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Northern Projections Human Capital Series - KENORA DISTRICT

Who We Are - 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 about the supply and demand side of the local labour market 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).



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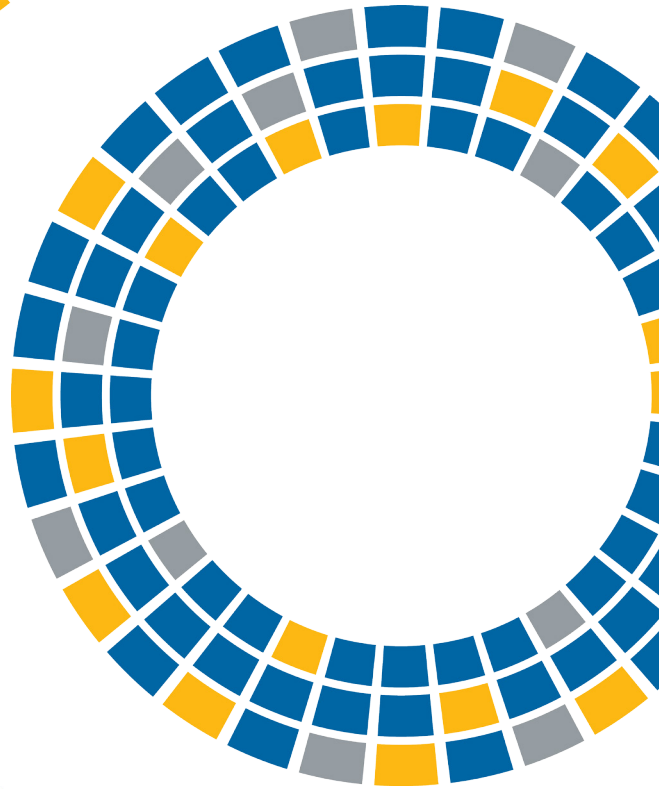
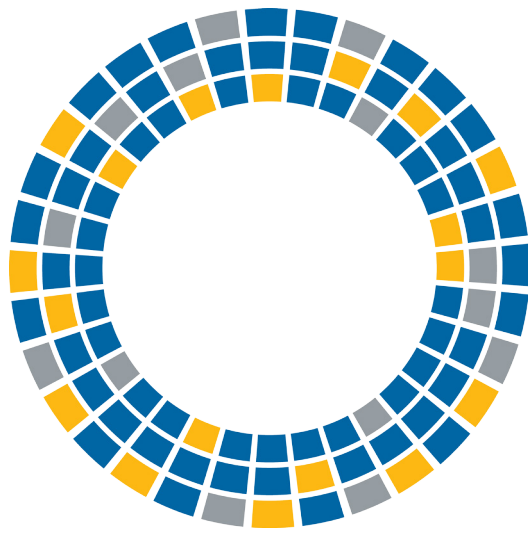
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This project is funded in part by the Government of Canada and the Government of Ontario.



Who We Are

Some of the key players in this model, and their roles, are as follows:

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Advisory Council: A group of committed individuals interested in supporting, but not directing, the work of Northern Policy Institute. Leaders in their fields, they provide advice on potential researchers or points of contact in the wider community.

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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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Dr. Bakhtiar 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 Aboriginal people and Northern Aboriginal 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.

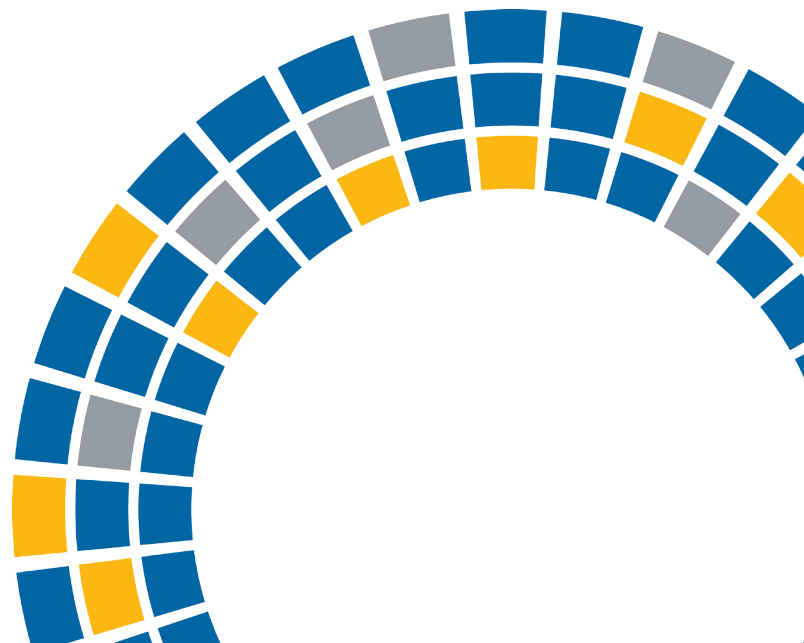
Summary of Findings

The Kenora District, like its neighbour the Rainy River District, stands out from national and global trends in that it is a stubbornly rural region. Some 73.3 percent of the Kenora District's population live in rural areas. Moreover, the rural population increased between 2001 and 2011, while the urban population declined slightly and these trends continued into 2016¹. In 2011, only 1 percent of the Kenora District's rural population were reported to live in areas with a close link to an urban centre, while 24 percent live in areas with a moderate link to an urban centre, with 53 percent living in areas with a weak link to an urban centre, and 20 percent living in remote regions. This has important implications for an economy increasingly dependent on highly educated workers, service based business and a global knowledge exchange.

Despite being a highly sought after vacation location, the District of Kenora has not translated this attractiveness into a growth in permanent residents. In terms of net migration flows, the District has experienced modest intraprovincial out-migration for the last decade and a half. Intraprovincial migration refers to the movement of individuals to another region within the province. Interprovincial migration, known as the movement of individuals from one province to another, has also been negative during this period.

With an overall population that is aging and shrinking, the Indigenous population's share of the total District's population is expected to increase from 30 percent in 2013 to 39 percent in 2041. The share of working-age Indigenous people (those ages 20 to 64) is expected to increase from 28.8 percent in 2013 to 43.5 percent in 2041. Since the Indigenous labour force will account for a significant and growing share of the District's future workforce, it is vital for the social and economic viability of the region to adopt education policies that enable this segment of the labour force to meet the requirements of the future labour market.

¹ According to Census 2016, the urban population in Kenora District was 15,096 persons in 2016, a slight decrease from 15,348 persons in 2011. The rural population was 50,437 persons, up from 42,259 in 2011.



Introduction

The objective of this report is to examine past and present trends and characteristics in the Kenora District's economy and to forecast its future challenges and opportunities. The report focuses primarily on the supply side of the economy. The authors examine the region's labour market including its human capital composition, employment trends, the shifting occupational composition of the employed workforce, the shifting of the region's industrial composition from goods-producing to services-producing sectors, the declining share of the private sector, the region's rising dependency on the public sector, and declining labour income and gross domestic product (GDP). The report begins by examining demographic change in the Kenora District over the past three decades and by defining and estimating various dependency indicators.

The study looks into the future and provides projections for the total and Indigenous populations of the Kenora District over the next three decades. From these population projections, the study estimates past, present and future trends in the size and composition of the regional labour force.

In the following section, the study defines and quantitatively measures the human capital composition of the District'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 then moves on to discuss the consequences of shifting the composition of the employed labour force in the District from goods-producing, dominated by private businesses, to services-producing, predominantly financed by the public sector. The study also examines the shifting occupational composition of the employed workforce, and the implication thereof for total regional income and GDP in the Kenora District.

The study concludes with a summary and discussion of some policy implications.

Data Sources

Most of the data used in this report are based on detailed information regarding individual census subdivisions (CSDs) in the Kenora District and Northwestern Ontario obtained through special tabulations from Statistics Canada. Except for the population data, the 2011 data are based on the 2011 National Household Survey (NHS). Total population forecasts is based on data made available by the Ontario Ministry of Finance.

Census 2016 data are being released in stages between February, 2017 and November 2017. At the time of publication, only population and dwelling count data had been released. Population figures have been added to this publication, where applicable, however, the vast majority of the data presented in this publication rely on Census 2016 data that will be released later in 2017. Thus, the majority of the data presented in this report are based of the 2011 National Household Survey.

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, Metis 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; and
- the immigrant population defined as persons who are, or have ever been, landed immigrants in Canada.

The Geographical Specification of Northeastern Ontario

Northern Ontario is subdivided into Northwestern and Northeastern Ontario. The three most western Census Districts – namely Rainy River, Kenora and Thunder Bay – constitute Northwestern Ontario. The region that lies north and east of Lakes Superior and Huron constitutes Northeastern Ontario. It is defined to include 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. 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 in 2004, but has continued to include Parry Sound as a Northern Ontario division.²

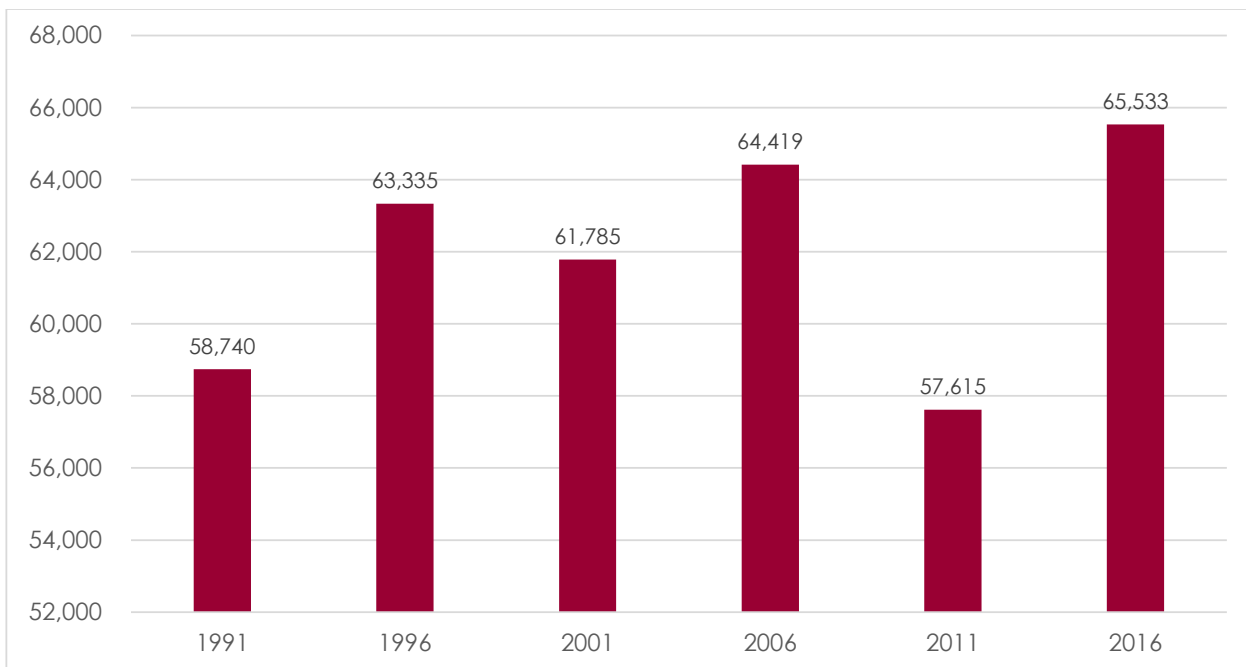
2 The analysis in this study is based on these jurisdictional and geographic parameters.

Demographic Change: The Past Three Decades

Kenora District covers 407,213 square kilometers and recorded a population of 65,533 in 2016. It has a population density of 0.2 persons per square kilometer which is well below that of Ontario (14.8). According to Statistics Canada's census of population, Kenora District grew from 1991 to 2006, and then experienced an 11 percent decline from 2006 to 2011, followed by a sharp 13.7 increase between 2011 and 2016 (Figure 1).

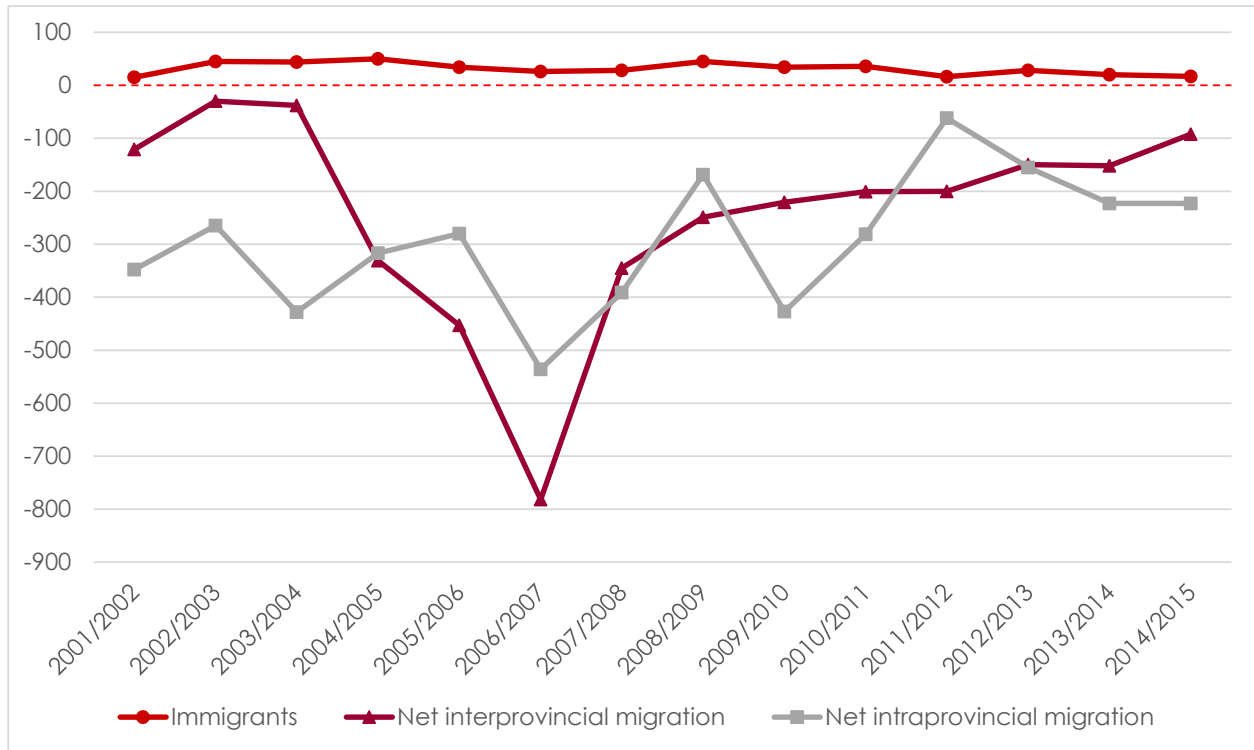
In terms of net migration flows, the District of Kenora has experienced modest intraprovincial out-migration for the last decade and a half. Intraprovincial migration refers to the movement of individuals to another region within the province. Interprovincial migration, known as the movement of individuals from one province to another, has also been negative during this period. As a result, net domestic out-migration in 2014-15 resulted in 315 individuals who moved out of the region (Figure 2). In 2014-15, 17 immigrants moved into the District, or 2.4 for every 10,000 people (Figure 3). This is equivalent to roughly 27 times fewer immigrants per capita attracted as opposed to the rate for Ontario as whole, which reported 64.8 immigrants per every 10,000 people in 2014-15. Out of all the northern Districts, this District attracted the second smallest number of immigrants per capita.

Figure 1: Population, Kenora District, 1986–2016



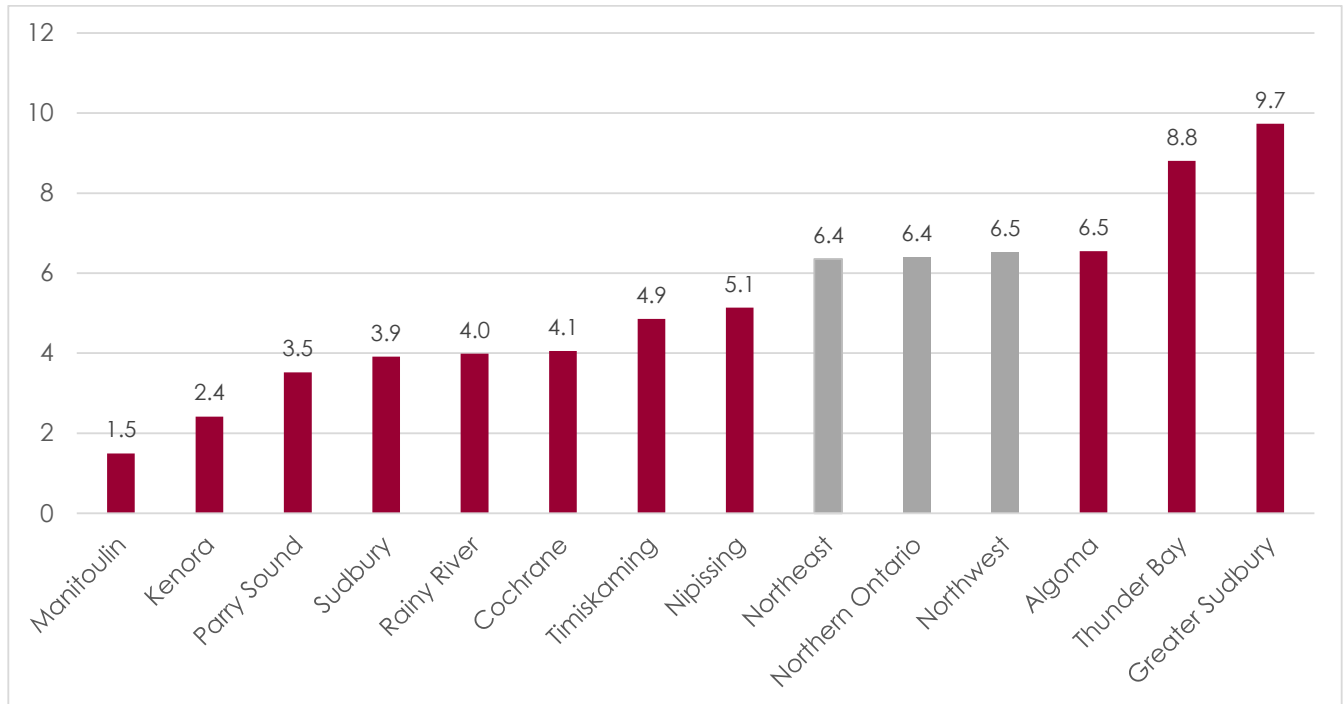
Source: Statistics Canada, Census of Canada; and idem, National Household Survey.

Figure 2. Net Domestic Migration and Immigration, Kenora District, 2001/2002–2014/2015



Source: Author's calculations based on Statistics Canada, CANSIM database, table 051-0063.

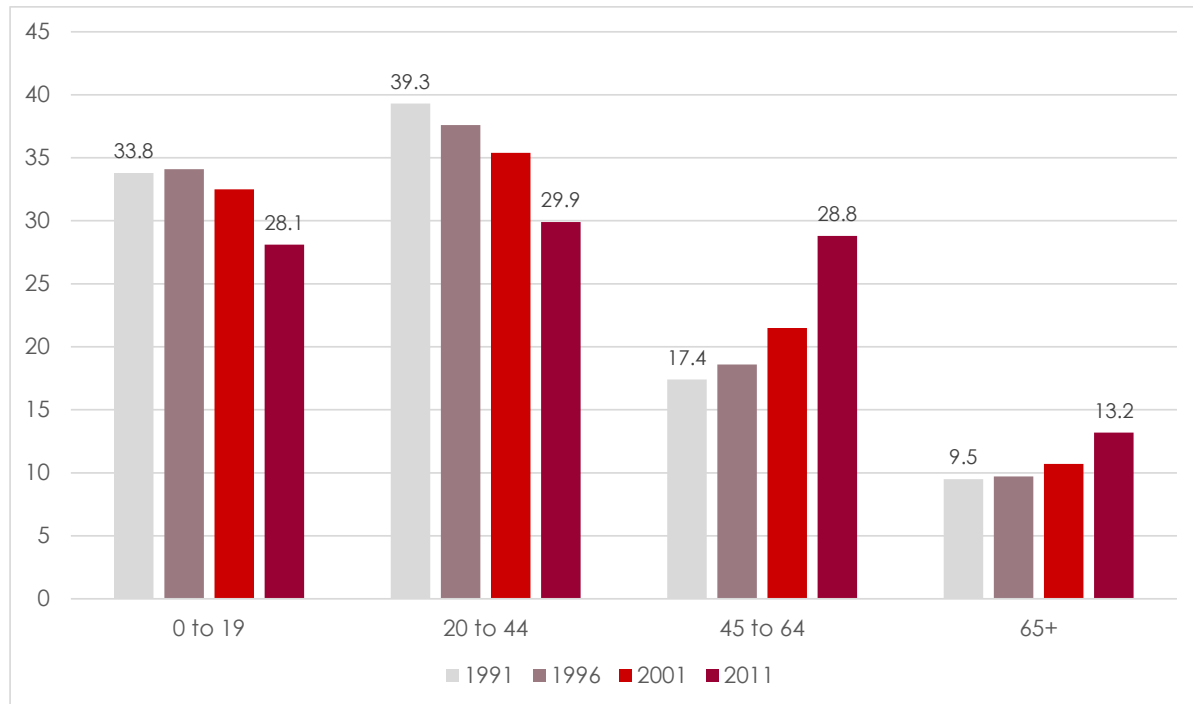
Figure 3. Number of Immigrants per 10,000 people, Northern Ontario Districts, 2014/2015



Source: Author's calculations based on Statistics Canada, CANSIM database, table 051-0062 and 051-0063.

In addition to out-migration of youth and low levels of immigration in the region, rising life expectancy has resulted in the aging of this District'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 below the age of 20 has declined from 34 percent in 1991 to 28 percent in 2011, while the share of seniors rose from 9.5 percent in 1991 to 13.2 percent in 2011 (Figure 4). During the same period, the share of individuals between the ages of 20 to 44 declined from 39 to 30 percent, while individuals aged 45 to 64 increased from 17 to 29 percent.

Figure 4: Age Distribution of Population, Kenora District, 1991 and 2011



Source: Author's calculations based on Statistics Canada, Census of Canada, and National Household Survey, custom tabulation.

These demographic changes have had a significant impact on social and economic conditions in the District. The population will continue to age in the foreseeable future, with implications for the supply of labour, production capacity, and the ability of the Kenora District to stay economically viable. One important aspect of the aging population relates to the relationship between economically active and economically dependent age groups – that is, between the working population on the one hand and the young and elderly on the other.

Population Trends in Rural and Urban Areas

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, while "urban" is understood as a place with high population concentration at a high density. This intuitive understanding is the basis for Statistics Canada's approach to defining an urban area as having a population of at least 1,000 and a density of 400 or more people per square kilometre.³ An alternative and perhaps more appropriate definition, proposed by Statistics Canada and based on the commuting flows between different areas, is "rural and small towns" (RSTs) as opposed to "large urban centres." It defines urban regions as including all Census Metropolitan Areas and Census Agglomerations (CAs), and both CMAs and CAs include the total population of neighbouring census subdivisions (CSDs). According to this definition, therefore, rural and small town areas are defined as areas that are not part of any CMA or CA. RSTs are further divided into five types of zones based on the degree of influence that large urban centres have on them, as measured by the percentage of people living in an RST who commute to work in an urban centre.⁴

Using the above definition, Figure 5 shows that some 73.3 percent of the Kenora District's population live in rural areas. Moreover, the rural population increased between 2001 and 2011, while the urban population declined slightly. In 2011, only 1 percent of the Kenora District's rural population were reported to live in areas with a close link to an urban centre, while 24 percent live in areas with a moderate link to an urban centre, with 53 percent living in areas with a weak link to an urban centre, and 20 percent living in remote regions.

Of the Indigenous population in the District, 14 percent live in urban areas, while 86 percent live in rural areas. Of the latter, 44 percent live in relatively remote areas with a weak link to an urban centre, and 41 percent live in very remote regions with no link to an urban centre. These are mostly Indigenous peoples living on-reserve.

Of the Francophone population in the District, 27 percent live in urban centres, and of those who live in rural areas, 62 percent live in relatively remote areas with only a weak link to an urban centre. Lastly, about 35 percent of the District's immigrant population live in urban centres, while the remaining 65 percent live in rural areas, most of which live in relatively remote areas with only a weak link to an urban centre.



³ One problem with this definition is that it can lead to the misleading identification of rural and urban areas. Based on this definition, for example, the Attawapiskat First Nation on James Bay is classified as an urban area.

⁴ For a definition of the various zones, see Roland Beshiri and Jiaosheng He, "Immigrants in Rural Canada," Rural and Small Town Canada Analysis Bulletin 8, no. 2 (2009): 3.

Figure 5: Ratio of the Working-Age Population to Other Age Groups, Kenora District, 2001 and 2011



Source: Author's calculations based on Statistics Canada, Census of Canada, and National Household Survey, custom tabulation.

Demographic Change: 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 Bakhtiar Moazzami.

A few words regarding the Ministry of Finance projections are in order. First, the Ministry's 2011 population estimates are about 12,000 greater than those reported by the 2011 census, having been adjusted for net undercoverage by the census, especially of the region's 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 over 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 over this period to create ratios of actual-to-expected numbers of deaths. These ratios were then multiplied by provincial age-specific death rates to create death rates for each census division. These were then applied to the corresponding census division population to derive the number of deaths for each census division.⁵

Population Projections

Kenora District's total population is expected to increase from 70,002 in 2013 to 72,419 in 2041 (Table 1). The continuing aging of the District's population is also evident from the Ministry of Finance's projections (Figure 6 and Table 2), with the share of individuals under age 20 expected to decline from 29.9 percent in 2013 to 26.7 percent in 2041. The share of working-age people (ages 20 to 64) is projected to decline from 57.5 percent in 2013 to 50.2 percent in 2041, and the share of seniors is expected to rise from 12.6 percent in 2013 to 23.1 percent in 2041.⁶ As the next part of the study will show, the decline in the working-age population has important implications for the future availability of a qualified labour force in the District.

Table 1: Population Projections by Age Group, Kenora District, 2013-2041

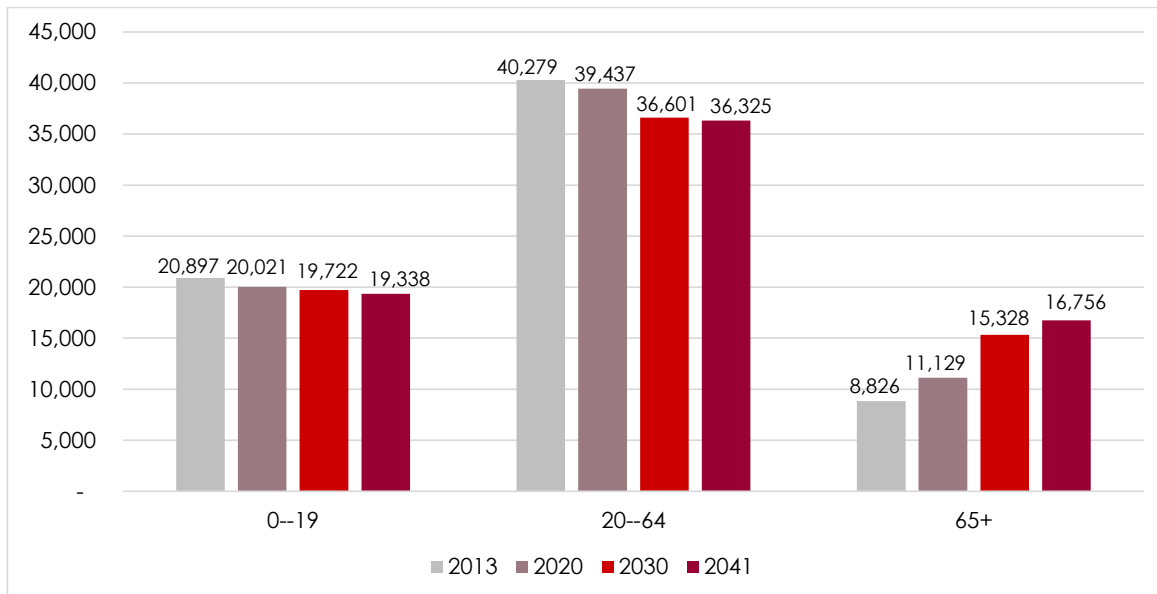
Year	0--19	20--44	45--64	65+	Total
2013	20,897	21,911	18,368	8,826	70,002
2014	20,681	21,850	18,330	9,136	69,997
2015	20,517	21,764	18,296	9,447	70,024
2016	20,328	21,758	18,253	9,746	70,085
2017	20,206	21,742	18,195	10,038	70,181
2018	20,137	21,700	18,090	10,389	70,316
2019	20,062	21,704	17,954	10,732	70,452
2020	20,021	21,657	17,780	11,129	70,587
2021	19,975	21,635	17,622	11,487	70,719
2022	19,952	21,621	17,363	11,912	70,848
2023	19,933	21,582	17,072	12,384	70,971
2024	19,937	21,482	16,833	12,836	71,088
2025	19,953	21,391	16,577	13,275	71,196
2026	19,974	21,307	16,271	13,747	71,299
2027	19,905	21,345	15,966	14,180	71,396
2028	19,862	21,350	15,655	14,619	71,486
2029	19,797	21,411	15,357	15,006	71,571
2030	19,722	21,455	15,146	15,328	71,651
2031	19,591	21,540	15,007	15,590	71,728
2032	19,573	21,502	14,934	15,793	71,802
2033	19,546	21,484	14,885	15,959	71,874
2034	19,525	21,445	14,858	16,116	71,944
2035	19,499	21,368	14,876	16,271	72,014
2036	19,472	21,302	14,906	16,404	72,084
2037	19,447	21,240	14,974	16,491	72,152
2038	19,418	21,184	15,036	16,583	72,221
2039	19,387	21,128	15,135	16,639	72,289
2040	19,359	21,088	15,200	16,708	72,355
2041	19,338	21,036	15,289	16,756	72,419

Source: Ontario, Ministry of Finance, "Ontario Population Projections, 2013-2041" (Toronto, 2014).

⁵ See Ontario, Ministry of Finance, "Ontario Population Projections, 2013-2041" (Toronto, 2014).

⁶ Focus is placed on individuals aged 20 to 64 as the core working-age population since there has been a declining trend in the labour force participation rate of Ontario's youth in recent years primarily due to a significant rise in enrolment rates in postsecondary education institutions.

Figure 6: Population Projections by Age Group, Kenora District, 2013–41



Source: Author's calculations based on Ontario, Ministry of Finance, "Ontario Population Projections, 2013-2041" (Toronto, 2014).

Table 2: Population Projections by Age Distribution, Kenora District, 2013–2041

Kenora	0 to 19	20 to 64	65+
2013	29.85	57.54	12.61
2020	28.36	55.87	15.77
2030	27.53	51.08	21.39
2041	26.70	50.16	23.14

Source: Ontario, Ministry of Finance, "Ontario Population Projections, 2013-2041" (Toronto, 2014).

In making projections for the Indigenous population in Kenora District out to 2041, this study employs Northern Ontario's Demographic Forecasting Model, which is based on the Cohort Component method.⁷ The base year data for the projection are from Statistics Canada's National Household Survey for 2011. In projecting the future Indigenous population, this study does not adjust for the undercoverage of Indigenous people in the region — as mentioned above, there were 12,000 omitted persons in Kenora District alone — so the projections should be considered conservative. This study also assumes zero net migration of Indigenous people over the forecast period, since the existing evidence suggests there is relatively low mobility among the Indigenous population in the region. The fertility rate for the Indigenous population is assumed equal to that in rural Northeastern Ontario, and the mortality rate to equal the rate for the general population of Canada based on the 2011 census.

Based on these assumptions, Table 3 and Figure 7 show that the Indigenous population in the District is expected to increase from 20,974 in 2013 to 28,375 in 2041, a growth rate of about 37 percent. The number of individuals under age 20 are expected to increase slightly during this period, while working-age Indigenous people are expected to rise from 8,043 in 2013 to 8,302 in 2041. The number of individuals aged 65 and over are expected to rise from 1,315 in 2013 to 4,633 in 2041, and increase of over 250 percent.

⁷ 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" (Kenora, ON: Northern Policy Institute, 2015).

Indigenous Population Projections

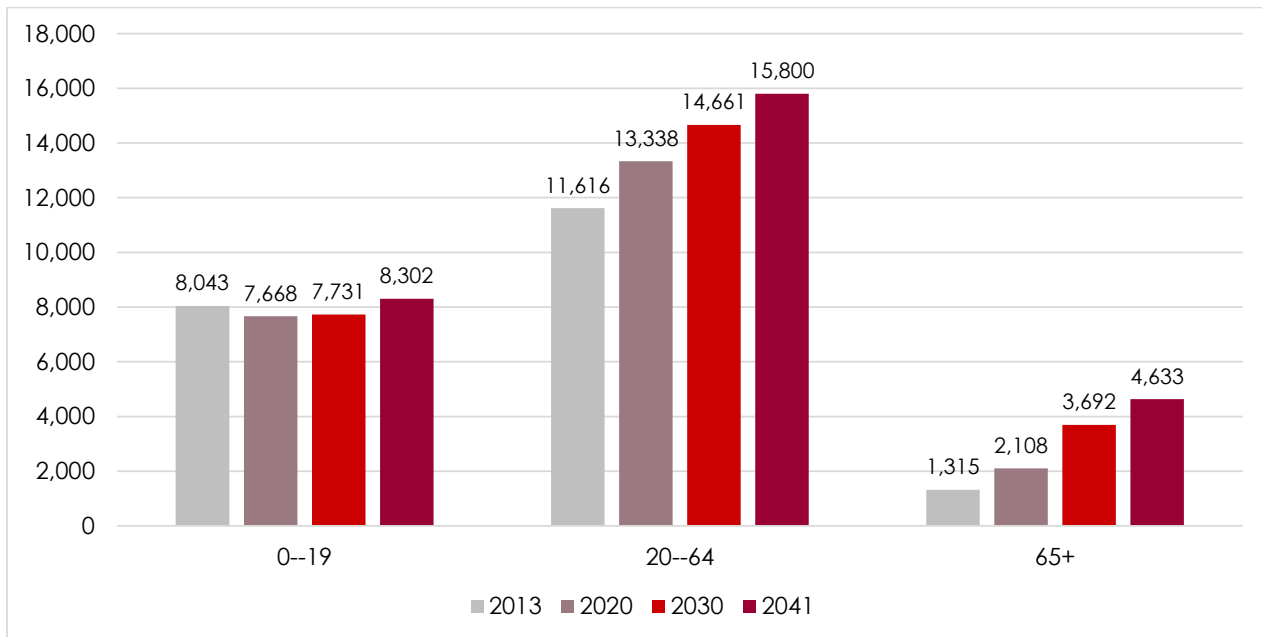
The Indigenous population's share of total District population is expected to increase from 30 percent in 2013 to 39 percent in 2041. The share of working-age Indigenous people (those ages 20 to 64) is expected to increase from 28.8 percent in 2013 to 43.5 percent in 2041 (Figure 8). The share of Indigenous seniors is expected to rise from 14.9 percent in 2013 to 27.7 percent in 2041.

Table 3: Projected Indigenous Population, Kenora District, 2013-2041

Year	0--19	20--44	45--64	65+	Total
2013	8,043	7,116	4,500	1,315	20,974
2014	7,947	7,296	4,606	1,420	21,269
2015	7,867	7,473	4,675	1,554	21,569
2016	7,785	7,640	4,785	1,664	21,874
2017	7,737	7,817	4,842	1,785	22,181
2018	7,718	7,981	4,923	1,870	22,493
2019	7,709	8,123	4,991	1,981	22,803
2020	7,668	8,298	5,040	2,108	23,114
2021	7,693	8,394	5,078	2,259	23,424
2022	7,627	8,604	5,041	2,461	23,733
2023	7,653	8,728	5,019	2,643	24,043
2024	7,694	8,830	5,007	2,819	24,351
2025	7,732	8,918	5,002	3,002	24,654
2026	7,789	8,996	5,007	3,157	24,949
2027	7,748	9,122	5,078	3,293	25,241
2028	7,763	9,266	5,050	3,448	25,527
2029	7,765	9,406	5,083	3,554	25,809
2030	7,731	9,606	5,055	3,692	26,085
2031	7,760	9,728	5,013	3,853	26,354
2032	7,842	9,813	5,011	3,952	26,618
2033	7,920	9,891	5,007	4,058	26,876
2034	7,991	9,859	5,121	4,157	27,127
2035	8,054	9,846	5,228	4,245	27,373
2036	8,108	9,855	5,303	4,347	27,613
2037	8,157	9,831	5,452	4,407	27,848
2038	8,198	9,771	5,653	4,456	28,078
2039	8,237	9,714	5,837	4,514	28,302
2040	8,271	9,668	6,013	4,569	28,521
2041	8,302	9,616	6,184	4,633	28,735

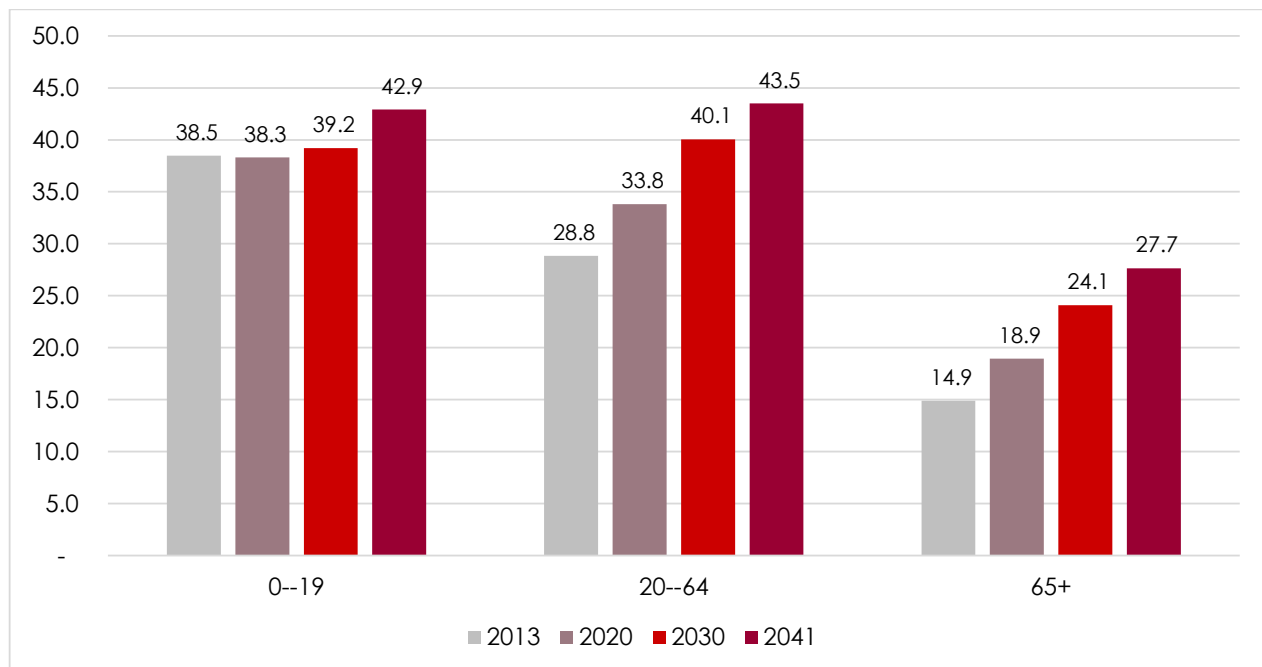
Source: Author's calculations based on Ontario, Ministry of Finance, "Ontario Population Projections, 2013-2041" (Toronto, 2014).

Figure 7: Indigenous Population Projections by Age Group, Kenora District, 2013–2041



Source: Statistics Canada, 2001 Census and 2011 NHS, custom tabulation.

Figure 8: Projections of the Share of the Indigenous Population, Kenora District, 2013–2041



Source: Author's calculations based on Ontario, Ministry of Finance, "Ontario Population Projections, 2013–2041" (Toronto, 2014).

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 the 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 this District's labour force.

Labour Market Trends in Kenora District

Table 4 and Figure 8 show labour market trends among the population ages 15 to 64 in the District. As the table shows, both the total population and the labour force in the District declined between 2001 and 2011. Labour force participation and employment rates declined among men, but rose among women over the same period. On the other hand, the unemployment rate declined both for men and women.

Labour force participation and employment rates among Francophone men and women in the Kenora District declined slightly between 2001 and 2011. Immigrants generally experienced higher participation and employment rates compared to the total population, while, according to the available data, the Indigenous population experienced lower employment rates and lower participation rates in formal labour markets. There was also a significant difference between the Indigenous labour force on-reserve and off-reserve, with the unemployment rate among the former at 27.6 percent in 2011 (Figure 9). In contrast, the unemployment rate among the off-reserve Indigenous workforce was much lower, at 16.6 percent, but still significantly higher than District levels.



Table 4: Labour Market Trends, Population 15 to 64 Years of Age, Kenora District, 2001 and 2011

	Men	Men	Women	Women
Kenora District	2001	2011	2001	2011
Total population 15 to 64 years of age	20,185	18,515	19,610	18,230
In the labour force	16,100	13,960	13,680	13,165
Employed	14,065	12,265	12,400	12,045
Unemployed	2,030	1,695	1,285	1,120
Not in the labour Force	4,085	4,560	5,925	5,065
Participation Rate	79.80	75.40	69.80	72.20
Employment Rate	69.70	66.20	63.20	66.10
Unemployment Rate	12.60	12.10	9.40	8.50
Francoophone Population	2001	2011	2001	2011
Total population 15 to 64 years of age	595	330	405	360
In the labour force	510	265	310	265
Employed	450	255	300	260
Unemployed	55	15	10	0
Not in the labour Force	90	65	95	95
Participation Rate	85.70	79.1	75.60	73.6
Employment Rate	76.50	76.1	74.40	72.2
Unemployment Rate	10.80	3.8	3.20	3.8
Immigrant Population	2001	2011	2001	2011
Total population 15 to 64 years of age	1,025	645	1,105	765
In the labour force	870	535	810	565
Employed	840	530	785	520
Unemployed	30	0	30	45
Not in the labour Force	155	110	295	195
Participation Rate	84.90	82.8	73.80	73.9
Employment Rate	81.50	82.8	71.00	68
Unemployment Rate	4.00	1.9	3.70	8.8
Indigenous Population	2001	2011	2001	2011
Total population 15 to 64 years of age	5,850	6,315	5,995	6,155
In the labour force	4,040	4,065	3,410	3,695
Employed	3,035	3,145	2,765	3,110
Unemployed	1,010	915	635	590
Not in the labour Force	1,805	2,250	2,590	2,455
Participation Rate	69.10	64.40	56.80	60.10
Employment Rate	51.80	49.80	46.10	50.50
Unemployment Rate	25.00	22.60	18.80	15.80

Source: Statistics Canada, 2001 Census and 2011 NHS, custom tabulation.

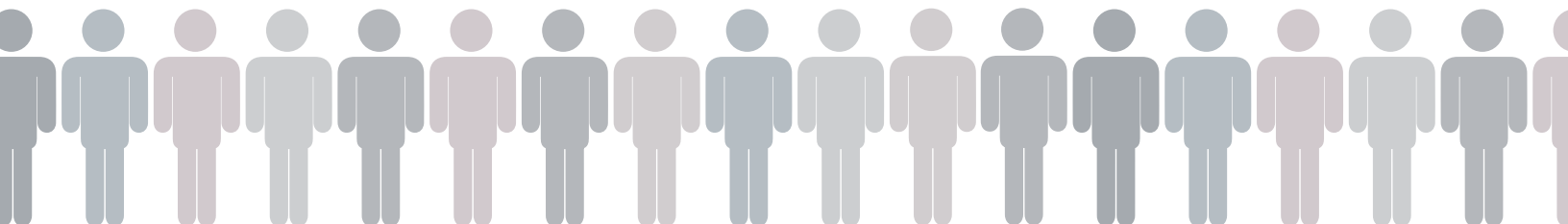
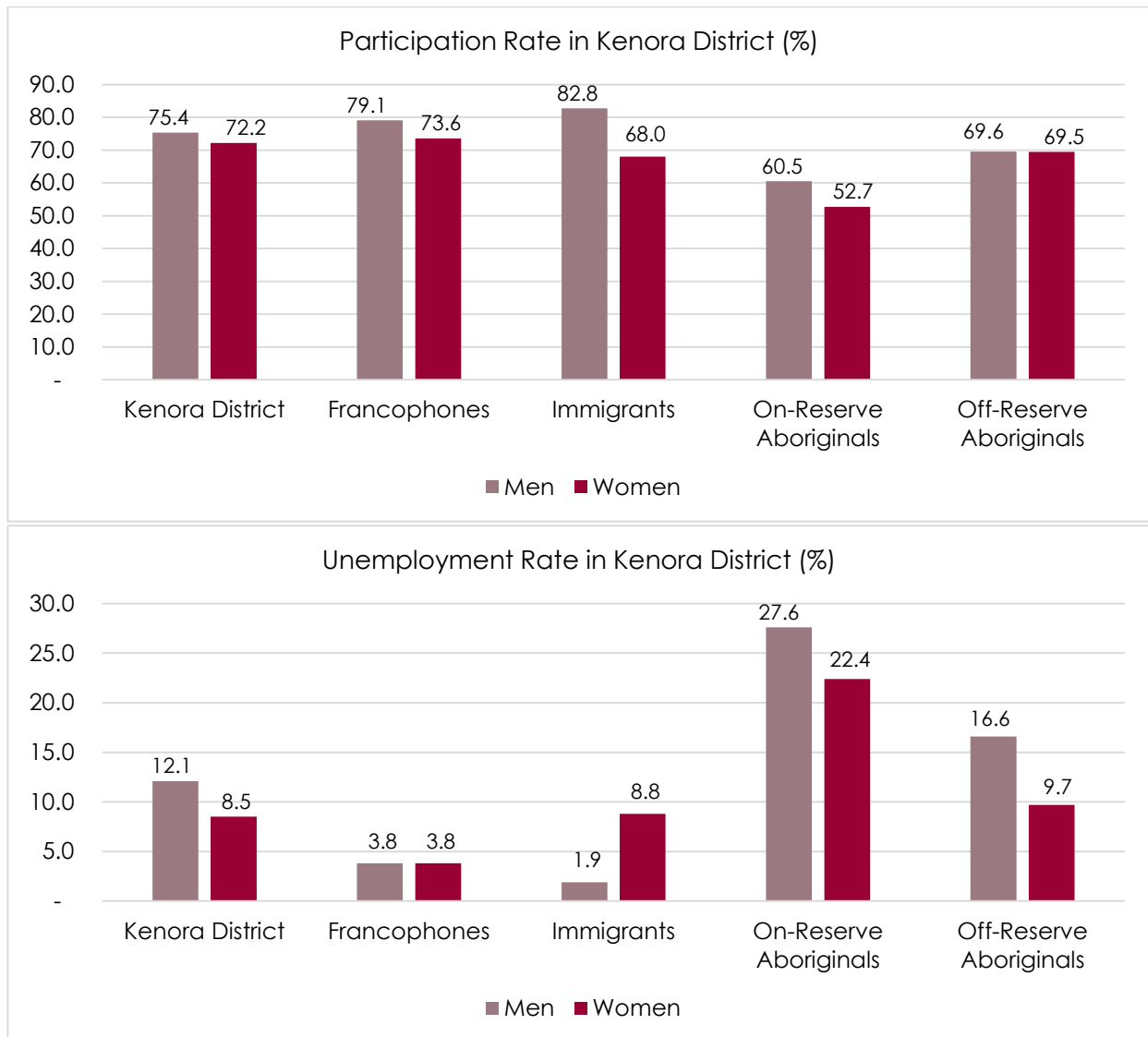


Figure 9: Labour Force Participation and Unemployment Rates, Kenora District, 2011



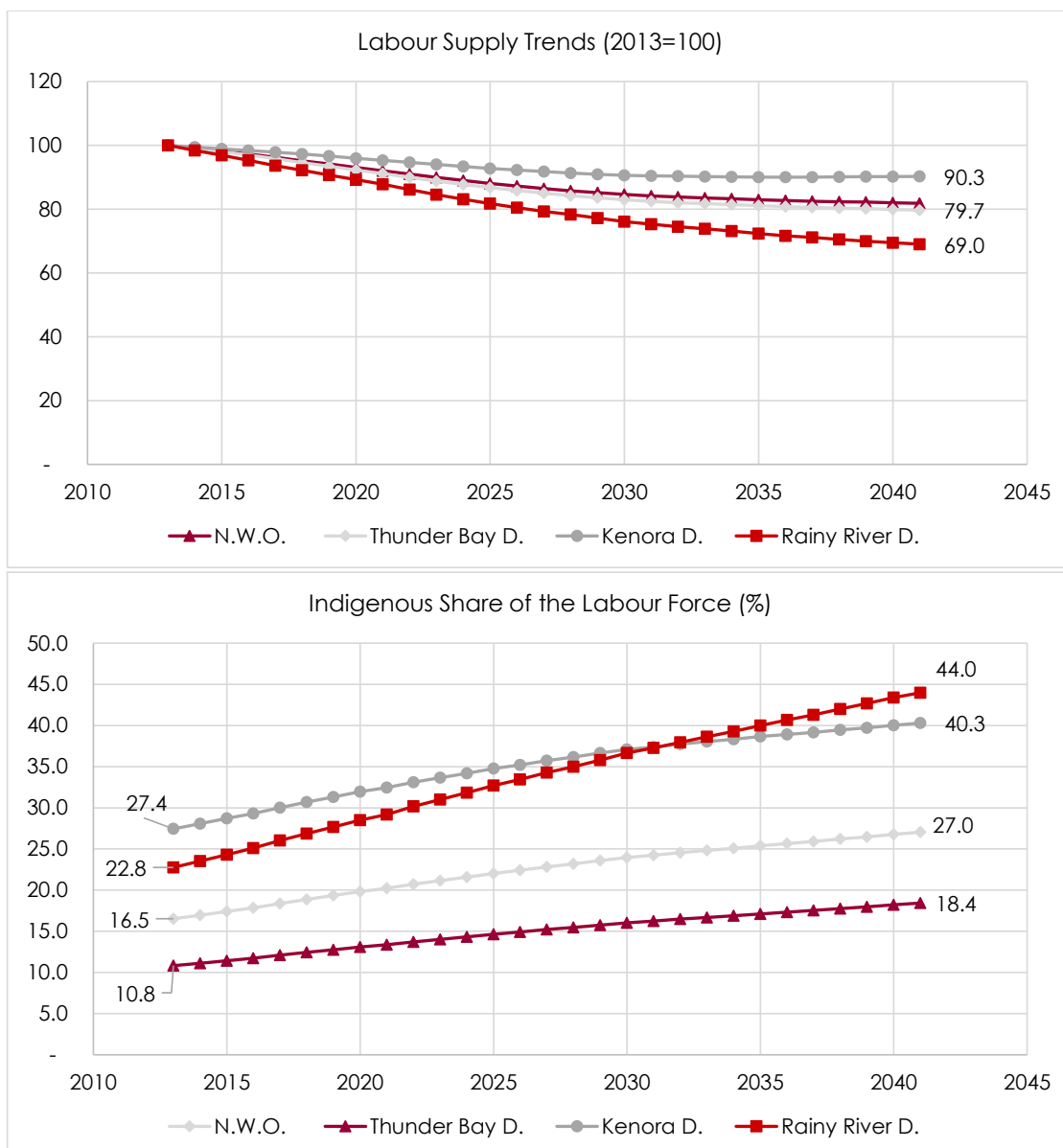
Sources: Statistics Canada, Census of Canada 2011, and National Household Survey 2011, custom tabulation.

Size and Composition of the Future Labour Force

To forecast the future labour force in the Kenora District and Northwestern Ontario, this study uses detailed population projections along with information regarding labour force participation rates for men and women in different age groups. It is assumed that participation rates during the projection period (out to 2041) stay constant at their 2011 level. Different assumptions regarding 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.

Figure 10 and Table 5 provide labour supply projections for Northwestern Ontario and the Kenora District for the period from 2013 to 2041. The District's labour force is expected to decline by about 10 percent over the period, while the Indigenous labour force is expected to increase by about 33 percent. As a result, the share of Indigenous people in the total regional labour force is expected to increase from 27 percent in 2013 to 40 percent in 2041.

Figure 10: Future Supply of Labour, Total and Indigenous Share, Kenora District and Northwest Ontario, 2013–2041



Source: Author's estimates based on Ontario, Ministry of Finance, "Ontario Population Projections, 2013-2041" (Toronto, 2014).

Table 5: Projected Labour Supply, Total and Indigenous, Kenora District and Northwestern Ontario, 2013–2041

Year	Kenora District			Northwest Ontario		
	Total Labour Force	Indigenous Labour Force	Indigenous Share (%)	Total Labour Force	Indigenous Labour Force	Indigenous Share (%)
2013	33,699	9,248	27.44	118,066	19,513	16.53
2014	33,522	9,414	28.08	117,057	19,863	16.97
2015	33,320	9,574	28.73	115,941	20,200	17.42
2016	33,161	9,722	29.32	114,821	20,511	17.86
2017	32,985	9,905	30.03	113,659	20,896	18.38
2018	32,777	10,060	30.69	112,368	21,218	18.88
2019	32,567	10,201	31.32	111,155	21,513	19.35
2020	32,331	10,333	31.96	109,865	21,790	19.83
2021	32,105	10,420	32.46	108,663	21,972	20.22
2022	31,908	10,562	33.1	107,446	22,267	20.72
2023	31,672	10,658	33.65	106,188	22,468	21.16
2024	31,459	10,757	34.19	105,063	22,674	21.58
2025	31,268	10,868	34.76	103,985	22,909	22.03
2026	31,104	10,948	35.2	102,983	23,079	22.41
2027	30,941	11,052	35.72	102,098	23,309	22.83
2028	30,778	11,131	36.16	101,264	23,485	23.19
2029	30,647	11,230	36.65	100,545	23,708	23.58
2030	30,539	11,328	37.09	99,887	23,923	23.95
2031	30,487	11,390	37.36	99,352	24,070	24.23
2032	30,436	11,482	37.72	98,929	24,284	24.55
2033	30,399	11,566	38.05	98,613	24,480	24.82
2034	30,372	11,643	38.34	98,313	24,664	25.09
2035	30,344	11,728	38.65	97,962	24,865	25.38
2036	30,334	11,804	38.91	97,608	25,048	25.66
2037	30,354	11,884	39.15	97,398	25,241	25.92
2038	30,368	11,983	39.46	97,219	25,474	26.2
2039	30,390	12,073	39.73	97,046	25,690	26.47
2040	30,403	12,170	40.03	96,808	25,920	26.77
2041	30,422	12,258	40.29	96,618	26,132	27.05

Source: Author's estimates based on Ontario, Ministry of Finance, "Ontario Population Projections, 2013-2041" (Toronto, 2014).

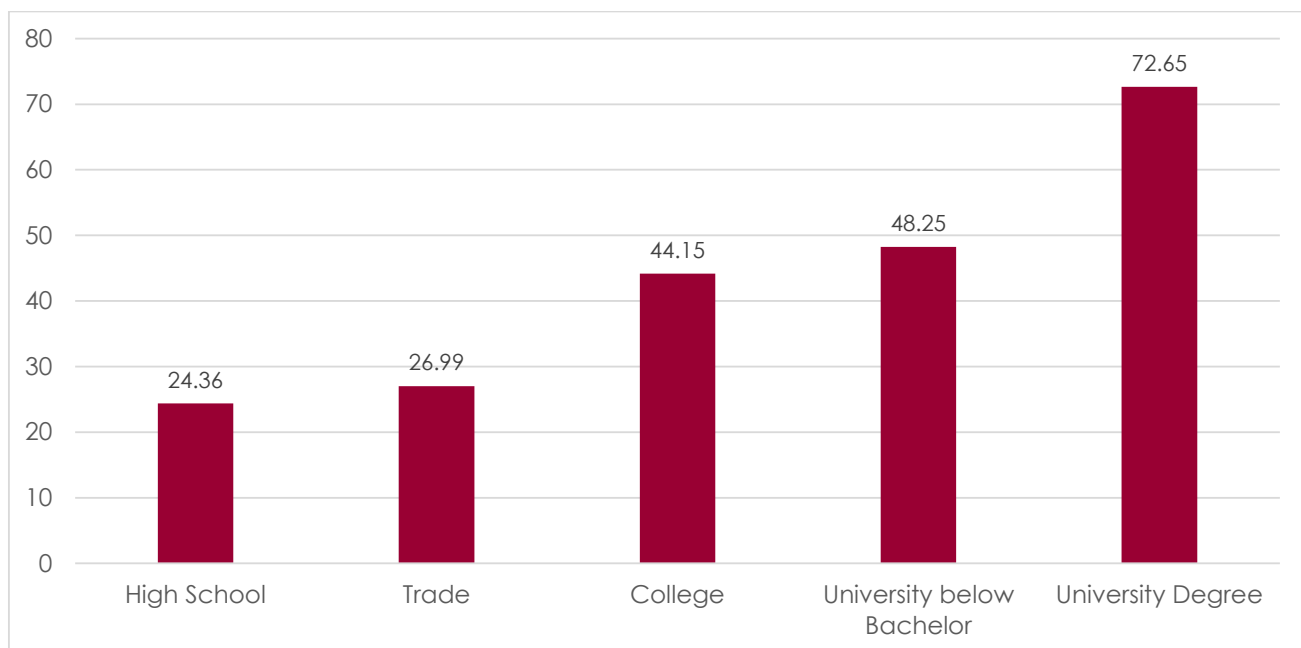
Productivity and the Human Capital Composition of the Workforce in Kenora District and Northwestern Ontario

Productivity growth is directly linked to the human capital composition of the workforce. Human capital is defined as the stock of knowledge, skills and abilities embodied in individuals that directly affects their level of productivity. Since knowledge and skills are acquired through education and experience, investing in human capital represents an avenue through which the Kenora District can enhance productivity and minimize the impact of its declining labour force.

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 the District and Northwestern Ontario. To obtain such an index, this study first estimated a standard earnings model using the 2006 census micro-data file.⁸ This study 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. The benchmark or reference group are those with less than a high school diploma.

The estimated return-to-schooling coefficients (Figure 11) show the increased earnings, compared to the reference group, of obtaining different levels of education. 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 percent above the earnings of those without a high school diploma. Similarly, obtaining a trade or college diploma increases earnings by 27.0 and 44.1 percent respectively. A university degree increases earnings by 72.6 percent. The return to schooling estimates reflect higher productivity resulting from an increased level of education. In short, the return to education increases as the level of schooling rises, reflecting higher earnings commensurate with higher productivity as the level of education increases.

Figure 11. The Return to Education (%), by Level of Educational Attainment, Canada, 2006



Note: Persons with an education who do not have a job are not included.

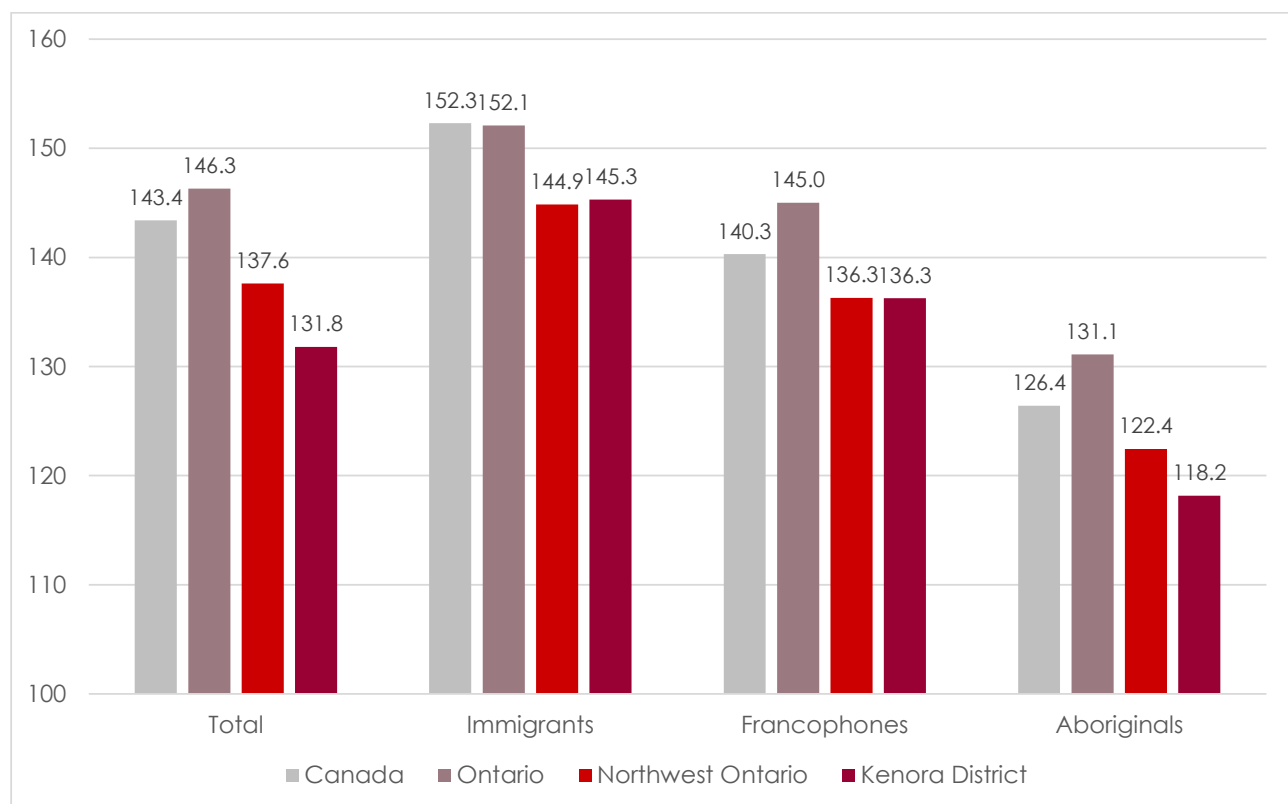
Source: Author's estimates based on Statistics Canada's 2006 Census Microdata file.

⁸ The earnings model is of the form: $\ln Wage = \alpha + \sum \beta_i S_i + \sum \delta_j X_j + \epsilon$, where S_i s are the highest level of schooling, X_j s are other control variables which include age categories, marital status, etc. and ϵ is an error term.

This study then used the estimated return-to-schooling coefficients as weights to calculate a weighted average index of the share of individuals aged 15 to 64 with different levels of schooling for the Kenora District and Northwestern Ontario.⁹ Figure 12 shows estimated human capital indexes for working-age Indigenous people, immigrants, Francophones and the total population in Canada, Ontario, Northwestern Ontario and the Kenora District.¹⁰ The estimated indexes range from 100 if none of the area's residents have completed high school to about 200 if all residents have obtained a university degree.

As Figure 12 shows, the human capital composition of the working-age population in the District is below that in Northwestern Ontario, Ontario and Canada. The human capital indexes for immigrants and Francophones are both higher than the total working-age population in the District of Kenora. Lastly, human capital indexes for the Indigenous labour force are lower than that of the total population in the District, and also lower than their Indigenous counterparts in Northwestern Ontario, Ontario and Canada.

Figure 12. Human Capital Index for the Working-Age Population, Canada, Ontario, Northwestern Ontario and Kenora District, 2011



Source: Author's estimates based on Statistics Canada's 2006 Census Microdata file.

9 HCI = $\exp\{\sum \beta_i \cdot S_i \text{ shares}\}$, where HCI stands for Human Capital Index, exp stands for exponential, and S_i shares are the share of the population ages 15 to 64 with S_i level of education in a given census subdivision. The formulation of the human capital measure is based on R.E. Hall and C.I. Jones (1999), "Why Do Some Countries Produce So Much More Output per Worker than Others?" Quarterly Journal of Economics 114 (1, 1999): 83–116. See also Francesco Caselli, "Accounting for Cross-Country Income Differences", First Draft, November 2003.

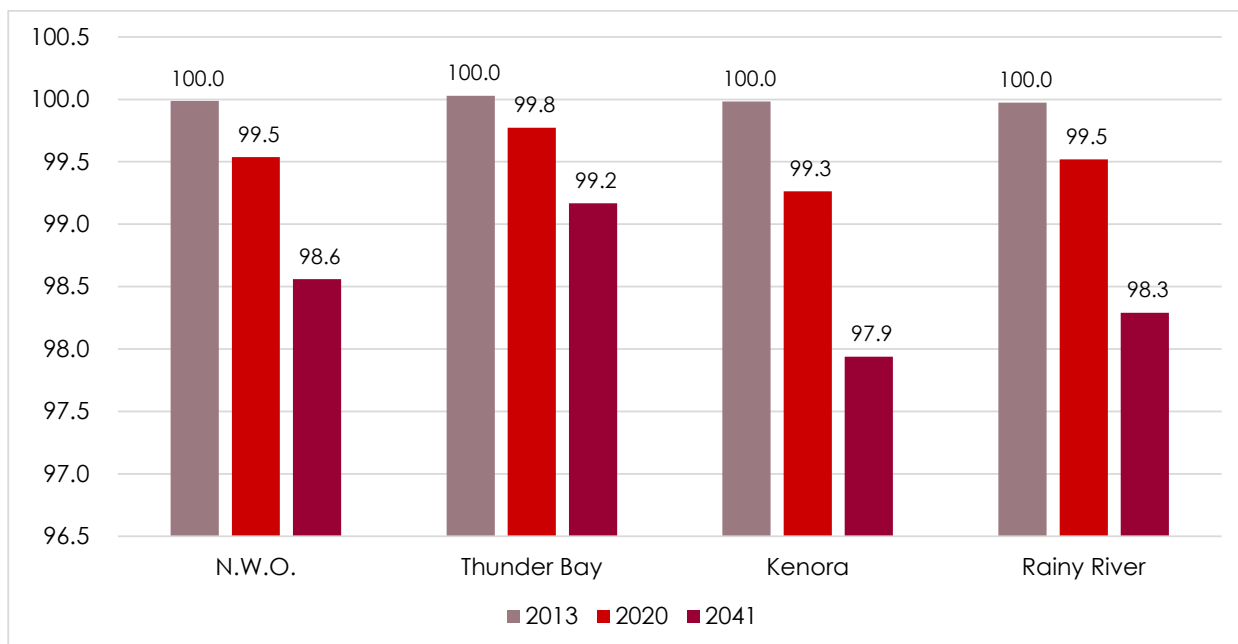
10 Note that the human capital indexes reported here are numerically different from the ones reported in my previous report since I have used return to education or productivity measure in Canada as a benchmark in calculating the above indexes where Ontario was the benchmark in my previous report. Using Canada as a benchmark has an advantage of making the indexes comparable to other provinces as well.

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

Earlier, this study identified two important demographic trends in the District of Kenora. First, the working-age population is declining; as a result, the supply of labour is expected to decline over the coming years. Second, a growing Indigenous labour force potentially could offset that trend, but the human capital composition of the Indigenous workforce is lower than total working-age population in the Kenora District, so if the current situation continues, future labour productivity will decline.

To estimate the human capital composition of the future regional workforce, this study combined the labour force projections with the human capital indices for various segments of the workforce. As Figure 13 shows, that if the current level of educational achievement continues, the human capital composition of the workforce will decline in the coming years in both Kenora District and Northwestern Ontario. This index is positively correlated with labour productivity, labour income and output in the region.

Figure 13. Projected Productivity Index of the Workforce in Northwestern Ontario, 2013–2041

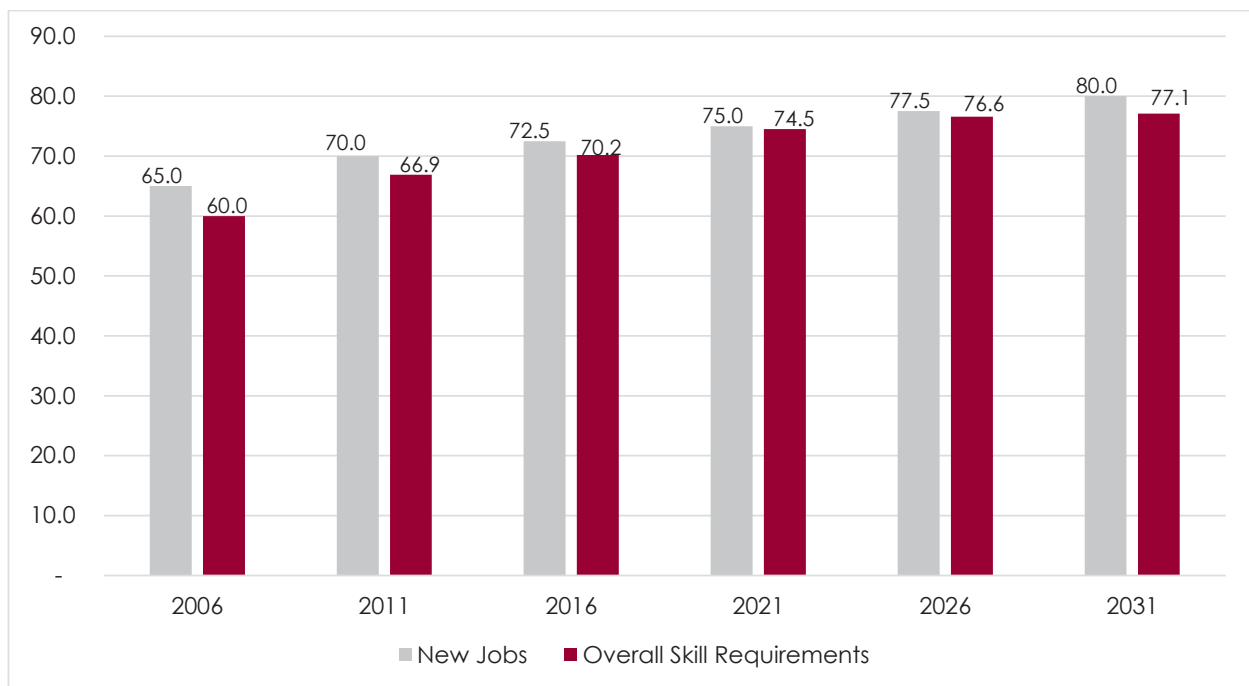


Source: Author's estimates based on Ontario, Ministry of Finance, "Ontario Population Projections, 2013-2041" (Toronto, 2014).

The declining supply of labour and declining labour productivity in the District is only half of the story. Technological changes and the emergence of the knowledge economy have altered the requirements of the labour market. Various studies suggest that, by 2031, about 80 percent of the workforce need to have post-secondary credentials such as an apprenticeship, college or university degree. Currently, 70 percent of the new jobs and an average of 63.4 percent of all jobs require some post-secondary credential. Based on various studies by the Ontario Ministry of Education, Human Resources and Skills Development Canada, the British Columbia Ministry of Skills, Training and Education, the British Columbia Ministry of Advanced

Education and Labour Market Development and other government agencies, Miner Management Consultants provides estimates of the percentage of new jobs that will require post-secondary education in the coming years (Figure 14). Interestingly, however, as Figure 15 shows, while the skill levels of the prime-working-age population in the Kenora District are lower than the skill levels in Ontario and Canada for the total population, the skill level among the Indigenous population in the Kenora Census Agglomeration (CA) is above provincial levels for both men and women. However, education levels in general, are still lagging the current estimated skill requirements of about 63.4. Closing this gap will be imperative.

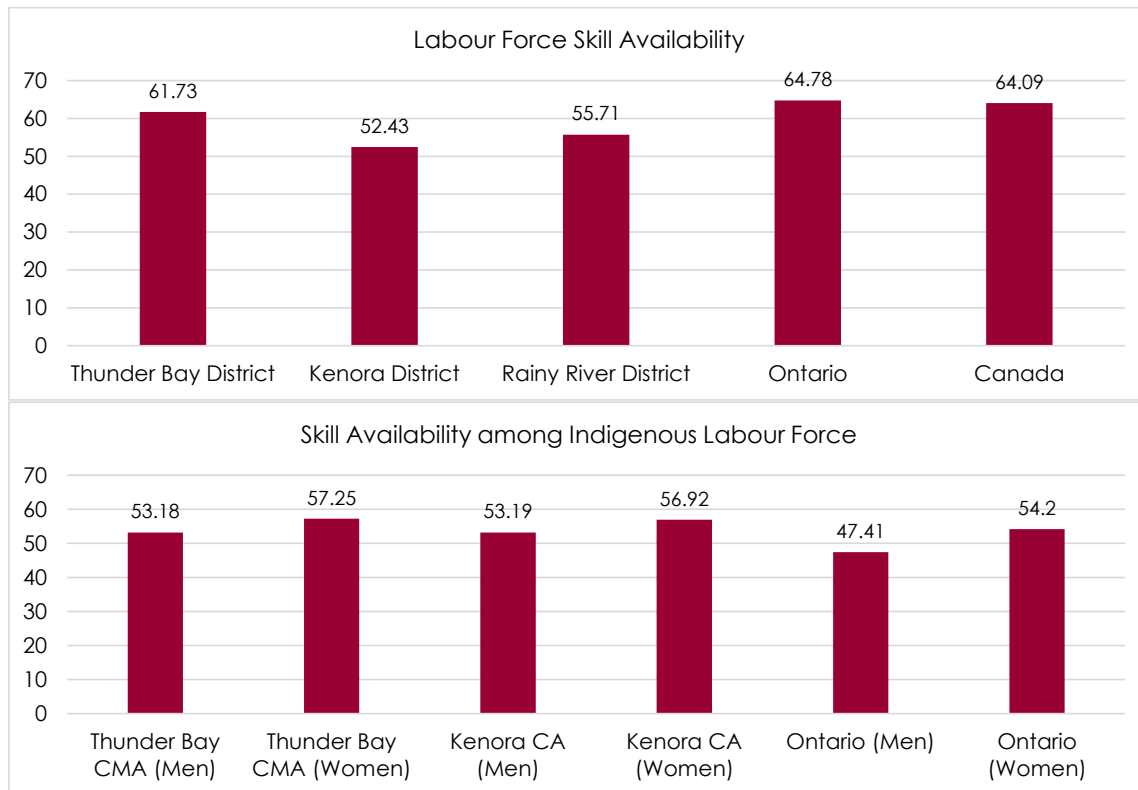
Figure 14. Percentage of Jobs Requiring Post-Secondary Education, Canada, 2006–2031



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



Figure 15: Percentage of the Labour Force Ages 25–64 with Postsecondary Credentials, Northwestern Ontario, Ontario and Canada, 2011



Source: Author's calculations based on Statistics Canada, National Household Survey 2011, custom tabulation.

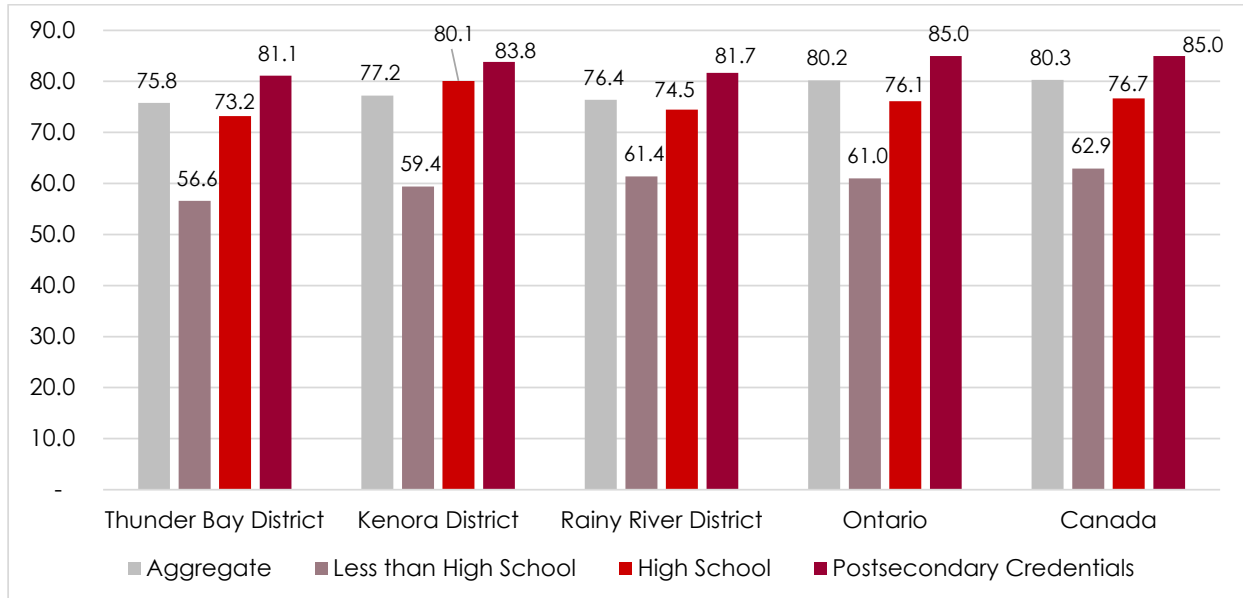
Since the Indigenous labour force will account for a significant and growing share of the Kenora District's future workforce, it is vital for the social and economic viability of the region to adopt education policies that enable this segment of the labour force to meet the requirements of the future labour market.

Does the level of skills affect labour market performance – that is, labour force participation and unemployment rates? Figure 16 shows that a higher skill level increases the likelihood of participation in the workforce. In the Kenora District in 2011, the participation rate of the prime-working-age population (25-64) without a high school diploma was 59.4

percent compared to 80.1 percent for those with a high school diploma and 83.8 percent for those with a postsecondary credentials. Figure 16 also shows that total labour force participation rates in this District lag behind the provincial and national averages.

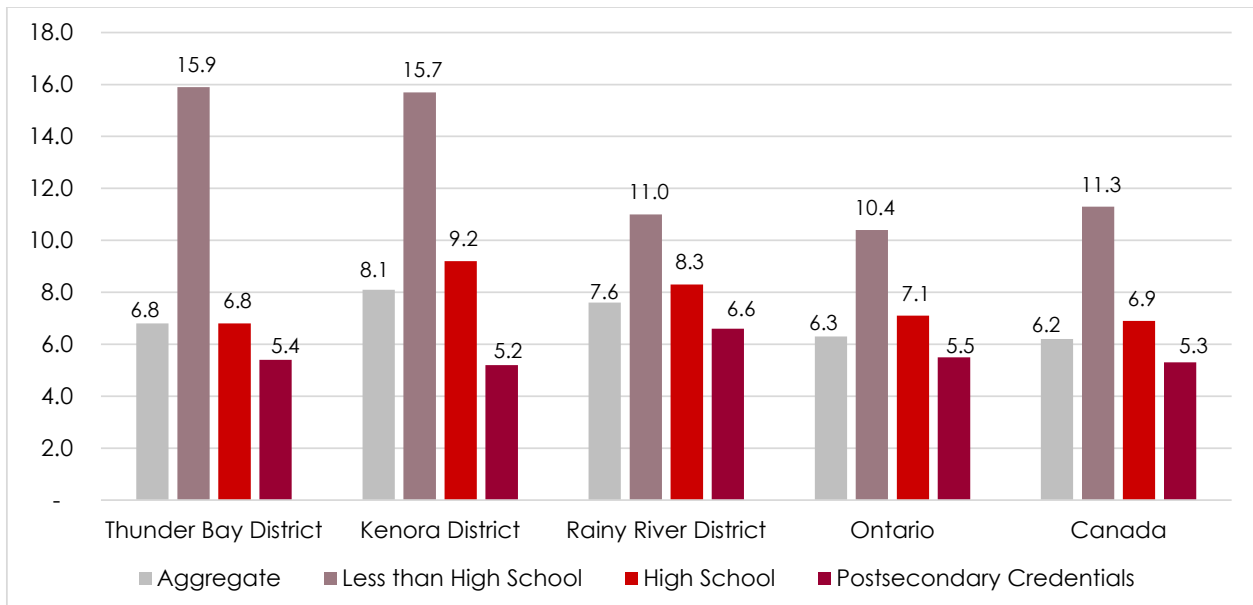
Similarly, as shown in Figure 17, the average unemployment rate among those without a high school diploma was 15.7 percent compared to 9.2 percent for those with a high school diploma and 5.2 percent for those with postsecondary credentials. Overall, the total unemployment rate in the Kenora District of 8.1 percent was higher than Ontario and Canada.

Figure 16: Labour Force Participation Rate by Level of Educational Attainment (%), Canada, Ontario and Northwestern Districts, 2011



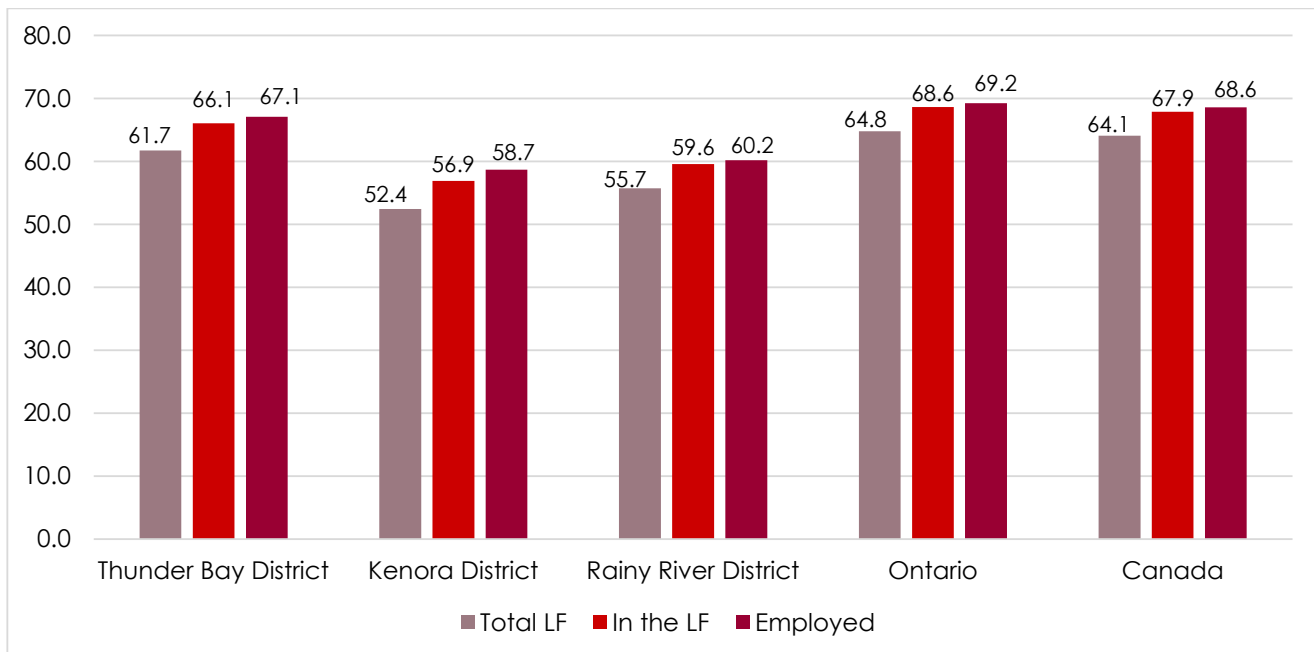
Source: Author's calculations based on Statistics Canada, Census of Canada 2011, and National Household Survey 2011, custom tabulation.

Figure 17: Likelihood of Unemployment by Highest Level of Schooling (%), Canada, Ontario and Northwestern Districts, 2011



Source: Author's calculations based on Statistics Canada, Census of Canada 2011, and National Household Survey 2011, custom tabulation.

Figure 18: Labour Force Employment Rate by Level of Educational Attainment (%), Canada, Ontario and Northwestern Districts, 2011



Source: Author's calculations based on Statistics Canada, Census of Canada 2011, and National Household Survey 2011, custom tabulation.

In short, individuals who do not have post-secondary credentials have a higher likelihood of non-participation in the labour force and face a greater probability of unemployment, and these probabilities will only increase in the coming years. To the extent that the skill level of the workforce in the District of Kenora is below the estimated requirement needed for emerging occupations, the region will face a situation of workers with qualifications that do not match the existing jobs and of jobs that cannot find qualified workers — essentially Miner's, "People without Jobs, Jobs without People." Even if markets adjust to bring labour demand and supply into balance, the social impact of having many unemployable people in the region will be enormous.

The above evidence suggests that one potential solution to the District's declining workforce size and productivity is to promote higher education through increased access to services, especially for the

Indigenous population who experience lower levels of educational achievement. One of the benefits of investing in education is a lower likelihood of unemployment and dependency on government transfer payments. Additionally, agreements such as the Trans-Pacific Partnership will continue to make labour more mobile among various countries, increasing the importance of achieving higher levels of education. In this case, workers in Northern Ontario will not only be competing with other workers in Ontario and Canada, but will be facing competition from other countries as well. To the extent that the skill level of the workforce in the Kenora District is below the estimated skill requirement needed for the emerging occupations, the District will face workers whose qualifications do not match the existing jobs and jobs that cannot find qualified workers.

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

The structure of the workforce has been changing due to a population that is simultaneously declining and aging. At the same time, the industrial and occupational composition of the employed workforce is shifting due to changing market conditions. As a result, the size and industrial makeup of the employed workforce has changed over 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, a large portion of which is publicly funded. Using data from various Censuses of Canada as well as the 2011 NHS, Table 6 shows the changing industrial composition of the employed workforce in the Kenora District.

Table 6 shows employment trends in the goods- and services-producing sectors of the District's economy. Total District employment has declined from 26,720 in 1996 to 25,055 in 2011, a decline of about 6.2 percent. As is the case with the overall regional economy, employment in the goods-producing sector has declined from 7,570 in 1986 to 4,795 in 2011, a decline of about 37 percent. During the same time, the service-producing sector has grown by about 24 percent. The share of the goods-producing sector in total regional employment has also declined from 32 percent in 1986 to about 19 percent in 2011. Notably, however, construction and mining have been increasing for over a decade.

Table 6: Industrial Composition of the Employed Workforce Ages 15 and Older, Kenora District, 2001–2011

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

Source: Author's calculations based on Statistics Canada, Census of Canada (various years), and National Household Survey 2011, custom tabulation.

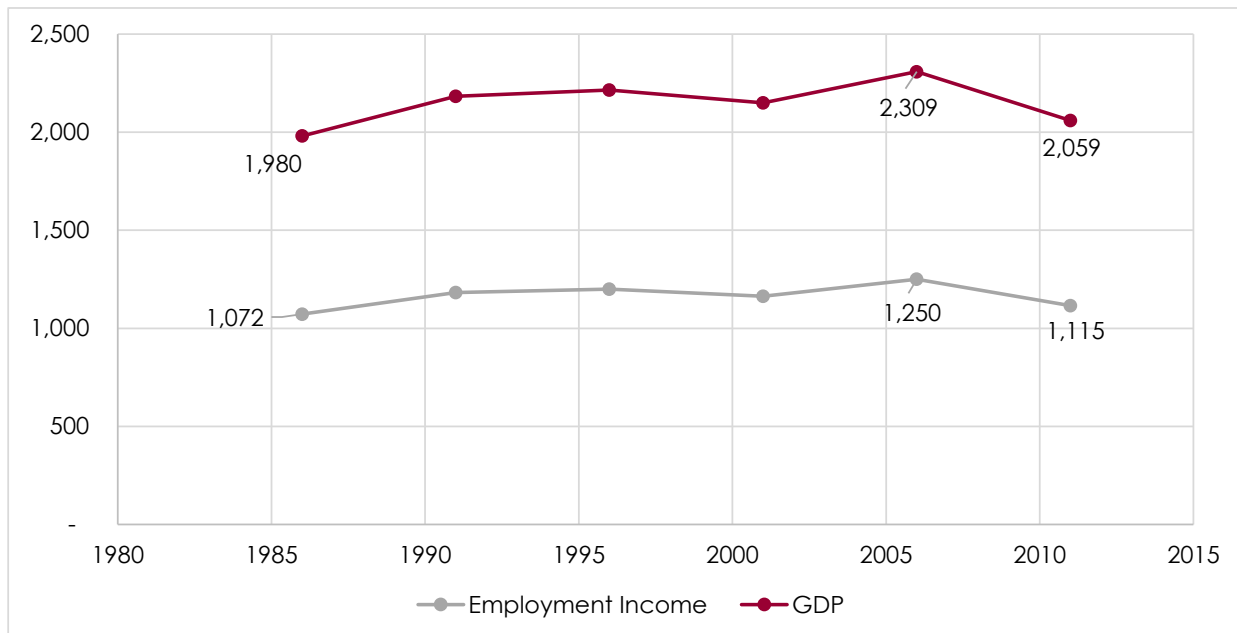
A shift in the industrial structure of the workforce in Kenora District was accompanied by a change in the occupational distribution of the labour force (Table 7). Employment in most occupational groups declined, except for occupations in social science, education, government service and religion and health occupations. Figure 19 shows that total employment income and GDP declined in the Kenora District by about 10.8 percent from 2001 to 2011, due partly to declining employment and partly to the changing occupational structure of the employed workforce. The goods-producing sectors of the District's economy include high-wage and high-value-added industries, and their decline has not only affected the level of output, but also resulted in lower average earnings in the District.

Table 7: Employed Workforce by Occupation, Kenora District, 1996–2011

National Occupational Classification 2006	2001	2011
A Management occupations	2,935	2,050
B Business, finance and administrative occupations	3,490	3,310
C Natural and applied sciences and related occupations	1,245	1,190
D Health occupations	1,290	1,495
E Occupations in social science, education, government service and religion	2,630	3,490
F Occupations in art, culture, recreation and sport	355	300
G Sales and service occupations	7,165	6,590
H Trades, transport and equipment operators and related occupations	4,650	4,285
I Occupations unique to primary industry	1,345	1,055
J Occupations unique to processing, manufacturing and utilities	1,360	550
Total	26,465	24,315

Source: Statistics Canada, Census of Canada (various years), and National Household Survey 2011, custom tabulation.

Figure 19: Total Labour Income and GDP (millions of 2010 dollars), Kenora District, 2001–2011



Source: Author's calculations based on Statistics Canada, Census of Canada (various years), and National Household Survey 2011, custom tabulation.

Recommendations

1. Respond to the needs of the Indigenous population

The human capital indexes for the Indigenous labour force in the Kenora District are lower than that of the total population in the District, and also lower than their Indigenous counterparts in Northwestern Ontario, Ontario and Canada. Given that the Indigenous share of the population is increasing, future labour productivity will decrease if education levels do not rise among this segment of the population. There is strong evidence showing that higher skill levels increase the likelihood of participation in the workforce and reduce unemployment rates, addressing these issues for the Indigenous population in the Kenora District will have positive benefits for the entire region.

2. Leverage temporary residents into immigrant attraction

In terms of net migration flows, the Kenora District has experienced modest intraprovincial out-migration for the last decade and a half. This District attracts roughly 27 times fewer immigrants per capita than Ontario as whole, which reported 64.8 immigrants per every 10,000 people in 2014-15. Out of all the northern districts, the District of Kenora attracted the second smallest number of immigrants per capita. Proximity to large urban centres should make this District an attractive option for secondary migration. Barriers to migration, such as accessibility or cost of living, should be assessed more fully to identify whether they are undermining Kenora District's attractiveness as a permanent destination.

3. A rural knowledge economy and rural workforce requires infrastructure

As noted, almost three-quarters of the District of Kenora's population live in rural areas. Moreover, the rural population increased between 2001 and 2011, while the urban population declined slightly and these trends continued in 2016. 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.



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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, Sudbury, and Sault Ste. Marie. 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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It's What You Know (And Where You Can Go): Human Capital and Agglomeration Effects on Demographic Trends in Northern Ontario

Dr. Bakhtiar Moazzami

Settling Down in the Northwest **James Cuddy**

Show me The Money: Some Positive Income Trends in Northern Ontario **Kyle Leary**

Northern Projections: Human Capital Series - Sudbury District **James Cuddy** **and Dr. Bakhtiar Moazzami**

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