigenous population, who account for approximately 48.5 per cent of the district's population. The Ontario Ministry of Finance reports that the 2011 National Household Survey's population estimates for Kenora District were approximately 12,000 below the actual population due to net undercoverage by the census, in particular the Indigenous population in the Kenora District.³



Figure 3: Population Trends in Kenora District

Source: Statistics Canada, various censuses, custom tabulation

Most regions in Northwestern Ontario experienced population declines during the past 30 to 40 years (Table 1). Declining

population trends can also be observed in almost major townships, towns, and cities in Northwestern Ontario (Table 1).

³Source: Ontario Ministry of Finance, "Ontario Population Projections Update, 2017-2041," Toronto, 2014

Region	1996	2001	2006	2011	2016
Thunder Bay City	113,662	109,016	109,140	108,359	107,909
Kenora City	10,063	15,838	15,177	15,348	15,096
Fort Frances Town	8,790	8,315	8,103	7,952	7,739
Dryden City	6,711	8,198	8,195	7,617	7,749
Sioux Lookout Town	5,165	5,336	5,183	5,038	5,272
Greenstone MU	6,530	5,662	4,906	4,725	4,636
Red Lake Town	4,778	4,233	4,526	4,670	4,107
Marathon Town	4,791	4,416	3,863	3,350	3,273
Atikokan Town	4,043	3,632	3,230	2,787	2,753
Manitouwadge TP	3,395	2,949	2,300	2,105	1,937
Nipigon TP	2,210	1,964	1,752	1,630	1,642
Terrace Bay TP	2,324	1,950	1,625	1,470	1,611
Schreiber TP	1,788	1,448	901	1,125	1,059
Red Rock TP	1,258	1,233	1,063	940	895
Dorion TP	472	442	379	340	316

Table 1: Population Trends in Major Northwestern Ontario Regions

Source: Statistics Canada, various censuses, custom tabulation

Various factors explain changing regional population. First, Northwestern Ontario has been receiving disproportionately low rates of immigration. Net immigration is defined as the number of Immigrants to a region minus those who left. Northwestern Ontario experienced negative net immigration while Kenora District experienced a slightly positive immigration rate between 2001 and 2016. Low or negative levels of immigration are an important factor influencing the declining population. The second and perhaps more important factor relates to out-migration.

Figure 4a shows that Northwestern Ontario and Kenora District experienced significant interprovincial as well as intraprovincial out-migration especially during the mid-2000s due to the collapse of the forestry industry and related manufacturing industries. Interprovincial migration refers to the movement of population from one province to another. Over the past 30 years, net interprovincial migration into Ontario averaged 2,700 per year. However, this includes the abnormally large inflows from Quebec recorded in the years following the 1980 referendum. When those inflows are exclude, long-term net interprovincial migration to Ontario is modestly negative.⁴ Figure 4a shows that Northwestern Ontario and Kenora District experienced positive interprovincial migration between 2016 and 2017. Intraprovincial migration refers to the movement of population from one census division to another within the province. Northwestern Ontario and Kenora experienced negative intraprovincial migration in recent years.

Figure 4b shows that the majority of those who choose to move are between the ages of 20 and 34 followed by those ages 35 to 64. What are the reasons for the declining outmigration from Northwestern Ontario? Can it be related to the age profile of the movers? Can it be related to the aging population, resulting in a smaller share of the population in the prime moving demographic?

⁴ Ontario Ministry of Finance, Ontario Population Projections Update based on the 2011 census 2017-2041 Ontario and Its 49 census divisions.







Figure 4b: Net Migration Flows



Source: Author's calculations based on Statistics Canada, Missing Intraprovincial Migration, CANSIM database, tables 051-0063

Aging of the Population in Kenora District

In addition to out-migration of youth and low levels of immigration in the district, rising life expectancy has resulted in the aging of Kenora's population. At the same time, the large baby-boom generation, born in the two decades following the Second World War, is now beginning to retire. The generations that followed were much smaller, primarily due to a declining fertility rate. As a result, the share of individuals in the district younger than age 20 has declined from 33.8 per cent in 1991 to 29.4 per cent in 2016, while the share of seniors rose from 9.5 per cent in 1991 to 13.7 per cent in 2016 (Figure 5). During the same period, the share of individuals between the ages of 20 and 44 declined from 39.3 per cent to 30.5 per cent, while the share of individuals ages 45 to 64 increased from 17.4 per cent to 26.3 per

cent. We note that Kenora's population is younger than Northwestern Ontario's population due to a larger share of the Indigenous population in the district. For example, approximately 23.6 per cent of Northwestern Ontario's population is younger than age 20, compared with 29.4 per cent in Kenora. Similarly, approximately 13.7 per cent of Kenora's population is older than 65, compared with 17.1 per cent in Northwestern Ontario.

These demographic changes have a significant impact on social and economic conditions in the district. As a result, the population will continue to age in the foreseeable future, with implications for healthcare costs, supply of labour, production capacity, and the ability of the district to stay economically viable.



Figure 5: Aging of Kenora District's Population

Source: Author's calculation based on Statistics Canada, Census of Population, various issues

Linguistic and Cultural Diversity of the Population in Kenora District & Northwestern Ontario

Another aspect of demographic change in Northwestern Ontario relates to the cultural and linguistic diversity of the population (Figure 6). The total Francophone population in Northwestern Ontario declined from 8,330 in 2001 to 6,750 in 2011, but rose marginally to 6,975 in 2016. The Francophone population in Kenora rose from 1,185 in 2011 to 1,310 in 2016.



Figure 6: Linguistic & Cultural Diversity in Northwestern Ontario and Kenora District in 2016

The total Indigenous population in Northwestern Ontario increased from 38,225 in 2001 to 41,600 in 2011 and to 58,950 in 2016. The total Indigenous population in Kenora District increased from 19,985 in 2011 to 31,800 in 2016. Indigenous peoples represent approximately 48.5 per cent of the total population in Kenora District in 2016. The high Indigenous population growth is not solely due to the natural demographic process. According to Statistics Canada, the traditional demographic components of growth (fertility, mortality, and migration) are not the only factors that have affected the growth of the Indigenous population in Canada. Another phenomenon that has also affected the size, growth, and composition of the Indigenous population in recent years is referred to as a "change in reporting" or "ethnic mobility." Ethnic mobility refers to people changing the reporting of their Indigenous affiliations from a non-Indigenous identity to an Indigenous identity from one census to the next.⁵ The passage of Bill C31 in 1986 has been a factor in this ethnic mobility.

Additionally, there has been a higher participation in the census in recent years. Statistics Canada reports that some Indigenous reserves and settlements did not participate in the census because enumeration was not permitted, or it was interrupted before completion. In 2006, there were 22 incompletely enumerated reserves, down from 30 in 2001 and 77 in 1996.⁶ Other factors explaining the higher Indigenous population growth include better and more accessible health care leading to a lower mortality rate and a decline in infant mortality.

Finally, one of the main factors explaining the rising share of the Indigenous population relates to the fertility rate. The rate among Indigenous women has been significantly higher than the regional average. A report by the Ontario Ministry of Health states that: "Fertility is almost exclusively the source of population growth for Aboriginal peoples in Ontario. Provincially, some in-migration of Aboriginal people takes place from other provinces but does not substantially impact population dynamics among Ontario's Aboriginal peoples although the impact may be greater in some urban areas. Although minimum information is directly available on Aboriginal fertility in Canada, INAC (Indian and Northern Affairs Canada) has reported a total fertility rate (TFR), which is the number of children a woman would have under current prevailing fertility rates, of 2.9 children in 2000 for Registered Indian women. In the same year, the TFR for Canadian women was approximately half that rate at 1.5 children."7

In general, the Indigenous population is much younger than the non-Indigenous population. Therefore, Indigenous peoples will be entering the labour market in large numbers as the non-Indigenous population retires. Thus, Indigenous peoples will represent a significant share of the district's workforce in the coming years.

The Immigrant population in Northwestern Ontario declined from 20,030 in 2001 to 15,285 in 2016. The majority (76.6 per cent) of this population live in Thunder Bay District. The Immigrant population in Kenora rose from 2,330 in 2011 to 2,565 in 2016.

Source: Author's calculation based on Statistics Canada, Census of Population, various issues

⁵ A. Signer and Rosalinda Costa, "Aboriginal Conditions in Census Metropolitan Areas, 1981-2001," Statistics Canada, 2005.

⁶ Ibid

⁷ Ontario Ministry of Health and Long-Term Care, Health Analytic Branch, "First Nations Peoples in Ontario: A Demographic Portrait," January 2009, 15.

Population Trends in Urban & Rural Northwestern Ontario & Kenora District

There are many ways to define rural and urban areas. The term rural is intuitively understood as an area with low population concentration dispersed at a low density. On the other hand, the term urban is often understood as a place with high population concentration at a high density. This intuitive understanding is the basis for Statistics Canada's approach to definig an urban area as having a population of at least 1,000 and a density of 400 or more people per square kilometre.⁸ Statistics Canada offers an alternative and perhaps more appropriate definition of rural areas as "rural and small towns" as opposed to "large urban centres." This definition is based on the commuting flows between different areas. It defines urban regions as including all census metropolitan areas (CMAs) and census agalomerations (CAs). Both CMAs and CAs include the total population of neighbouring census subdivisions (CSDs). Based on the above definition of an urban region, rural and small town (RST) areas are defined as non-CMA/CA areas. RSTs are further divided into four types of zones based on the degree of influence that large urban centres have on them.⁹ This is measured by the percentage of people who commute to work in an urban centre.

Using the above definition, Figure 7 shows the distribution of Kenora District's population among rural and urban areas. Approximately 77.1 per cent of Kenora's population live in rural areas. The rest (22.9 per cent) live in urban centres. The majority (90.1 per cent) of the Indigenous population live in rural areas. These are mostly on-reserve Indigenous peoples. Approximately 23.2 per cent of the Francophone and 30.1 per cent of Immigrant populations live in urban centres. The rest live in rural regions designated as having a moderate or weak link to urban centres.



Figure 7: Population in Urban and Rural Areas in Kenora District



Source: Author's calculation based on Statistics Canada, 2011 NHS and 2016 census, special tabulation

As mentioned above, Statistics Canada classifies various census subdivisions (CSDs) within provinces that are outside CMAs and CAs into one of four metropolitan influenced zones (MIZ) according to the degree of influence (strong, moderate, weak or no influence) that the CMAs or CAs have on them. The degree of influence is measured by the percentage of a CSD's employed labour force who commute to work in any CMA or CA (e.g., 30 per cent for strong MIZ, between 5 per cent and 30 per cent for moderate MIZ, between 0 and 5 per cent for weak MIZ).

⁸ One problem with this definition is that it can lead to misleading identification of rural and urban areas. Based on this definition, Attawapiskat Indian Reserve in James Bay area is classified as an urban area

⁹ For a definition of various zones see Roland Beshiri and Jiaosheng He, Rural and Small Town Canada Analysis Bulletin 8, No. 2 (June 2009): Catalogue No. 21-006-X.

Demographic Change in Kenora District: The Next Three Decades

This part of the study provides population projections for the district of Kenora, both for the total population and for the Indigenous population. Estimates for the former are based on projections by the Ontario Ministry of Finance. Estimates for the latter are based on Northern Ontario's Demographic Model, developed by the author.

A few words regarding the Ministry of Finance projections are in order. First, the Ministry's 2011 population estimates were approximately 12,000 greater than those reported by the 2011 census, having been adjusted for net undercoverage by the census, particularly the Indigenous population in the Kenora District.

Second, the Ministry's estimated parameters for fertility at the census division level were modelled to maintain regional differences. The census division-to-province ratio for mean age at fertility in the most recent period was assumed to remain constant.

Third, the Ministry's mortality estimates at the census division level were developed using a ratio methodology. The government applied the Ontario-level mortality structure to each census division's age structure during the most recent three years of comparable data and calculated the expected number of deaths. It then compared these estimates to the actual annual number of deaths in each census division during this period to create ratios of actualto-expected numbers of deaths. These ratios were then multiplied by provincial age-specific death rates to create death rates for each census division. These rates were then applied to the corresponding census division populations to derive the number of deaths for each census division.

Based on the Ministry's projections, Kenora District's total population is expected to increase from 71,272 in 2017 to 77,893 in 2041 (Table 2). The continuing aging of the district's population is also evident from the Ministry of Finance's projections (Figure 8 and Table 2), with the share of individuals younger than age 20 expected to decline from 29.2 per cent in 2017 to 27.3 per cent in 2041. The share of working-age people (ages 20 to 64) is projected to decline from 56.9 per cent in 2017 to 52.2 per cent in 2041, and the share of seniors is expected to rise from 13.9 per cent to 20.5 per cent. As the next part of the study will show, the aging of the Kenora population has important implications for the future availability of a qualified labour force, healthcare costs, and education funding in the district.

LAKE OF THE WOODS

¹⁰ For a complete discussion of this model, see B. Moazzami "It's What You Know (and Where You Can Go): Human Capital and Agglomeration Effects on Demographic Trends in Northern Ontario," (Thunder Bay: Northern Policy Institute, 2015).

Lake of the Woods Brewing Company - Lake of the Woods

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Year	019	2044	4564	65+	Total
2017	20,805	22,554	18,014	9,899	71,272
2018	20,910	22,768	17,946	10,253	71,877
2019	20,974	23,000	17,846	10,573	72,393
2020	21,029	23,161	17,689	10,960	72,839
2021	21,065	23,315	17,542	11,285	73,207
2022	21,109	23,428	17,286	11,672	73,495
2023	21,149	23,503	17,003	12,121	73,776
2024	21,208	23,502	16,814	12,523	74,047
2025	21,278	23,484	16,625	12,921	74,308
2026	21,353	23,459	16,398	13,351	74,561
2027	21,319	23,565	16,195	13,728	74,807
2028	21,312	23,614	15,986	14,133	75,045
2029	21,270	23,741	15,780	14,486	75,277
2030	21,227	23,830	15,680	14,767	75,504
2031	21,117	23,961	15,644	15,003	75,725
2032	21,149	23,951	15,675	15,170	75,945
2033	21,132	23,996	15,745	15,290	76,163
2034	21,134	23,992	15,845	15,409	76,380
2035	21,129	23,937	15,996	15,534	76,596
2036	21,119	23,899	16,159	15,633	76,810
2037	21,089	23,866	16,356	15,713	77,024
2038	21,129	23,789	16,518	15,803	77,239
2039	21,168	23,724	16,710	15,854	77,456
2040	21,218	23,666	16,870	15,920	77,674
2041	21,273	23,617	17,050	15,953	77,893

Table 2: Population Projections by Age Group, Kenora District, 2017-2041

Source: Author's calculations based on the Ministry of Finance population projections



Figure 8: Population Projections by Age Group, Kenora District, 2017-2041

Source: Author's calculations based on the Ministry of Finance population projections

Indigenous Population Projection

In making projections for the Indigenous population in Kenora District to 2030, we assume zero net migration of Indigenous peoples over the forecast period, since the existing evidence suggests there is relatively low mobility among the Indigenous population in the district.¹⁰ The fertility rate for the Indigenous population is assumed equal to that of rural Northwestern Ontario, and the mortality rate is assumed to be equal to that of the general population of Canada based on the 2011 census.

Based on these assumptions, Table 3 and Figure 9 show that the Indigenous population in Kenora District is expected to increase from 31,805 in 2015 to 39,221 in 2030 – a growth rate of approximately 23.3 per cent. The number of individuals younger than age 20 is expected to increase from 13,295 in 2015 to 14,232 in 2030. The number of working-age Indigenous peoples is expected to rise from 16,670 in 2015 to 21,037 in 2030 – an increase of approximately 26.2 per cent. The number of individuals age 65 and over is expected to rise from 1,840 in 2015 to 3,952 in 2030.

The Indigenous population's share of the total district's population is expected to increase from 49.2 per cent in 2015 to 51.9 per cent in 2030. The share of working-age Indigenous peoples (those ages 20 to 64) is expected to increase from 45.4 per cent in 2015 to 53.2 per cent in 2030.

¹⁰ According to the 2016 census, Aboriginal Population Profile, interprovincial migration among the Indigenous population during a one-year period (2015-2016) was only 1.1 per cent. Also, intraprovincial migration during the same one-year period was 5 per cent. When they moved, they mostly moved within their census division.

Age Group	2015	2020	2025	2030
0 - 4 years	3,445	3,348	3,550	3,910
5 - 9 years	3,675	3,488	3,330	3,531
10 - 14 years	3,100	3,520	3,481	3,325
15 - 19 years	3,075	3,089	3,505	3,467
20 - 24 years	2,625	3,011	3,061	3,474
25 - 29 years	2,335	2,549	2,978	3,028
30 - 34 years	1,985	2,183	2,525	2,950
35 - 39 years	1,930	1,998	2,160	2,498
40 - 44 years	1,825	1,892	1,975	2,136
45 - 49 years	1,695	1,724	1,858	1,940
50 - 54 years	1,715	1,716	1,682	1,813
55 - 59 years	1,510	1,642	1,660	1,628
60 - 64 years	1,050	1,348	1,555	1,570
65 - 69 years	795	912	1,245	1,435
70 - 74 years	485	637	807	1,100
75 - 79 years	320	403	533	675
80 + years	240	378	547	742
Total	31,805	33,837	36,452	39,221

Table 3: Projected Indigenous Population, Kenora District, 2015-2030

Source: Author's calculation based on Northern Ontario's population projection model developed by the author.



Figure 9: Population Shares of the Indigenous Population by Age Group

Source: Author's calculation based on Northern Ontario's population projection model developed by the author

Kenora District's Labour Force: Past, Present, and Future Trends

Demographic changes have a direct impact on the supply side of the economy through their influence on the labour force. An aging population and a declining share of working-age people can seriously restrain future economic development unless productivity growth accelerates or steps are taken to increase participation of older workers, youth, and other underrepresented groups in the labour force.

This study has shown that the Indigenous population represents a growing segment of Kenora District's total population and its working-age population. A significant gap exists, however, between the level of educational achievement of Indigenous individuals and that of the general population, resulting in a severe labour market outcome disparity that affects the current and future productive capacity of Kenora's labour force.

Table 4 and Figure 10 show labour market trends among the population ages 15 to 64 in the Kenora District. As the table shows, both the total population and the labour force in the District declined slightly between 2001 and 2016. The labour force participation rate declined among men between 2001 and 2016 but stayed relatively constant among women. The employment rate declined among men but rose among women. The Indigenous population appears to have lower participation and employment rates and a higher unemployment rate compared to other population groups. The on-reserve population has the lowest participation and highest unemployment rates compared to all other groups.

Labour Market Outcome	Men	Men	Men	Women	Women	Women
Kenora District	2001	2011	2016	2001	2011	2016
Total population 15 to 64 years of age	20,185	18,515	20,870	19,610	18,230	20,505
In the labour force	16,100	13,960	14,935	13,680	13,165	14,120
Employed	14,065	12,265	12,860	12,400	12,045	12,775
Unemployed	2,030	1,695	2,075	1,285	1,120	1,350
Not in the labour force	4,085	4,560	5,935	5,925	5,065	6,390
Participation rate	79.8	75.4	71.6	69.8	72.2	68.9
Employment rate	69.7	66.2	61.7	63.2	66.1	62.3
Unemployment rate	12.6	12.1	13.9	9.4	8.5	9.6
Francophone Population	2001	2011	2016	2001	2011	2016
Total population 15 to 64 years of age	595	330	395	405	360	445
In the labour force	510	265	340	310	265	310
Employed	450	255	315	300	260	290
Unemployed	55	15	25	10	0	20
Not in the labour force	90	65	55	95	95	135
Participation rate	85.7	79.1	86.1	75.6	73.6	69.7
Employment rate	76.5	76.1	79.7	74.4	72.2	65.2
Unemployment rate	10.8	3.8	7.4	3.2	3.8	6.5
Immigrant Population	2001	2011	2016	2001	2011	2016

Table 4: Labour Market Trends, Population 15 to 64 Years of Age, Kenora District, 2001-2016

Labour Market Outcome	Men	Men	Men	Women	Women	Women
Total population 15 to 64 years of age	1,025	645	800	1,105	765	805
In the labour force	870	535	630	810	565	630
Employed	840	530	590	785	520	600
Unemployed	30	0	40	30	45	30
Not in the labour force	155	110	170	295	195	170
Participation rate	84.9	82.8	78.7	73.8	73.9	78.3
Employment rate	81.5	82.8	73.7	71	68	74.5
Unemployment rate	4	1.9	6.4	3.7	8.8	4.8
Indigenous Population	2001	2011	2016	2001	2011	2016
Total population 15 to 64 years of age	5,850	6,315	9,845	5,995	6,155	9,880
In the labour force	4,040	4,065	5,915	3,410	3,695	5,660
Employed	3,035	3,145	4,555	2,765	3,110	4,745
Unemployed	1,010	915	1360	635	590	910
Not in the labour force	1,805	2,250	3,935	2,590	2,455	4,225
Participation rate	69.1	64.4	60.1	56.8	60.1	57.3
Employment rate	51.8	49.8	46.3	46.1	50.5	48.0
Unemployment rate	25	22.6	23.0	18.8	15.8	16.1

Source: Author's calculations based on Statistics Canada, 2001 and 2016 censuses, and 2011 NHS, custom tabulation.







Source: Author's calculations based on Statistics Canada, various censuses, custom tabulation

In general, Indigenous peoples tend to underperform in the labour market relative to non-Indigenous peoples. The labour force participation rate among Indigenous peoples is below the regional averages (Table 4). They are seriously underrepresented in the labour force. Their unemployment rates are also significantly higher than the regional averages. In fact, the lower labour force participation rate is partly attributable to the presence of the high unemployment rate among the Indigenous workforce. It is also partly related to the fact that the level of educational attainment of the Indigenous labour force is below the regional average. Records show that per-student education funding of on-reserve Indigenous primary and secondary schools has been significantly lower than the provincial average in Ontario.¹¹ Lack of adequate funding is partly responsible for the lower level of educational achievement of the Indigenous population. We will estimate the human capital composition index for the Indigenous labour force later in this report.

¹¹ Office of the Parliamentary Budget Officer, "Federal Spending on Primary and Secondary Education on First Nations Reserves," December 6, 2016. www.pbo-dpb.gc.ca

Size and Composition of the Future Labour Force

To forecast the future labour force in the Rainy River District, we use detailed population projections along with information regarding participation rates for men and women in different age groups. We have assumed that the participation rates during the projection period stay constant at their 2016 level. Different assumptions regarding the participation rates would alter the labour force estimates, but only to a limited extent. The main determinants of the future labour force are the size and age distribution of the population in each jurisdiction.

Table 5 provides labour supply projections for the Rainy River District. The projections show that the labour force in the district is expected to decline from 9,151 in 2015 to 8,090 in 2030, a decline of approximately 11.6 per cent during the projection period. During the same period, the Indigenous labour force is expected to increase from 2,247 in 2015 to 2,593 in 2030 – a rise of approximately 15.4 per cent. As a result, the share of Indigenous peoples in the total regional labour force is expected to increase from 24.5 per cent in 2015 to 32.1 per cent in 2030. What are the implications of the declining labour force for the future economic performance of Rainy River and Northwestern Ontario? What are the implications of the rising share of the Indigenous labour force? It is known that the level of educational achievement is lower among the Indigenous population. How would this affect the human capital composition of the regional labour force in the coming years? We will answer some of these questions in the next part of this report.

Year	Total Labour Force	Indigenous Labour Force	Indigenous Share (%)
2015	31,418	11,312	36.0
2019	31,572	12,118	38.4
2025	31,225	13,154	42.1
2030	30,915	14,038	45.4

Table 5: Projected Labour Supply, Total and Indigenous, Kenora District

Source: Author's calculations based on his population projections

Productivity and Human Capital Composition of the Workforce in Kenora and Northwestern Ontario

Productivity growth is directly linked to the human capital composition of the workforce. We define human capital as the stock of knowledge, skills, and abilities embodied in individuals that directly affects their level of productivity. Human capital includes skills and knowledge acquired through education and experience. Investing in human capital represents an avenue through which Northwestern Ontario can enhance productivity and minimize the impact of the declining labour force.

In order to estimate the human capital composition of the regional workforce, one needs to specify and measure a

proxy for human capital that also reflects and incorporates a measure of productivity of the workforce in each of the districts in Northwestern Ontario. To obtain such an index, we first estimate a standard earnings model using the 2006 census microdata file.¹² We used data pertaining to all working Canadians between the ages of 15 and 64 who were not attending school and whose employment earnings were greater than \$1,000 and less than \$1 million. Those with less than a high school diploma were the benchmark or reference group. The estimated return to schooling coefficients are shown in Figure 11.

 $^{^{12}}$ The earnings model is as follows: InWage = $\alpha + \Sigma\beta S_i + X_i \delta_i + \epsilon_{i'}$ where S_i is the highest level of schooling, X_i is other control variables (which include age categories, marital status, etc.), and ϵ_i is an error term.



Figure 11: Return to Education in Canada (%)

Source: Author's estimates using 2006 census microdata files

The estimated return to schooling coefficients show the increased earnings, compared with the reference group, associated with different levels of education in Canada. Therefore, they represent the average rate of return to schooling at the national level. For example, obtaining a high school diploma increases a person's earnings by 24.4 per cent above the earnings of those without a high school diploma. Similarly, obtaining a trade or college diploma increases earnings by 27.0 per cent and 44.1 per cent respectively. A university degree increases earnings by an average of approximately 72.6 per cent. The return to schooling estimates reflect higher productivity resulting from an increased level of education. The estimated return to education coefficients increase as the level of schooling rises, reflecting higher earnings commensurate with higher productivity as the level of education increases.

Then, we use the estimated return to schooling coefficients as weights to calculate a weighted average index of the share of individuals with different levels of schooling for various regions.¹³ The estimated index ranges from 100 if none of the area's residents have completed high school to approximately 200 if all residents have obtained a university degree.

The resulting index provides us with an estimate of the total employment and earnings potential in the district based on educational attainment. The index also allows us to effectively compare across different regions. A higher human capital index indicates a higher stock of educational attainment, knowledge, skills, and abilities for the region in question, therefore resulting in higher earnings potential. Results are shown in Figure 12.

The human capital index in Northwestern Ontario is below that of Ontario and Canada. The index is lower for Kenora when compared with regional, provincial, and national averages. The human capital composition of the Indigenous population is generally lower than that of the general population, reflecting a lower level of educational achievement. The index for the working-age Indigenous population in Ontario equals 137.5, which is higher than the indexes for Northwestern Ontario and Kenora's Indigenous populations. The average index for Northwestern Ontario's Indigenous population is approximately 16.2 points lower than that of the total regional population.

¹³The earnings model is as follows: InWage = $\alpha + \Sigma \beta_i S_i + X_i \delta_i + \varepsilon_i$, where S_i is the highest level of schooling, X_i is other control variables (which include age categories, marital status, etc.), and ε_i is an error term.

¹⁴ HCl = exp{[]] i. Si shares), where HCl stands for human capital index, exp stands for exponential, and Si shares stand for share of the population ages 15 to 64 with Si level of education in a given CSD. The formulation of the human capital measure is based on R.E. Hall and C.I. Jones, "Why Do Some Countries Produce So Much More Output per Worker than Others?," Quarterly Journal of Economics 114 (1) (1999): 83–116. Also see Francesco Caselli, "Accounting for Cross-Country Income Differences," unpublished first draft (November 2003).





Source: Author's estimates based on Statistics Canada, 2016 census, special tabulation

A Perfect Storm: Declining Labour Supply and Labour Productivity in Kenora District & Northwestern Ontario

The declining supply of labour and low labour productivity in Northwestern Ontario are only half of the bad news. Recent technological advances and the emergence of the knowledge economy have changed the requirements of the labour market. Various studies suggest that by 2031 approximately 80.0 per cent of the workforce must have postsecondary credentials such as an apprenticeship, or a college or university degree. Currently, 72.5 per cent of new jobs and an average of 70.2 per cent of all jobs require

some postsecondary credential.¹⁴ Based on various studies by the Ontario Ministry of Education, Human Resources and Skills Development Canada, BC Ministry of Skills, Training and Education, Ministry of Advanced Education and Labour Market Development in British Columbia and other government agencies, Miner Management Consultants provides estimates of the percentage of new jobs requiring postsecondary education in the coming years (Figure 13).



Figure 13: Percentage of Jobs Requiring Postsecondary Education

Source: Miner Management Consultants, 'Ontario's Labour Market Future: People without Jobs, Jobs without People', February 2010

¹⁵ R. Miner, "People without Jobs, Jobs without People: Canada's Future Labour Market," (Toronto: Miner Management Consultants, 2010).

What is the actual skill availability of Northwestern Ontario's labour force at the present time? Using the 2016 census and focusing on the prime working-age population ages 25 to 64, Figure 14 shows the percentage of the prime-age regional labour force who have postsecondary credentials. The skill levels of the prime working-age population in Kenora are significantly lower than those of Northwestern Ontario, Ontario, and Canada. The average skill level in Northwestern Ontario is also significantly below the current percentage (70.2) of jobs requiring postsecondary education (Figure 13). Focusing on the prime working-age Indigenous workforce, Figure 14 shows that their level of skills lags behind the current and future job requirements.





Source: Author's calculations based on 2016 census, special tabulations.

Given that the Indigenous labour force will account for a significant share of Northwestern Ontario's future workforce, it is vital to the social and economic viability of the district to adopt education policies that enable this growing segment of the regional labour force to meet the requirements of the future labour market. The starting point would be to provide adequate funding to on-reserve schools to ensure that Indigenous children have the same access to educational services that non-Indigenous pupils have. As mentioned before, various studies show that per-pupil funding is much lower for Indigenous schools than for the non-Indigenous ones in Ontario.

Does the level of skills affect labour market performance (i.e., likelihood of employment, participation, and unemployment rates)? Figure 15 shows the likelihood of participation, employment, and unemployment by highest level of educational attainment among the prime working-age population ages 25 to 64. Persons without a high school diploma have the lowest labour force participation and employment rates. They also experience the highest unemployment rates in all regions. The participation rate increases by 21.1 per cent in Kenora District as the level of education increases to a high school diploma. It rises further by 7.4 per cent when individuals obtain a college certificate or diploma. The same holds true for other jurisdictions. In other words, one potential solution to the declining number and productivity of the region's workforce is to promote higher education either by increasing access for those living in remote regions or by adopting approaches that result in higher completion rates at the secondary and postsecondary levels.

The existing evidence suggests that the individuals who do not have postsecondary credentials have a higher likelihood of non-participation and face a greater probability of unemployment. This will be more so in the coming years. To the extent that the skill level of the workforce in Kenora District is below the estimated skill requirement for emerging occupations, the region will face the challenges of workers whose qualifications do not match the existing jobs and jobs that cannot find qualified workers. Recently, 50 companies in advanced manufacturing, mining, and professional and scientific services were surveyed in Northern Ontario. Of the 50 companies surveyed, 22 had operations in Northern Ontario and other jurisdictions (multilocational) and 28 were multinationals operating in Northern Ontario. Of the 50 firms, 15 had their headquarters in Northern Ontario, 11 were located in Northwestern Ontario and 39 were located in Northeastern Ontario.

¹⁵ Office of the Parliamentary Budget Officer, "Federal Spending on Primary and Secondary Education on First Nations Reserves," Ottawa, Canada, December 6, 2016. www.pbo-dpb.gc.ca

¹⁶ B. Moazzami, HDR Decision Economics Inc. and Oraclepoll Research Limited, "Multi-national and Multi-locational Enterprise Initiative, Survey of Northern Ontario Companies," 2012.



Figure 15: Labour Force Performance by Education (%) (25-64)





Source: Author's calculations based on 2016 census, special tabulations.

When asked to rank barriers or factors negatively affecting their firm's growth and/or investment, companies surveyed typically identified the difficulty of finding qualified employees as their top concern. Approximately 29.0 per cent of multilocational and 24.0 per cent of multinational firms identified it as the main barrier they faced. Finding qualified employees ranked well ahead of transportation costs (11 per cent), government regulations (9 per cent), poor infrastructure (7 per cent), energy costs (7 per cent), and shipping costs (5 per cent). Another report by the Canadian Council of Chief Executives surveyed more than 100 of Canada's largest employers in all industrial sectors and regions of the country in March 2014. More than 70.0 per cent of the companies identified scarcity of skilled workers as the primary barrier to filling available positions.¹⁷

It appears that if the skill levels of the workforce in Kenora District stay constant as skill requirements rise, the district will end up with people without jobs and jobs without people. Even if markets adjust to bring demand and supply of labour into balance, the social impact of having many unemployable people will be enormous.

The Consequences of Shifting the Composition of the Employed Labour Force in Kenora District

The structure of Kenora's workforce is changing due to a population that is simultaneously changing and aging. At the same time, the industrial and occupational composition of the workforce is shifting due to changing market conditions as well as technological shifts. As a result, the size and industrial makeup of the workforce has changed during the past three decades. There has been a continuous shift away from the goods-producing sector, dominated by private businesses, to the service-producing sector, which is predominately publicly funded. Using data from various censuses of Canada, Table 6 and Figure 16 show the changing industrial composition of the employed workforce in Kenora District. We note that as was the case with the population counts, the 2011 National Household survey data related to manufacturing employment in Kenora do not appear to be accurate. Therefore, we focus on other census years when examining long-term trends in Kenora.

Total employment in Kenora District rose from 23,850 in 1986 to 28,590 in 2006, an increase of approximately 20.0 per cent, which represents an annual growth rate of approximately 1.0 per cent. Between 2006 and 2016, total employment declined from 28,590 to 25,635, a decline of approximately 10.3 per cent or 1.0 per cent per year. Almost all sectors of the economy experienced decline in employment except for health care, education, construction, mining, and agriculture, fishing, and hunting. The manufacturing sector experienced the largest loss of employment (1,040) followed by trade (925), other services (745), logging and forestry (475), and accommodation and foodservices. The goods producing sectors of the economy have been experiencing a long-term decline from 7,570 in 1986 to 6,185 in 2006 and to 5,405 in 2016. The serviceproducing sectors of the economy grew between 1986 and 2006 but declined thereafter.

¹⁷The Canadian Council of Chief Executives, "Taking Action for Canada: Jobs and Skills for the 21st Century," (March 2014).

	1986	1991	1996	2001	2006	2011	2016
Goods-Producing Sector	7,570	7,165	7,330	6,575	6,185	4,795	5,405
Agriculture, fishing, and hunting	295	260	310	365	350	210	620
Logging and forestry	1,450	1,105	820	955	815	260	340
Mining and quarrying	1,240	1,160	895	745	1,025	1,145	1,155
Utilities	670	570	845	270	375	290	330
Construction	1,000	1,260	1,470	1,515	1,480	1,920	1,860
Manufacturing	2,915	2,810	2,990	2,725	2,140	970	1,100
Wood industries	625	385	480	650	945	245	405
Paper and Allied industries	1,805	1,875	2,080	1,630	840	420	360
Service-Producing Sector	16,280	19,205	19,390	20,520	22,410	20,260	20,230
Trade	3,455	3,890	3,960	3,800	4,160	3,270	3,235
Transportation & warehousing	1,855	1,725	1,595	1,630	1,690	1,370	1,475
Finance, insurance, real estate and leasing	650	550	750	805	900	705	690
Professional, scientific and technical services	465	460	600	565	625	495	545
Educational services	1,375	1,815	2,075	1,985	2,375	2,110	2,655
Health care and social services	1,905	2,665	3,575	3,545	4,345	4,510	4,785
Accommodation and foodservices	2,670	2,835	2,615	2,870	2,440	1,840	2,010
Other services	1,040	1,085	1,490	2,310	2,505	2,275	1,760
Public administration	2,865	4,180	2,730	3,010	3,370	3,685	3,075
Total Employment	23,850	26,380	26,720	27,090	28,590	25,055	25,635

Table 6: Changing the Industrial Composition of the Employed Workforce (15+) in Kenora District

Source: Author's calculations based on various censuses, special tabulations



Figure 16: Shifting Composition of the Employed Workforce

Source: Author's calculations based on various censuses, special tabulations

A shift in the industrial structure of the workforce is accompanied by a change in the occupational distribution of the labour force (Table 7). Employment in most occupational groups declined except for occupations in health and social science, education, and public administration.

National Occupational Classification 2006	2001	2011	2016	Percentage Change (%)
A Management occupations	2,935	2,050	2,395	(18.40)
B Business, finance, and administrative occupations	3,490	3,310	3,195	(8.45)
C Natural and applied sciences and related occupations	1,245	1,190	995	(20.08)
D Health occupations	1,290	1,495	1,830	41.86
E Occupations in social science, education, government service, and religion	2,630	3,490	4,930	87.45
F Occupations in art, culture, recreation, and sport	355	300	340	(4.23)
G Sales and service occupations	7,165	6,590	5,770	(19.47)
H Trades, transport and equipment operators, and related occupations	4,650	4,285	4,415	(5.05)
I Occupations unique to primary industry	1,345	1,055	1,045	(22.30)
J Occupations unique to processing, manufacturing, and utilities	1,360	550	710	(47.79)
Total	26,465	24,315	25,635	(3.14)

Table 7: Occupational Distribution of Employed Workforce (15 to 64) in Kenora District

Source: Author's calculations based on various censuses, special tabulations .

Changing size and composition of the employed workforce impacts output and income in Kenora District (Figure 17). Figure 17 shows that total regional employment income and GDP rose between 1986 and 2006 but declined thereafter. As a result, total employment income and GDP in 2016 are slightly higher than their 1986 levels. These trends reflect changes in the size and occupational distribution of employment in the district.



Figure 17: Labour Income and GDP Estimate for Kenora District

Source: Author's calculations based on various censuses, special tabulations

Looking Ahead

An aging population influences demand for government program expenditures such as health care and education. What healthcare-related services will be necessary to meet the requirements of an aging regional population? How many doctors, nurses, and other type of healthcare providers do we need to train and/or attract to replace the aging healthcare providers while satisfying the growing demand for healthcare services?

An aging population also affects student enrolments, revenues, and therefore demand for various educational services in Northwestern Ontario. What would be the impact of demographic change on demand for teachers

Population Aging and Demand for Healthcare Occupations: Future Trends

Demand for healthcare services consists of two components. The first component relates to the expected population growth or decline due to birth, death, age, and migration. These changes, which affect demand for healthcare services, are referred to as the growth component. The second component, which relates to the need to replace retiring service providers, is often referred to as the retirementreplacement component.

To estimate the growth component of total demand for healthcare services, we use the detailed Ministry of Finance's population projections for Kenora District and Northwestern Ontario between 2017 and 2041.

According to the 2012 report by North West Local Health Integration Network (LHIN), the demand for healthcare services in Northwestern Ontario is expected to increase in all sectors. Services associated with the elderly, such as long-term care, complex continuing care, and inpatient rehabilitation are expected to experience the highest growth rates.¹⁸

To estimate the growth component of demand, we need to estimate indicators that track demand for healthcare workers in Northwestern Ontario. The growth-demand component reflects the need for more workers to accommodate the rising demand for healthcare services caused by changes in the size and age distribution of the population. We assume that the ratio of workers to patients/residents/clients remains the and educators, and therefore employment and income in that sector of the regional economy?

Various regional and national surveys indicate shortage of skilled tradespeople in various regions in Ontario and other regions of Canada. How has an aging population affected the supply and availability of tradespeople in Northwestern Ontario? Are we training enough tradespeople to satisfy our current needs as well as preparing for the upcoming mining and forestry renewal? Otherwise, importing such expertise will seriously reduce the economic benefits of any resource development in Northwestern Ontario. These are questions that we address in the last part of this report.

same over the forecast period. It is important to note that the aging profile of the population affects demand for different occupations differently. For example, the demand for workers employed in long-term care services is expected to rise rapidly as a result of relatively faster growth of the population age 60 and older. The aging of the population may not affect demand for healthcare workers serving a younger population cohort.

The indicators developed in this part of the study address the need to quantitatively measure the impact of demographic changes on demand for healthcare workers in Northwestern Ontario. A recent study by the Canadian Institute for Health Information provides estimates of per capita provincial health expenditures by age in Ontario for 2011.¹⁹ This is shown in Figure 18. It shows that per capita health expenditures increase significantly as the population ages. In other words, demand for healthcare resources is positively correlated with age. Thus, per capita health expenditures by age can be used as a proxy for demand for healthcare services by different age groups. Therefore, using size and age distribution of the population in Kenora, we can estimate an index that tracks changes in demand and cost for healthcare services between 2017 and 2041. These healthcare demand indicators measure expected growth in demand for healthcare services and therefore healthcare providers in the district.

¹⁸ Health Services Blueprint: "Building our Future," (PriceWaterhouseCoopers, February 2012).

¹⁹ Canadian Institute for Health Information, "National Health Expenditure Trends, 1975 to 2013," 2013.





Using the information provided in Figure 18 and the Ministry of Finance's population projections for Kenora, Figure 19 shows the estimated growth-demand indicator for healthcare services in Kenora District between 2017 and 2041. We have used demand for healthcare services in 2017 as the benchmark against which we measure growth.



Figure 19: Projected Growth of Health care Demand in Kenora District

Source: Author's estimate based on Ministry of Finance population projections and census data

Figure 19 shows that demand for healthcare services is expected to increase significantly between 2017 and 2041. The reason is that the regional population is aging and demand for healthcare services rises by age. In fact, the existing data reveal that demand by seniors age 65 and older is approximately three times greater than the overall average demand. Turning our attention to the retirement-replacement component of demand for healthcare providers, Figure 20 shows the age structure of healthcare providers in Northwestern Ontario in 2011. Overall, 20.8 per cent of healthcare providers in Northwestern Ontario were older than 55. Approximately 27.8 per cent of the family physicians and 26.0 per cent of those in nursing

Source: Canadian Institute for Health Information, "National Health Expenditure Trends, 1975 to 2013," 2013

occupations were older than 55. The youngest group appears to be those in the assisting occupations, with 13.6 per cent older than 55. Approximately 46.3 per cent of all healthcare providers were older than 45. Again, those in nursing and professional occupations had the largest share of persons older than 45.



Figure 20: Age Structure of Healthcare Providers in Northwestern Ontario in 2011 (%)

Source: Author's calculations based on 2011 NHS, special tabulations

Assuming an average retirement age of 65, Table 8 shows the retirement replacement and expansion demand for healthcare providers in Northwestern Ontario.

	Expansion Demand 2011-2020	Replacement Demand 2011-2020	Total Demand 2011-2020	Expansion Demand 2011-2030	Replacement Demand 2011-2030	Total Demand 2011-2030
Professional occupations (except nursing)	124	285	409	346	585	931
Family physicians	34	100	134	96	165	261
Nursing occupations	268	730	998	751	1,510	2,261
Technical occupations	206	375	581	576	855	1,431
Assisting occupations	158	225	383	444	700	1,144
Total Numbers	755	1,645	2,400	2,117	3,670	5,787
Percentage Demand (per cent)	31.5	68.5	100	36.6	63.4	100.00

Source: Author's estimate based on Ministry of Finance population projections and census data

Demand for Educational Services

Using Ontario's Ministry of Finance population projections, Figure 21 shows projections for different age groups in Kenora and Northwestern Ontario. It shows that the population ages five to 19 years in Northwestern Ontario is expected to decline by 11.7 per cent between 2017 and 2041. During the same period, Kenora is expected to experience an increase in its school-age children primarily due to a significant share of the Indigenous population in the district. This trend primarily affects primary and secondary schools. Similarly, total population ages 20 to 24 years in Northwestern Ontario is expected to decline by 18.9 per cent between 2017 and 2041. Kenora's population ages 20 to 24 is expected to stay relatively constant during the projection period. The declining youth population in Northwestern Ontario influences demand for postsecondary education.







Source: Author's estimate based on Ministry of Finance population projections and census data

As mentioned before, Indigenous peoples are the only growing segment of the regional population. The number of Indigenous children between the ages of five and 19 in Kenora is expected to grow from 9,850 in 2015 to 10,317 in 2030. The Indigenous children will continue to account for approximately 64.0 per cent of all school-age children in Kenora. Similarly, the number of Indigenous youth ages 20 to 24 is expected to increase from 2,625 in 2015 to 3,474 in 2030. Their share of this age group is expected to rise from 50.0 per cent in 2015 to 68.0 per cent in 2030.

To estimate the number of employed teachers and instructors in Northwestern Ontario in the future, we need to make two assumptions. First, we assume an average retirement age of 65. However, even though the normal retirement age is 65, one cannot be forced to retire at that age. Second, we assume that, in the long-term, the number of educators in the region is proportional to the number of students. Based on these two assumptions and using information on the age structure of education service providers in Northwestern Ontario, Table 9 shows the retirement replacement and expansion/contraction demand for educators in Northwestern Ontario.

> 2011-2030 **Total Demand**

193

216

1,315

able 9: Demand for Educators in Northwestern Ontario							
Occupations	2011-2020 Replacement Demand	2011-2020 Expansion Demand	2011-2020 Total Demand	2011-2030 Replacement Demand	2011-2030 Expansion Demand		
401 University professors and postsecondary assistants	-78	145	68.81	-132	325		
402 College and other vocational instructors	-53	110	57.29	-89	305		
403 Secondary and elementary	-242	535	293.48	-255	1,570	1	

Table

school teachers and educational counsellors

Source: Author's estimate based on Ministry of Finance population projections and census data

Demand for Trades Occupations in Northwestern Ontario

Assuming demand for trades occupations stays at its current level implies that the future demand is solely related to retirement replacement needs of different employers. Figure 22 shows the age structure of trades workers in Northwestern Ontario in 2011. On average, 22.3 per cent of all workers engaged in trades occupations were age

55 and older. Approximately 54.3 per cent of them were age 45 and older. Transportation equipment operators and related workers had the highest percentage of people older than 55, and trades helpers and other installers, repairers, and material handlers had the lowest share of people older than 55.



Figure 22: Age Structure of Workers in Trades Occupations

Source: Author's estimate based on Ministry of Finance population projections and census data

Under the assumption of no future employment growth, Table 10 shows the retirement replacement demand for trades occupations in Northwestern Ontario.

Table 10: Retirement Replacement Demand for Trades Occupations

NOC 2011 Classification	Replacement Demand 2011-2020	Replacement Demand 2021-2030
72 Industrial, electrical, and construction	1,100	2,690
73 Maintenance and equipment operation	1,055	2,725
74 Other installers, repairers and servicers, and material handlers	140	445
75 Transport and heavy equipment operation	1,300	2,875
76 Trades helpers & construction labourers	230	605
All Trades	3,855	9,370

Source: Author's estimate based on Ministry of Finance population projections and census data

Table 10 shows that there is a need for 3,855 trades workers to replace the retiring tradespeople between 2011 and 2020. Transport and heavy equipment operators (1,300) represent the largest number of potential retirees between 2011 and 2020, followed by industrial, electrical, and

construction trades workers (1,100), and maintenance and equipment operators (1,055). The number of trades workers required to replace those who will potentially retire increases significantly when we extend the projection period to 2030.

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Glossary of Terms

Census Agglomeration (CA): adjacent communities that have strong workplace commuting flows to a population centre 'core.' The core must have a population of at least 10,000 in the most recent census.

Census division (CD): is the general term for provincially legislated areas (such as county, municipalité régionale de comté and regional district) or their equivalents. Census divisions are intermediate geographic areas between the province/territory level and the municipality (census subdivision).

Census Metropolitan Area (CMA): adjacent communities that have strong workplace commuting flows to a population centre 'core.' A CMA must have a total population of at least 100,000, at least half of which must live in the core.

Census Sub-Division (CSD): Municipalities or equivalent areas for census purposes. First Nations and unincorporated territories are both counted as CSDs.

Economic Region (ER): A grouping of census divisions aggregated into a standard geographic unit in order to analyze regional economic activity.

Emigrant: a person who moves from their country to permanently settle in another.

Employment Rate: The per cent of the total population over the age of 15 that is working for pay.

Human Capital: The stock of knowledge, skills, and abilities an individual acquires through education and experience that directly affects their level of productivity.

Immigrant: A person who currently is, or ever has been, a landed immigrant or permanent resident, including those who have received Canadian citizenship through naturalization.

Indigenous and Northern Affairs Canada (INAC): The name of the federal ministry that oversaw the federal government's obligations to Indigenous treaty partners. Formerly was Indian and Northern Affairs. INAC was dissolved in 2017 and restructured into two departments: Indigenous Services Canada and Crown-Indigenous Relations and Northern Affairs Canada.

Interprovincial Migration: the movement of people from one province to another.

Intra-provincial Migration: The number of people who move from one region (CD or ER) to elsewhere in the same province.

Metropolitan Influenced Zone (MIZ): A measure of the effect an urban area has on rural CSDs, based on commuter flows.

Strong MIZ: Rural CSDs where at least 30 per cent of the employed labour force commutes to any CMA or CA.

Moderate MIZ: Rural CSDs where five to less than 30 per cent of the employed labour force commutes to any CMA or CA.

Weak MIZ: Rural CSDs where more than 0 but less than five per cent of the employed labour force commutes to any CMA or CA.

No MIZ: Rural CSDs where none of the employed labour force commutes to any CMA or CA, including CSDs with an employed labour force smaller than 40 total people.

Net Immigration: The number of immigrants who came to settle permanently in a region (CD or ER) minus the number of immigrants who left that region.

Net Interprovincial Migration: The total number of people who came from other provinces or territories to settle permanently in a region (CD or ER) minus the total number of people who left that region to settle permanently in any other province or territory.

Net Intra-Provincial Migration: The total number of people who came from other parts of the same province to settle permanently in a region (CD or ER) minus the total number of people who left that region to settle in other parts of the same province.

Net Migration: The total number of people who relocated to a region (CD or ER) minus the total number of people who left that region.

Participation Rate: The per cent of the working age population employed or unemployed and actively seeking work.

Rural and Small Town (RST): CSDs that are not part of a CMA or a CA, meaning they do not have strong commuter flows to a nearby population centre 'core' of at least 10,000 people.

Total Fertility Rate: the average number of children a woman will have in her lifetime.

Unemployment Rate: The per cent of those participating in the labour force who are not working but are actively seeking paid work.

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Northern Policy Institute is Northern Ontario's independent think tank. We perform research, collect and disseminate evidence, and identify policy opportunities to support the growth of sustainable Northern Communities. Our operations are located in Thunder Bay and Sudbury. We seek to enhance Northern Ontario's capacity to take the lead position on socio-economic policy that impacts Northern Ontario, Ontario, and Canada as a whole.

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