

PUBLIC POLICY FORUM
FORUM DES POLITIQUES PUBLIQUES





**ABOUT PPF** 

Good Policy. Better Canada. The Public Policy Forum builds bridges among diverse participants in

the policy-making process and gives them a platform to examine issues, offer new perspectives and feed

fresh ideas into critical policy discussions. We believe good policy is critical to making a better Canada—a

country that's cohesive, prosperous and secure. We contribute by:

Conducting research on critical issues

Convening candid dialogues on research subjects

Recognizing exceptional leaders

Our approach—called Inclusion to Conclusion—brings emerging and established voices to policy

conversations, which informs conclusions that identify obstacles to success and pathways forward.

PPF is an independent, non-partisan charity whose members are a diverse group of private, public

and non-profit organizations.

© 2019, Public Policy Forum

1400 - 130 Albert Street

Ottawa, ON, Canada, K1P 5G4

613.238.7858

ISBN: 978-1-77452-031-4

ppforum.ca

@ppforumca

This report is available online.

### THIS PROJECT IS FUNDED BY



## THANK YOU TO OUR EVENT PARTNERS





## TABLE OF CONTENTS

About the Project	1
About the Authors	2
Introduction	3
What Affects Skills & Labour Shortages in Newfoundland and Labrador?	4
Demographics	4
Economic Growth	7
Technology & Skills	11
Economic & Immigration Policies	12
Stakeholder Perspectives on Hiring and Retaining Skilled Workers	15

## **ABOUT THE PROJECT**

As Atlantic Canada faces demographic and labour market changes, retention is on everyone's minds. Keeping workers, immigrants, skills and talent in the four provinces over the medium and longer term is a complex priority issue for economic growth and regional prosperity. **Atlantic Revitalization** is the Public Policy Forum's three-year project (2017-2020) funded by the Government of Canada addressing the challenge of retention and economic growth, with a focus on boosting long-term immigrant retention, deepening labour pools and improving employers' access to the skills they need. Through research reports, surveys, qualitative stories, provincial roundtables, and regional summits, PPF is advancing regional and Canadian understanding and cross-sector networks around Atlantic Canada's most pressing immigration and economic policy priorities.

#### **SOLVING FOR SHORTAGES SERIES**

Employer Experiences and the Labour Market Across Atlantic Provinces

Under the Atlantic Revitalization project, PPF is investigating skills and labour shortages in Atlantic Canada, and their interaction with immigration to and from the region. PPF partnered with Memorial University to convene employers, leaders in workforce development, immigrant settlement and post-secondary education, business association representatives and decision-makers in provincial and federal governments to discuss employer's experiences hiring and retaining skilled workers including newcomers and international students, and contextual factors. The qualitative results from these consultations in each Atlantic province were then combined with labour analysis by Memorial's research team led by Dr. Tony Fang, the Stephen Jarislowsky Chair in Cultural and Economic Transformation. Each province-specific report provides a picture of employers and communities experiences with skills and labour shortages in context to key provincial factors. The reports conclude with employers' recommendations for improving skilled and immigrant worker retention.

## **ABOUT THE AUTHORS**

Dr. Tony Fang

Stephen Jarislowsky Chair in Economics and Cultural Transformation, Memorial University

Dr. Tony Fang currently sits on a World Bank Expert Advisory Committee on Migration and Development in addition to being the Stephen Jarislowsky Chair in Economic and Cultural Transformation at Memorial University. He is dedicated to publishing cutting-edge research on the Canadian, and Newfoundland and Labrador economies. His areas of research encompass issues of high-performance workplace practices, retirement policy and the ageing workforce, education, immigration, innovation and firm growth.

Dr. Jane Zhu

Postdoctoral Research Fellow, Department of Economics, Memorial University

Dr. Jane Zhu is Associate Professor of Economics and Management at Sichuan College of Architectural Technology. Her research interests include human capital investment efficiency, the development of the Human Resources service industry in Sichuan, China and linkages between workforce diversity and workplace productivity. With over 20 years of working experience in human resources and human capital research, Jane developed a broad range of technical expertise in data collection, processing and analysis from existing research, survey, interview and other sources.

Paula Struk Jaia

Research Assistant, Memorial University

Paula Struk Jaia is a Master of Arts in Economics candidate at Memorial University of Newfoundland. Her research focuses on society and economics, combining economic theory and econometric analysis. Paula assists the Stephen Jarislowsky Chair in projects related to migration and labour market in Newfoundland and Labrador. Paula holds a Bachelor of Science majoring in economics from Memorial University.

## INTRODUCTION

Most industrialized countries are experiencing worker shortages and skill gaps due to low birthrates, aging populations, and new technologies that require workers with new skill sets. A global survey of nearly 40,000 employers in 43 countries and territories found 45 percent of employers reported having skill shortages (Manpower Group, 2019).

Canada is experiencing these issues, and the Atlantic provinces are facing an even more serious situation. Current trends show a decline in the natural population with more deaths than births being recorded, and with the growing number of retiring baby boomers, the workforce in Atlantic Canada is likely to shrink. From 2012 to 2018 the labour force shrank by 54,400 (Statistics Canada, 2019a). Additionally, the proportion of aging population is higher in Atlantic Canada compared to the rest of the country. In 2018, those aged 65 and above comprised 20.5 percent of Atlantic Canadians (Statistics Canada, 2019a). This age group is forecasted to increase to 30.9 percent by 2035, along with a projected 5 percent overall decline in the total population in the region (Kareem & Goucher, 2017).

There are two major types of labour and skill shortages in the market: cyclical and structural. Cyclical labour and skill shortages can be alleviated by increasing wages, initiating recruitment campaigns, and implementing innovative workplace practices (Skills Canada B.C., 2004). However, structural labour and skill shortages can be difficult to solve in the short run due to a shortage of potential workers with the required quality of skills, driven by demographic and technological changes (Fang, 2009).

# WHAT AFFECTS SKILLS & LABOUR SHORTAGES IN NEWFOUNDLAND AND LABRADOR?

Demographic, economic, technological and public policy factors have a direct effect on shortages of skilled workers in Newfoundland and Labrador (NL). Specifics on each of these factors are provided in Table 1 below.

#### **DEMOGRAPHICS**

While Canada's population has grown in the last decade, NL has been the only province with a shrinking population due to the aging population, declining fertility rates, and out-migration — as shown in Table 1. It also had the lowest percentage of international immigrants in the total population. The province also had the highest median age and the highest proportion of residents who were 65 and older.

Table 1. Demographic Characteristics of Canada and the Atlantic Provinces (Statistics Canada, 2016a; 2018a; 2019a)

	Canada	Newfoundland & Labrador	New Brunswick	Nova Scotia	Prince Edward Island
Population, 2018	37,057,765	525,604	770,921	959,500	153,584
Population change, 2017-2018 (%)	1.34	-0.52	0.54	0.95	2.04
Net interprovincial migration, 2017-2018	N/A	-2,733	481	3,048	177
International migration, 2018	303,257	1,275	4,113	5,137	2,012
Percentage of immigrants in the population (%)(2016)	21.9	2.4	4.6	6.1	6.4%
Median age 2018 (years)	40.8	46.5	45.9	45.1	43.5
Age 0-14 (%)	16.1	13.9	14.4	14.1	15.5
Age 15-64 (%)	66.8	60.8	64.8	65.5	64.7
Age 65+ (%)	17.1	25.3	20.8	20.4	19.8

A shrinking and aging population makes labour and skill shortages the most serious in NL compared to the other Atlantic Provinces. From 2014 to 2018 the labour force shrank by 14,835 or 4.4 percent. Moreover, there will be nearly another 35,000 more people exiting the labour market by year 2028, which represents approximately 10 percent of the total labour force.

Table 2. Demographic characteristics of Newfoundland and Labrador (Statistics Canada, 2019a)

Age group	2014	2015	2016	2017	2018
All ages	528,159	528,117	529,426	528,356	525,604
5 to 14 years	52,124	52,005	51,993	51,412	50,687
15 to 54 years	275,246	271,857	268,806	264,543	259,099
55 to 64 years	84,259	84,913	85,556	85,686	85,717
65 years and over	92,894	96,218	100,186	104,064	108,017
Percentage of 65+	17.6%	18.2%	18.9%	19.7%	20.5%
Median age	44.7	45.2	45.6	46	46.5

Figures 1, 2 and 3 below show that net interprovincial out-migration is a defining trend for NL since 2000, as younger workers are leaving to go to other provinces to pursue employment and educational opportunities (ACOA, 2019). Net positive migration between 2008 and 2014 may be attributed to increases in the number of Temporary Foreign Workers, as well as success with the Provincial Nominee Program (PNP) introduced in 2007.

Figure 1: Net-migration

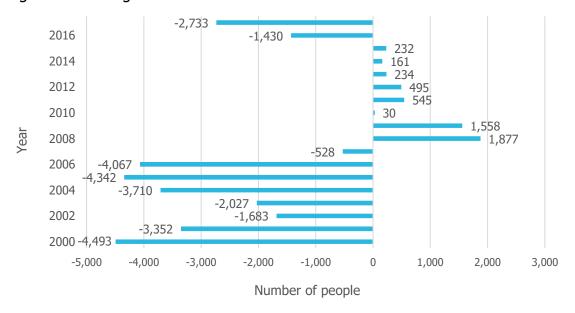


Figure 2: In-migration

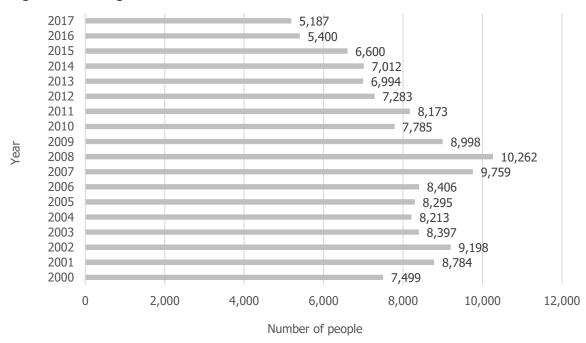
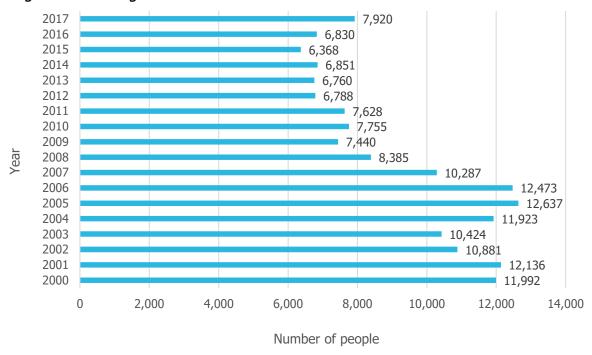


Figure 3: Out-migration



#### **ECONOMIC GROWTH**

Even as NL's demographics threaten to shrink the labour pool, the demand for workers has steadily increased. Robust natural resource development, growing capital investment (for example the West White Rose and Voisey's Bay projects) and growth in tourism, in international education and high-tech industries have all helped the economy recover. Table 3 shows that after an economic contraction due to the collapse of oil prices, the NL economy has recovered since 2017, creating more employment. This growth was accompanied by a tightening labour market due to retirement and out-migration, with NL's labour force participation rate being approximately 7 percent lower compared to the rest of Canada (Table 3). According to a Canadian Federation of Independent Business report, there were 2,400 unfilled jobs in NL in 2018 (CFIB, 2018).

Table 3. Selected Economic Indicators, Newfoundland and Labrador (NL government, 2018)

Indicator	2014	2015	2016	2017	2018	2019f	2020f
GDP (\$M)	34,277	31,138	31,696	33,074	34,362	35,242	35,082

Change, real (%)	-1.2	-1.2	1.8	0.9	-2.9	4.1	0.2
Investment, Gross Fixed Capital Formation (\$m)	12,035	12,087	13,873	10,978	9,684	11,313	9,250
Change in investment, real (%)	2.0	-1.8	8.8	-18.0	-12.9	14.4	-19.7
Labour force (in thousands of workers)	270.9	270.8	268.7	262.9	261.4	262.3	260.3
Change in labour force, real (%)	-1.3	0.0	-0.8	-2.2	-0.6	0.3	-0.8
Employment (in thousands of workers)	238.6	236.2	232.6	224.1	225.3	228.1	225.2
Change in employment, real (%)	-1.7	-1.0	-1.5	-3.7	0.5	1.2	-1.3
Unemployment rate (%)	11.9	12.8	13.4	14.8	13.8	13.1	13.5
Participation rate (%)	61.0	61.1	60.5	59.0	58.9	59.2	58.8

While there has been a decline in labour force participation, the unemployment rate remained stable and GDP has been growing at a slow rate. Normally labour force participation increases with economic growth. This deviation may suggest that NL's economy is in a transition from a resources-based economy to a knowledge-based economy (Government of Newfoundland and Labrador, 2019a), and some employees are exiting the labour market due to the lack of suitable skills to find a job in the new economy.

Tables 4 and 5 show that oil related industries employed fewer people in the economy and contributed less to provincial GDP between 2013 and 2017. Meanwhile the contribution of the service industries to GDP and employment have gradually increased or remained relatively stable over time.

Table 4. Percentage of GDP by Industry, Newfoundland and Labrador (NL Government, 2019b)

2013 2011 2013 2010 2017	2013	2014	2015	2016	2017
	2015	2011	2015	2010	2017

Oil Extraction & Support Activities for Oil and Mining	28.2%	28.4%	25.7%	15.1%	14.4%
Finance, Insurance, Real Estate & Business Support Services	12.3%	12.6%	13.0%	15.6%	14.7%
Professional, Scientific & Technical Services	2.6%	2.3%	2.4%	2.6%	3.1%
Education Service	4.9%	4.9%	4.9%	5.8%	5.7%
Information, Culture & Recreation	2.3%	2.4%	2.5%	2.8%	2.7%
Public Administration	6.5%	6.9%	6.9%	7.8%	7.5%

Table 5. Employment of people by industry (in thousands, and as a percentage of total NL population), Newfoundland and Labrador (NL Government, 2019b)

	2013	2014	2015	2016	2017	2018
Oil Extraction & Support Activities	8.8	9.2	8.4	7	5.3	5.2
for Oil and Mining	(3.8%)	(3.9%)	(3.6%)	(3%)	(2.3%)	(2.3%)
Finance, Insurance, Real Estate &	15.1	15	15.5	14.8	13.3	13.8
Business Support Services	(6.5%)	(6.3%)	(6.6%)	(6.4%)	(5.9%)	(6.1%)
Professional, Scientific &	9.2	10.6	11.3	10.5	9.8	10.0
Technical Services	(4.0%)	(4.4%)	(4.8%)	(4.5%)	(4.4%)	(4.4%)
Education Service	18.1 (7.8%)	17.6	15.1	14.3	15.2	15.9
	(7.070)	(7.4%)	(6.4%)	(6.1%)	(6.8%)	(7.1%)
Information, Culture &	6.6	7.5	7.3	7.1	6.5	7.2
Recreation	(2.8%)	(3.1%)	(3.1%)	(3.1%)	(2.9%)	(3.2%)
Public Administration	18.3	17.5	15.7	15.3	15.1	16.8
	(7.9%)	(7.3%)	(6.6%)	(6.6%)	(6.7%)	(7.5%)

This trend is in line with the provincial economic growth strategy to diversify NL's economic output while maintaining the strength of existing core industries (Government of Newfoundland and Labrador, 2019a), while increasing the capacity in service sectors such as information and communications technology (ICT) and international education.

#### **TECHNOLOGY & SKILLS**

Technology changes the nature of work and skills needed at work. This can lead to less labour force demand in some fields, and a shortage of skilled workers in other fields, as well as potential skill gaps. Some jobs require new skills and some new jobs are created in response to technology. An employer survey by the World Economic Forum shows that at least half of all employees will require significant reskilling or up-skilling to be able to work with changing technology (World Economic Forum, 2018).

In NL, the highest number of job openings will be in technical occupations (ACOA, 2019). Occupations with at least a college diploma in public administration, education services, professional, scientific and technical services are among the top ten industries seeking employees across NL. About 14 percent of job ads require at least a university degree or higher education credentials. (The Job Vacancy Report 2017, Government of NL). However, only 4.6 percent of unemployed Newfoundlanders held a university degree or higher education degrees in 2017 (Statistics Canada, 2017). According to the 2016 Census, 49.1 percent of people aged 25-64 years old had a college diploma (Statistic Canada, 2016). Therefore, unemployment is more likely to be structural due to contrasting skills.

A report on occupational ratings (Table 6, Department of Finance, Fall 2018) shows the kind of occupations likely to be in demand in the upcoming years, broken out by educational and training requirements. They include natural resources industries with occupations such as processing, manufacturing and machine operating, which will likely continue to need workers. Additionally, occupations in the knowledge-intensive economy, such as highly skilled managers in financial and business services, will also likely be in high demand.

Table 6. Occupational ratings for 2018-2027 for NL (Department of Finance, 2018)

	Occupations that usually require university education	Occupations that usually require college education or apprenticeship training	Occupations that usually require secondary school and/or occupation-specific training	Occupations where on-the- job training is usually provided
Competition for qualified labour will be strong	Managers in health, education, social and community services, sales, natural resources production and fishing	Control operators		
New labour supply will be	Managers in all fields	Technical occupations	Machine operators	Labourers in processing,
required to meet	Professionals in	Professionals in	Administrative support	manufacturing and utilities, and

anticipated job openings	business and finance	business, finance and administration	occupations	some elementary
		Companies ve in	Tourism and	service
		Supervisors in manufacturing and	security related occupations	occupations
		utilities		Cleaners

#### **ECONOMIC & IMMIGRATION POLICIES**

NL is facing more serious structural skill shortages compared to other provinces, even as the economy transitions from resource dependence to greater diversification. To alleviate skills shortages, it is necessary to focus on re-skilling or upskilling the existing labour force as well as developing a new pool of skilled workers. Immigrants, temporary foreign workers, refugees, and international students are part of the solution and immigration policies in NL can facilitate the growth of this new source of skilled workers.

International migration accounts for most population growth in Canada. According to Statistics Canada, population growth through immigration has been twice that of natural increase (Statistics Canada, 2019b). Since the inception of the <a href="Temporary Foreign Worker Program">Temporary Foreign Worker Program</a> and the points system in the 1960s, immigration policies have had a significant effect on mitigating the short- and long-term labour and skill shortages. The <a href="Canadian Experience Class">Canadian Experience Class</a> was introduced to attract and retain skilled workers and international students who have Canadian work experience or education experience to become permanent residents and alleviate skill shortages. These policies have contributed to the success of Canada's labour market, economy and social outcomes (IRCC, 2018).

#### **IMMIGRATION RATE & CATEGORIES**

As part of the Government of Canada's immigrant selection criteria, most newcomers to Canada are economic immigrants chosen by the point system that is based on several factors, including education and age. As a result, the newcomers tend to be more educated than Canadian-born workers (Docquier and Marfouk, 2004; Grogger and Hanson, 2011), and younger (Statistics Canada, 2019a), which means they are more productive and will stay in the workforce longer. In addition, immigrants play an important role in an open economy due to their knowledge of the markets and products of their country of origin (Dunlevy, 2004; 2019).

The most important contributions of immigrants include their innovation and entrepreneurship. Immigrants are fundamentally heterogeneous in terms of their abilities and skills as a result of their different education, cultural backgrounds and working experience, which can be considered important sources of innovation (Hanson 2012; Ozgen et al., 2014) and productivity (Huber et al., 2010; Hou et al., 2018; Harrison, Harrison: & Shaffer, 2019). Due to their relatively higher risk appetite, and lack of employment opportunities that provide decent income, immigrants are also more likely to start their own

business, which can in turn create more jobs for the local community. For example, more than half of new Silicon Valley ventures are established by immigrants, and the same is the case for Canada as a whole (Green et al, 2016). Between 2003 and 2013, the average annual net job growth per Canadian firm was higher among immigrant-owned firms than among firms with Canadian-born owners, as was the likelihood of being a high-growth firm (Garnett et al. 2019).

According to the Government of Canada statistics presented in Table 7 the number of immigrants in NL increased significantly from 2007 to 2018 (IRCC, 2019a). Partially thanks to the introduction of the Atlantic Immigration Pilot Program in 2017, more immigrants are now moving to NL as Table 7 shows.

Table 7. Permanent Residents Admitted to NL Annually (IRCC, 2019b)

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Total Immigrants Welcomed	546	627	606	714	685	732	835	899	1122	1118	1171	1275

In fact, only 2.4 percent of the total population of NL are immigrants, compared to 21.9 percent for Canada as a whole (Statistic Canada, 2016a). Newfoundland and Labrador attract relatively fewer immigrants and struggle to retain newcomers. As shown in Figure 4, only about half of immigrants stayed in NL five years after admission (Statistics Canada, 2018b).

Figure 4. Five-year Immigrant retention rate, 2011-2015 (Statistics Canada, 2018b)



#### INTERNATIONAL EDUCATION

In 2014, there were 2,261 international students in NL with \$48.2 million in annual spending. The presence of these students in turn created 511 jobs (Statistics Canada, 2016b) demonstrating that international students not only increase consumption and create more jobs, but also fill labour skill shortages as new skilled workers (CBIA, 2018a). Currently, there are about 2,800 college level international students enrolled at Memorial University and the College of the North Atlantic. By developing an appropriate international education policy and attracting more international students, the economy of the province can grow even further (Government of Newfoundland and Labrador, 2019a). However, the number of international students in NL represents only 1 percent of the total students in Canada, while British Columbia attracted 24 percent and Ontario attracted 48 percent respectively in 2017 (CBIE, 2018b). Even though the retention rate of international students rose to about 17% in NL between 2004 and 2015 (Toughill, 2018), it is still low compared to Ontario and Quebec, which retain over 70 percent of international students (Smith, 2016).

#### TEMPORARY FOREIGN WORKERS PROGRAM

Canadian employers often hire temporary foreign workers to fill immediate skills and labour shortages on a temporary basis. This includes positions that Canadian citizens and permanent residents are not available or willing to fill, such as seasonal work (Curry, 2016), highly skilled occupations in technology, and low skilled occupations in the service sector (Lemieux and Nadeau, 2015).

In 2017, 78,788 temporary foreign workers were admitted in Canada, including caregivers, agricultural workers and other workers who require a Labour Market Impact Assessment (LMIA). In addition, 224,033 work permits were issued under the International Mobility Program (IMP), which are exempt from an LMIA due to agreements that promote economic, social, and cultural exchange between Canada and other countries (Hussen, 2018). Temporary foreign workers can transition to permanent residence status through the Canadian Experience Class, Provincial Nominee Programs and the Express Entry Program (Prokopenko & Hou, 2018). There is a growing number of temporary foreign workers who obtain permanent residence and most of them are highly skilled workers (Prokopenko & Hou, 2018). In the past the Canadian Federation of Independent Business emphasized the demand by employers for temporary foreign workers in NL by explaining that,

"There are times we cannot find people regardless of what we do. We can raise wages, offer benefits, do what is necessary and members are still not getting the applicants required (across the country)"

(The Telegram, 2014).

More recently, an employer survey and study on the hiring of temporary foreign workers also showed the need for these workers in NL due to the difficulties in attracting workers at all levels (Fang et al, 2017).

## STAKEHOLDER PERSPECTIVES ON HIRING AND RETAINING SKILLED WORKERS

Various organizations including government agencies, businesses, and academic institutions have raised concerns about labour and skill shortages in NL. Employers have a crucial role; the experiences and opinions of the private sector are a strong reference for decision making to address skill gaps and challenges across NL.

In May 2019, PPF organized consultations with employers at the St. John's Board of Trade to engage employers from different sectors including energy, information technology, education, tourism, and business services to discuss pressing topics such as:

- The kind of skills shortages that employers are facing;
- The challenges impacting employers' decisions in hiring newcomers;
- Examples of successful policies or practices that can help overcome these challenges; and

 Suggestions to governments, communities, and businesses to overcome skill shortages and improve the employment and retention of newcomers.

Through discussion, the consultation was intended to:

- Identify sectors that experience labour and skill shortages;
- Examine factors influencing employers' decisions to hire skilled immigrants, refugees, international students and temporary foreign workers;
- Identify factors that positively or negatively impact employers' decisions to hire newcomers;
- Identify practices from government and other stakeholders that can help employers' recruitment of newcomers; and
- Identify measures to increase the skilled immigrant retention rate in the province.

Table 8 summarizes the input of employers through their experience with labour and skill shortages and their recommended solutions to address these shortages.

Table 8. Summary Findings from Employer Consultation in St. John's

Sector	Skill shortages	Challenges	Potential solutions
Engineering and energy	Fewer employees with the right skills, and few new workers coming into the industry	<ul> <li>Lack of qualified job candidates for occupations searching for potential employees</li> <li>Lack of social connections for newcomers and connections to employers for international students</li> </ul>	<ul> <li>Increase immigration up to 5,000 newcomers a year, and improve newcomer retention</li> <li>Increase computer science graduates from 30 to 500 per year</li> <li>Expand newcomer involvement in the Connector Program for coaching and preparing them for work</li> <li>Improve labour market information and connections between job candidates and employers</li> </ul>

- Lack of bilingual teachers (French and English) and bilingual public service workers
- Too few people with skills in IT, finance or administration,
- Lack of family doctors, social workers, and nurses, especially in rural areas
- Cost of credential recognition is high and time consuming for careers in nursing, medicine, engineering and law
- Many people are not willing to work in rural areas
- Sustainable agriculture and food safety are a challenge

- Improve and speed up credential recognition process
- Improve infrastructure and housing in rural areas

Sector	Skill shortages	Challenges	Potential solutions	
Business	<ul> <li>Bilingual workers         (French and English)         for customer service         positions</li> <li>Too few workers with         IT skills in the business         sector</li> </ul>	<ul> <li>Lower wages and non-wage benefits than other jurisdictions</li> <li>Low level of language proficiency for immigrants</li> <li>Reduced funding for co-op positions</li> <li>Lack of bilingual customer service</li> <li>Lack of infrastructure such as housing and transportation in remote areas</li> </ul>	<ul> <li>Increase the minimum wage</li> <li>Introduce ESL language training in high schools to reduce language barriers for immigrants</li> <li>Bridge the gap between business and the skilled immigrant community by building a partnership with Genesis Centre and the Association for New Canadians</li> <li>Provide more employment support to international students. An example of this is the Graduate Transition to Employment Program, where subsidized employment is provided to graduates</li> </ul>	
Information and communications technology	<ul> <li>Lack of enough people with ICT skills in the province</li> <li>Acute shortage of creative technical workers such as designers, animators, web developers and big data specialists</li> </ul>	<ul> <li>Low wages in the ICT sector</li> <li>General lack of interest in the ICT field among local students</li> <li>Poor integration of international ICT students into the local job market</li> </ul>	<ul> <li>Increase admissions for ICT post-secondary students</li> <li>Address misperceptions about interests of international students, for example they may not stay for long-term, are overqualified or are not competent</li> <li>ICT should be included as a major skilled trade in the immigration programs and children should be encouraged to develop interest in IT by providing early childhood training programs in computer skills</li> </ul>	

## CONCLUSION AND RECOMMENDATIONS

Newfoundland and Labrador faces a shortage of skilled workers, especially in areas such as computer engineering, information technology, sustainable food safety, healthcare, social work, and bilingual services. This situation is particularly acute in rural communities.

NL has found it difficult to attract people from other provinces because of a perceived unstable economic situation and high unemployment rate. Similarly, it is difficult to attract immigrant workers because the immigration process and regulations are considered long and tedious, which discourages employers from hiring newcomers. Employers are also hesitant to hire immigrants out of concern that they may not fit culturally, will not have adequate language skills, aren't well trained, and/or will leave soon after arriving. Many employers, particularly in information technology, are contracting business out, and some have moved their business to other provinces where it is easier to find and hire skilled workers.

Sector representatives and employers consulted in St. John's made the following key recommendations:

- Develop a one-stop database and information platform to collect and provide information on labour market, policies and services. This will enable employers to easily obtain information about services and processes when hiring immigrants, temporary foreign workers and international students. It will also help newcomers learn about career opportunities, what kind of skills are needed in the province, and what kind of support is available to them.
- 2. Involve the private sector in the immigration policy-making process by ensuring that immigration programs and processes are informed by employers and entrepreneurs who understand the process of hiring and are striving to retain talented workers.
- 3. Continue to evaluate and improve the Atlantic Immigration Pilot Program to make the process easier, faster and more transparent. This includes streamlining the immigration process and providing adequate information to eliminate inconsistencies and delays.
- 4. Ensure adequate immigration legal services for employers, international students and temporary foreign workers during the immigration and employment process.
- Develop business and education sector partnerships by offering joint training programs for immigrants and international students in order to build practical workplace skills including technical skills, interpersonal skills, and bilingual language skills relevant to the local business culture.
- 6. Build close connections between employers, immigrants and international students by organizing networking events and other support services.

- 7. Develop collaboration between educational institutions and immigrant settlement agencies to integrate different language training resources across NL and provide language training information to immigrants, temporary foreign workers and international students more effectively and efficiently.
- 8. Improve transportation infrastructure and access to convenient and affordable public transportation systems to meet the daily commuting needs of the public.
- Build wider communication channels among local communities and improve stakeholder collaboration to disseminate information about the valuable contributions made by immigrants to NL's economy and society.

In conclusion, NL faces deep structural labour and skill shortages which will affect long-term economic development and prosperity. Residents of the province need to know that the economy of the province can be improved by better attracting and integrating newcomers. Immigrants, international students, and refugees arriving in NL need to know about skill and labour shortages in different industries and the opportunities that exist for them. Finally, settlement agencies need to work with the government, employers, and training institutions to ensure the smooth settlement and integration of newcomers to the province.

## **RFFFRFNCFS**

Atlantic Canada Opportunity Agency (ACOA). (2019). An exportation of skills and labour shortage in Atlantic Canada.

Belec, B. (2014). Lobby continues to lift foreign labour ban. The Telegram.

Canadian Bureau for International Education. (2018a). <u>Retaining International Students in Canada Post-Graduation: Understanding the Motivations and Drivers of the Decision to Stay</u>.

Canadian Bureau for International Education. (2018b). International Students in Canada, 2018.

Citizenship and Immigration Canada (CIC). (2016). Annual report of parliament immigration.

Curry, B. (2016). Ottawa allows seasonal exceptions to temporary foreign worker rules. Globe and Mail.

Docquier, F., and Marfouk, A. (2004). Measuring the international mobility of skilled workers (1990–2000): release 1.0. The World Bank.

Docquier, F., Ozden, Ç., and Peri, G. (2013). The labour market effects of immigration and emigration in OECD countries. The Economic Journal, 124(579), pp. 1106-1145.

Dunlevy, J.A. (2004). Interpersonal networks in international trade: Evidence on the role of immigrants in promoting exports from the American states. Working article. Miami University.

Employment and Social Development Canada (ESDC). (2007a). <u>Archived - Temporary Foreign</u> Worker Program improved for employers in B.C. and Alberta.

Employment and Social Development Canada (ESDC). (2007b). <u>Archived - Canada's new government makes improvements to the Temporary Foreign Worker Program.</u>

Employment and Social Development Canada (ESDC). (2008). Archived - Government of Canada announces expansion of Temporary Foreign Worker Program Pilot Project to ease labour shortages for employers in B.C. and Alberta.

Fang, T. (2009). Workplace responses to vacancies and skill shortages in Canada. International Journal of Manpower, 30(4), pp. 326-348.

Fang, T., Sapeha, H., Williams, G., Neil. K., Jaunty-Aidamenbor, O. and Osmond Y. (2017). The Temporary Foreign Worker Program and empployers in Labrador.

Garnett, P. and Rollin, A-M. (2019). <u>Immigrant entrepreneurs as job creator: The case of Canadian private incorporated companies.</u>

Government of Newfoundland and Labrador. (2017). Job Vacancy Report 2017.

Government of Newfoundland and Labrador, Department of Finance. (2018). Occupational ratings.

Government of Newfoundland and Labrador. (2019a). <u>Economic Growth Strategy for Newfoundland and Labrador.</u>

Government of Newfoundland and Labrador. (2019b). <u>Selected economic indicators</u>, <u>Newfoundland</u> and <u>Labrador</u>.

Green, D., H. Liu, Y. Ostrovsky, and G. Picot. (2016). Immigration, business ownership and employment in Canada. Analytical Studies Branch Research Paper Series, 375. Statistics Canada Catalogue no. 11F0019M. Ottawa: Statistics Canada.

Grogger, J., & Hanson, G. H. (2011). Income maximization and the selection and sorting of international migrants. Journal of Development Economics, 95(1), pp 42-57.

Hanson, G. (2012). Immigration, productivity, and competitiveness in American industry, pp. 95-129. In Hasset, K. (Ed.) Rethinking Competitiveness. Washington D.C.: The AEI Press.

Harrison, D. A., Harrison, T., and Shaffer, M. A. (2019). Strangers in strained lands: Learning from workplace experiences of immigrant employees. Journal of Management, 45(2), pp. 600–619.

Huber, P., Landesmann, M., Robinson, C. and Stehrer, R. (2010). Migrants' skills and productivity: A European Perspective. National Institute Economic Review, 213, pp. 20–34.

Immigration, Refugees and Citizenship Canada (2018). **2018 Annual report to Parliament on immigration**.

Kareem, E-A. and Goucher, S. (2017). <u>Immigration to Atlantic Canada: Toward a prosperous future.</u>

Kim, C.U., Lim, G. (2011). The role of human capital in networks effects: Evidence from US exports. Global Economic Review, 40(3), pp. 299–313.

Kim, C.-U., and Lim, G. (2016). Immigration and international trade: Evidence from recent South Korean experiences. International Area Studies Review, 19(2), pp. 165–176.

Kunin, R. and Associates, Inc. (2016). Economic impact of international education in Canada – 2016 Update.

Lemieux, T., and Nadeau, J-F. (2015). <u>Temporary Foreign Workers in Canada: A look at regions and occupational skill</u>. Report by the Office of the Parliamentary Budget Officer (PBO).

Manpower Group. (2018). Solving the talent shortage: Build, buy, borrow and bridge. 2018 Talent shortage Survey.

Michel, B., Romain, N. and Lionel, R. (2014). Determinants of the international mobility of students. Economics of Education Review, 41, pp. 40–54.

Narrative Research. (2019). Perception of immigration. Narrative research's Atlantic Quarterly Immigration Results, 2019.

Ostrovsky, Y., G. Picot, and Leung, D. 2018. The financing of immigrant-owned firms in Canada. Small Business Economics.

Ozgen, C., Nijkamp, P., and Poot, J. (2013). The impact of cultural diversity on firm innovation: Evidence from Dutch micro-data. IZA Journal of Migration, 2(1), pp. 18.

Toope, P. (2013). The role of immigration in the Newfoundland and Labrador labour market: A case for increasing attraction and retention. The Newfoundland and Labrador Business Coalition.

Prokopenko, E. and Hou, F. (2018). How temporary were Canada's Temporary Foreign Workers?

Rosenzweig, M., Irwin, D., and Williamson, J. (2006). Global wage differences and international student flows [with comments and discussion]. Brookings Trade Forum, pp. 7-96.

Skills Canada B.C. (2004). Skill shortages in B.C. Ministry of Skills Development and Labour, Government of British Columbia.

Smith, W. (2016). New data and research at Statistics Canada for evidence-based decision-making. Panel discussion, September 13, 2016. St. John's, NL.

Statistics Canada. (2016a). Focus on geography series, 2016 Census.

Statistics Canada. (2016b). Education highlight tables, 2016 Census.

Statistics Canada. (2017). Labour force characteristics by educational degree, monthly, unadjusted for seasonality.

Statistics Canada. (2018a). Estimates of the components of interprovincial immigration, by age and sex, annual.

Statistics Canada. (2018b). Retention rate five years after admission for immigrant tax filers admitted in 2011, by province of admission.

Statistics Canada. (2019a). Population estimates on July 1, by age and sex.

Statistics Canada. (2019b). Annual demographic estimates: Canada, provinces and territories, 2018 (Total Population only). <a href="https://www150.statcan.gc.ca/n1/pub/91-215-x/2018001/sec1-eng.htm">https://www150.statcan.gc.ca/n1/pub/91-215-x/2018001/sec1-eng.htm</a>

Statistics Canada. (2019b). Temporary residents: Temporary Foreign Worker Program (TFWP) and International Mobility Program (IMP) Work Permit holders — Monthly IRCC Updates.

Toughill, K. (2	2018). <b>Success</b>	! International s	tudents more I	ikely to stay. A	tlantic Canada_Po	olestar
inews.						

