



# **Evaluating the Impacts of COVID-19 on Business Conditions, Labour Market Dynamics, Workplace Practices, and Organizational Performance in Atlantic Canada<sup>1</sup>**

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## **Executive Summary**

The COVID-19 pandemic shocked the world, economically and socially. The resulting impacts on businesses were unprecedented. Sectors such as retail and restaurants, manufacturing, construction, oil and gas, and tourism suffered the most from public health regulations, project cancellations, and the loss of business confidence (Bergman, [2020](#); Atlantic Provinces Economic Council [APEC], [2021a](#)). Key natural resource projects felt the effects: the development of the PEI Wind Farm and the Muskrat Falls hydroelectric dam projects was paused, and a drop in oil prices was paralleled by declines in tourism, forestry, fisheries, and mining.

“Normal” labour market dynamics were disrupted, bringing labour and skill shortages to greater public attention, and further alienating vulnerable groups like immigrants and international students. Businesses responded to this new environment with drastic changes. New technologies facilitated accelerated automation and alternative work arrangements like telework.

The COVID-19 pandemic is becoming a learning experience; the public sector, in hindsight, can better understand small and medium-sized business practices during this broad public health crisis, and it can equip the evolving Atlantic Canadian workforce with the necessary skills to cope with future shocks. Analysts in the public, private, and academic sectors alike can learn from pandemic recovery efforts and their impacts on regional labour markets, among other areas.

This report is one such study that examines the business impacts of the COVID-19 pandemic, translating telephone interviews with 805 employers, in-depth interviews, and real field work around the Atlantic provinces to a better understanding of the effects and lessons from the pandemic. This report clearly outlines the real regional harm of the COVID-19 pandemic on businesses, workers, and the unemployed, and draws conclusions about the economic realities emerging from the pandemic: how business practices have changed, how workers have adapted, and how the employers and employees can work together to move forward.

## Résumé exécutif

La pandémie de la COVID-19 a choqué le monde sur le plan économique et social, entraînant des impacts sans précédent sur les entreprises. Des secteurs tels que le commerce de détail est la restauration, la fabrication, la construction, le pétrole et le gaz, ainsi que le tourisme ont été les plus touchés par les réglementations de santé publique, les annulations de projets et la perte de confiance des entreprises (Bergman, 2020; Conseil économique des provinces de l'Atlantique [CÉPA], 2021a). Les projets clés dans le domaine des ressources naturelles ont également ressenti les effets : le développement du parc éolien de l'Île-du-Prince-Édouard et des projets de barrage hydroélectrique de Muskrat Falls a été suspendu, et la baisse des prix du pétrole s'est accompagnée d'un déclin dans les secteurs du tourisme, de la foresterie, de la pêche et de l'exploitation minière.

Les dynamiques « normales » du marché du travail ont été perturbées, attirant une plus grande attention du public sur les pénuries de main-d'œuvre et de compétences, et aliénant davantage des groupes vulnérables tels que les immigrants et les étudiants internationaux. Les entreprises ont réagi à ce nouvel environnement avec des changements drastiques. Les nouvelles technologies ont facilité l'automatisation accélérée et des modes de travail alternatifs tels que le télétravail.

La pandémie de COVID-19 devient une expérience d'apprentissage ; le secteur public, avec le recul, peut mieux comprendre les pratiques des petites et moyennes entreprises pendant cette vaste crise de santé publique, et il peut doter la main-d'œuvre en évolution du Canada atlantique des compétences nécessaires pour faire face à des chocs futurs. Les analystes dans les secteurs public, privé et académique peuvent entrer dans d'autres domaines, tirer des leçons des efforts de relance après la pandémie et de leurs impacts sur les marchés du travail régionaux.

Ce rapport est l'une de ces études qui examine les impacts commerciaux de la pandémie de COVID-19, traduisant des entretiens téléphoniques avec 805 employeurs, des entretiens approfondis et un travail sur le terrain dans les provinces de l'Atlantique pour une meilleure compréhension des effets et des leçons de la pandémie. Ce rapport souligne clairement les

véritables préjudices régionaux de la pandémie de COVID-19 sur les entreprises, les travailleurs et les chômeurs, et tire des conclusions sur les réalités économiques qui émergent de la pandémie : comment les pratiques commerciales ont changé, comment les travailleurs se sont adaptés, et comment les employeurs et les employés peuvent travailler ensemble pour avancer.

## Key Findings

### Hiring Difficulties

- Almost half of the Atlantic Canadian (46.5%) organizations with at least two full-time employees experienced hiring difficulties in the past 6 months as of April 2022. The percentage increased to 56.4% for organizations with five or more employees.
- Hiring difficulties were most prominent in the healthcare and social assistance (59.7%), secondary industries<sup>2</sup> (59.7%), and natural resource sector (51.5%).
- Hiring difficulties were positively correlated with organizational size (74.6% for large organizations, 59.8% for medium ones, and 37.6% for small organizations).
- The main causes of hiring difficulties were a lack of applicants (55.9%), a lack of necessary skills (24.1%), a lack of experience (18.2%), and a lack of education (10.2%). COVID-related benefits were also a notable cause (10.4%).
- Government (66.7%), not-for-profit organizations (57.5%), and private sector (55.1%) organizations with hiring difficulties reported ‘too few applicants’ as the major barrier to hiring.
- Technical/trade and general labour positions pose the greatest hiring challenges for firms of all sizes; 45.7% of all firms have difficulty filling technical/trades positions, while 32.9% of all firms have difficulty filling general labour positions.
- Sorted by province and occupation, the vacancies posing the most pronounced hiring difficulties are for managers in New Brunswick and production workers in Prince Edward Island.

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<sup>2</sup> Secondary industries are defined as construction, manufacturing, wholesale trade, and transportation and warehousing subsectors.

### **Hiring from Other Provinces and Newcomers**

- 42.7% of employers received applications from out-of-province during the last 6 months as of the time of the interview. Newfoundland and Labrador employers were least likely to receive out-of-province applications (30.4%), while PEI was most likely to receive them (52.6%).
- Among those who received applications from out-of-province applications, 27.3% of employers who received such applications hired from out-of-province. Newfoundland and Labrador employers were least likely to hire out-of-province applicants (21.3%), while PEI was most likely to hire them (34.0%).
- 12.2% of employers advertised job opportunities online or via job banks in order to specifically reach potential applicants from outside the province.
- 43.0% of employers received applications from newcomers during the last 6 months as of the time of the interview. Among them, 44.0% of employers reported these applications were from permanent residents and 44.2% of them reported these applications were from international students.
- Around one in three employers (35.0%) who received newcomer applications hired newcomers.
- The healthcare and social assistance (56.9%), secondary (49.1%), and natural resource sectors (45.5%) were the most likely to receive newcomer applications, while the arts and cultural sector was the least likely to have newcomer applicants (28.1%).
- The percentage of Prince Edward Island employers who received newcomer applications was the highest by a wide margin (60.0%), and that of Newfoundland and Labrador employers was the lowest to receive such applications (31.4%). Organizations in Prince Edward Island were also more likely to hire newcomers (50.9%), while organizations in Newfoundland and Labrador were the lowest to hire (25.4%).
- The natural resource (60.0%) and service (41.2%) sectors were more likely to report newcomer hires than other sectors.
- Urban organizations were more likely to received newcomers' applications and hire them (50.0% vs. 33.0%) than rural organizations (38.4% vs. 27.2%).

- Among those who hired newcomers, over half of employers (52.1%) provided support to newcomer employees, including support with immigration documents (17.9%), housing (11.6%), and language training (10.7%).
- The top type of support for newcomer employees by province is support with immigration documents in PEI (27.6%), language training in NL (12.5%), and housing in NB (17.4%) and NS (13.2%).

### **Workplace Practices to Fill Labour and Skill Shortages**

- The most common workplace practices to fill job vacancies were increasing wages without reducing non-wage benefits (64.4%), adjusting working hours and scheduling (52.6%). The least common practices are to provide signing bonuses (12.4%), and use overtime (16.8%).
- Nearly four-fifths of organizations in the secondary industries (79.0%) and arts and cultural sectors (78.1%) reported increasing wages to fill shortages, while only about half of organizations in the public & education sector did so (48.0%), the lowest percentage among all sectors.
- The larger the organization, the more likely it is to address hiring difficulties by increasing wages.
- Private firms were more likely to respond to shortages by increasing wages.
- Increasing use of teamwork (53.7%) and flexible working hours and scheduling (52.6%) were the most common non-compensation-related workplace practices to deal with shortages.
- The sectors most likely to increase the use of flexible working hours were the arts and cultural (68.8%), healthcare and social assistance (65.3%), and service (54.8%) sectors.
- Surprisingly, a large proportion of organizations (47.7%) hired unqualified personnel. Among them, about 4 in 10 employers (39.3%) hired unqualified personnel at a lower wage than a qualified employee. About 5 in 10 employers (50.5%) hired unqualified personnel at the wage of a qualified employer. Over 9 in 10 employers (91.7%) hired unqualified personnel and provided more training than usual.

## Remote Work

- About one in ten employers (11.2%) reported implementing some remote work arrangements before the COVID pandemic. This share increased sharply to 33.2% in the peak time of the pandemic and dropped to 18.6% as of March 21, 2022, when the pandemic was officially declared over.
- About one-third of not-for-profit employers (34.2%), one-fourth of government employers (23.1%), and 15.5% of private employers reported allowing remote work as of March 21, 2022.
- 28.3% of employers who can apply remote work arrangements would like more flexibility for employees to decide whether to work remotely or work onsite after the pandemic.
- Firms in Newfoundland and Labrador are most likely to maintain remote work flexibility post-pandemic (28.4%).
- In order to support workers in effective remote working, employers took various steps, including investing in employees' office equipment (25.6%) and IT equipment and software (25.3%), providing training for using online technology (13.7%) or for working from home effectively (10.5%) and increasing formal and informal virtual communications (17.5%).
- Regarding employers' evaluation of the impact of remote work on organizational and employee performance, in general more employers were positive than negative when considering organizational innovation output, talent retention and employee performance. However, more employers expressed concerns regarding increased management complexities and operational costs.
- Employers in NB had the most positive experiences with remote work arrangements out of the four Atlantic provinces, while employers in PEI were the least positive.
- Government employers reported being more neutral to remote work arrangements, while private sector organizations were more positive on the organizational productivity and employee performance effects.

## **Use of Automation Technology**

- Most firms employing automation technology are in Nova Scotia (15.6%), with the fewest in New Brunswick (11.4%).
- Medium and large-sized organizations (18.8% and 17.0%) are more likely to employ automation technology than small-sized organizations (10.7%).
- Automation technology is not strongly correlated with hiring difficulties and firm location.
- About two-fifths (38.9%) of employers who used automation technology prior to the pandemic reported increased usage during the pandemic
- Many organizations (29.2%) found new and permanent ways to sell products or services, and 25.1% of organizations digitized their core business operations.

## **COVID-19 Supports**

- The majority of employers provided protective barriers/equipment to employees (74.7%).
- More than half of employers provided support such as paid time off/sick leave (56.5%).
- A third of employers provided mental health assistance to employees (33.0%).
- Government (61.5%) and not-for-profit (53.3%) employers are more likely to provide mental health assistance than private sector employers (27.6%).
- Some employers (11.7%) seek non-financial support from the government in the form of recruitment and training support.

## **Implications**

### **For Employers:**

- Understand the real impacts of COVID on business operations and performance, and the most effective coping strategies and practices.
- Identify the industries and occupations that suffer the most from labour and skill shortages and appropriate mitigation strategies and practices.



- One such effective practice is to increase recruitment channels to reach out to more potentially untapped groups (women, indigenous people, recent immigrants, people with disabilities) to fill labour and skill shortages.
- Improve language training and Implement programs to bridge skill gaps for newcomer employees.
- Better understand the industries and occupations that are most suitable for remote work arrangements, the optimal level of remote work, and its impact on organizational and employee performance.
- Invest in advanced digital technologies (digitization, AI, and automation, etc.), where relevant and invest for the long term.

**For Policy makers:**

- Understand what supporting policies and programs mitigate the adverse effects of COVID on business operations and performance, and better prepare for future pandemics.
- Provide more accurate and timely labour market and occupational information and services to support the matching process between employers and employees in order to mitigate labour and skill shortages.
- Develop labour market infrastructure in rural and remote areas.
- Enhance credential recognition services for immigrant workers.
- Provide employers, especially SMEs, training and support for navigating the immigration system.
- Make the immigration process easier and faster.

**For Settlement agencies:**

- Improve language and skill training for newcomers.
- Develop programs to encourage cross-cultural understanding and communication between immigrant workers and their employers.
- Leverage digital technologies to streamline newcomer settlement and integration processes.
- Develop an integrated, easy-to-use ‘one-stop shop’ service delivery model.

- Develop potential for settlement program co-creation (beneficiaries getting a say in how services are designed and delivered).
- Develop potential for increased collaboration between settlement agencies as well as other immigration system stakeholders.

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# 1.0 Introduction and Background

## 1.1 Project Background

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COVID-19 is an unprecedented public health crisis not comparable to any other external shock in terms of its scope, complexity, and detrimental impacts on individuals, businesses, and government. The operations of around three-quarters of firms in Atlantic Canada were adversely affected by the virus and around the same amount reported having to lay off workers, while one-fifth reported reducing or freezing wages to make up for revenue losses (Digital Nova Scotia, [2020](#)). Trades NL, a labour organization representing 18,000 Newfoundlanders and Labradorians working in building and construction trades, has reported an 85% unemployment rate among their members during the peak time of the crisis (King, [2020](#)).

Businesses responded by becoming more agile and responsive, altering product marketing and delivery, delivering services using improved technology, and utilizing new modes of communication. Workplace management practices became more flexible, operational hours were reduced (Beland et al., [2020](#); Lemieux et al., [2020](#)), and hiring decisions became more selective (Campello et al., [2020](#); Fang, [2020](#); Jones et al., [2020](#); Lange & Warman, [2020](#); Wadsworth, [2020](#)).

## 1.2 Research Objectives

This report provides a robust understanding of COVID-19's short-term and longer-term impacts on **workplace practices**, **organizational behaviour**, and **labour market dynamics** in Atlantic Canada. This is a comprehensive investigation of business and labour responses to the COVID-19 pandemic and their transitional operating conditions during and aftermath the crisis. By uncovering the impacts, this research examines the regional economy's vulnerability to external shocks – especially for small and medium-sized organizations – including employers' ability to maintain and create employment, and disproportional consequences towards newcomer groups, and business strategies and practices for managing economic recovery efforts.

The main objectives of this study are to:

- Investigate the nature and extent of COVID-19 **impacts across industries, regions, and organizational sizes in Atlantic Canada;**
- Investigate the nature and extent of COVID-19 impacts on labour market dynamics, business operations, especially with regard to **changes in labor and skill shortages and organizational responses to such shortages;**
- **Explore varying workplace practices towards mitigating COVID-19 impacts** (e.g., automation, remote work, changing operating hours, total closure, hiring freeze, etc.) before, during, and after the pandemic;
- Investigate the nature and extent of COVID-19 **impacts on human resources management practices**, such as wages and benefits, hiring and firing, use of flexible work arrangements including remote work, and use of automation and advanced digital technologies. Particular attention is paid to hiring practices and support mechanisms for newcomers and international students;
- **Explore remote work** — how it has been conducted, why it has been conducted, the concerns leading to implementing remote work, and the opportunities and challenges it presents;
- **Evaluate organizational outcomes** (both subjective and objective) associated with the changes in HR management practices and alternative work arrangements, including the effects on organizational productivity, innovation outputs, employee attraction, employee retention, and overall firm performance;
- **Forecast probable impacts based on robust local research evidence** in the event of a recurrence of COVID-19 or a similar phenomenon.

The findings may be used by government agencies, business organizations, non-profit agencies and service providers to newcomers and international students, to formulate practical recovery tools including:

- Shock-proof training programs for reskilling, upskilling, and acquiring new skills;
- Adoption and Improvement of promising workplace practices;
- Targeted policy frameworks to support the recovery effort of vulnerable businesses and individuals.



## **1.3 Methodology**

This study is based on a telephone survey of 805 employers, which was conducted between April 5 and May 20 2022, using a stratified random sampling method (by industry, region, and organizational size) and a 10–15-minute semi-structured telephone interview. A series of 28 follow-up in-depth employer interviews by web meetings were also conducted between June–November 2023, followed by 4 selected in-person employer site visits across the Atlantic provinces in the mid to late September 2023 to develop a better understanding of the short-term and longer-term impacts of the COVID-19 pandemic on business operations, workplace practices, alternative work arrangements, and organizational performance in Atlantic Canada.

### **1.3.1 Targeted participants**

This study targeted representative employers in the Atlantic Provinces. These employers were randomly selected from each province based on geographic and industrial concentrations and organizational size, excluding organizations with fewer than two employees. Every effort has been made to ensure the sample is representative in terms of industrial, regional, and size distributions.

Employers were surveyed on their past, present, and future workplace practices alternative work arrangements, and organizational outcomes, both, during, and after COVID.

### **1.3.2 Data and Methods**

#### **1. Quantitative Data — Telephone Survey**

The Atlantic Canadian-based survey research company *Narrative Research* conducted a COVID-19 business survey across Atlantic Canada in 2022 on behalf of our team. 805 employers with two or more full-time employees responded to the survey. Survey respondents included business owners or CEOs in small organizations, and senior executives, human resource managers, or hiring managers in mid-sized and large-sized organizations.

## 2. Qualitative Data —In-Depth Virtual Employer Interviews

Of an initial 805 survey respondents, the Jarislowsky Team conducted 28 in-depth interviews with a select group of responding employers regarding their business experiences before, during, and after the COVID-19 pandemic.

## 3. Qualitative Data — In-Person Site Visits and In-Depth Employer and Employee Interviews

Site visits to two firms in Prince Edward Island and two firms in Nova Scotia in September 2023 produced three employer interviews and one employee focus group discussion. The four firms operate in the food and accommodation, manufacturing, real estate, and fishing and hunting industries, respectively. Two of the firms are located in rural areas. Data from the field research broadly supported the evidence presented in the employer survey data.

### 1.3.3 Sample Description

For the survey data analysis, nineteen NAICS (North American Industry Classification System) industries are grouped into eight sectors according to similarities between the industries within each sector to generate meaningful sample sizes:

- 1) **Service sector** (i.e., retail trade, accommodation and food services, and real estate rental and leasing);
- 2) **Natural resource sector** (i.e., agriculture, forestry, fishing and hunting; mining, quarrying, oil and gas extraction; and utilities);
- 3) **Secondary sector** (i.e., construction, manufacturing, wholesale trade, and transportation and warehousing);
- 4) **Arts and culture sector** (i.e., information and cultural industries; and arts, entertainment and recreation);
- 5) **Public service and education sector** (i.e., public administration; educational services; administrative and support, waste management and remediation services);
- 6) **Healthcare and social assistance sector** (consisting of the NAICS industry of the same name; may include hospitals, childcare, associations for disabilities, community support and employment providers, etc.);

- 7) **Technical and professional sector** (i.e., finance and insurance; professional, scientific, and technical services; and management of companies and enterprises);
- 8) **Other** (a residual category).

The distribution of the eight sectors in the survey data is presented in Table 1.

**Table 1: The sector distribution of survey respondents**

<b>Industry</b>	<b>#</b>	<b>%</b>
Service sector	241	29.9
Natural resource sector	33	4.1
Secondary sector	171	21.2
Arts and cultural sector	32	4.0
Public service and education sector	100	12.4
Healthcare and social assistance sector	72	8.9
Technical and professional sector	82	10.2
Other	74	9.2
<b>Total</b>	<b>805</b>	<b>100%</b>

Respondents were also classified according to organization size (small, medium, large), location (urban, rural), and organization type (government agency, not-for-profit, private sector). The distributions of respondents along these lines are shown in Tables 2, 3, and 4. Moreover, Table 5 displays the percentages of respondents who are located in each of the four Atlantic Canadian provinces.

**Table 2: The organization size of survey respondents**

<b>Organization Size</b>			
Small (2 to 9 employees)	(2 to 4 employees)	41.6%	64.8%
	(5 to 9 employees)	23.2%	
Medium (10 to 49 employees)			27.8%
Large (50 or more employees)			7.3%
<b>Total</b>			<b>100%</b>

**Table 3: Regional distribution of survey respondents**

<b>Location</b>	
Urban centres	59.0%
Rural areas	41.0%
<b>Total</b>	<b>100%</b>

**Table 4: The organization type of survey respondents**

<b>Organization Type</b>	
Government agency	4.8%
Not-for-profit organizations	14.9%
Private sector company	79.0%
DN/NA	1.2%
Total	100%

**Table 5: Provincial distribution of survey respondents**

<b>Province</b>	
New Brunswick	25.0%
Newfoundland and Labrador	25.0%
Nova Scotia	38.3%
Prince Edward Island	11.8%
Total	100%

## 2.0 Literature Review

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Thanks for regional immigration programs (PNP and AIP), Atlantic Canada’s labour force has been growing in recent years (Statistics Canada, 2023). However, the retention rate is still the lowest across Canada according to the most recent data available (Statistics Canada, 2021). One reason for the low retention is that the less desirable quality of available employment: over half of all Atlantic Canadian vacancies are in low-skilled occupations, and temporary and seasonal jobs are more prevalent in the region than in most of Canada (ACOA, [2019a](#)). With skill shortages and a diminishing population, over half of Atlantic Canadian businesses have also had difficulty finding employees (ACOA, [2019a](#)).

Maintaining a skilled population in Atlantic Canada requires investment in crucial infrastructure and skill training. Investment is needed in essential infrastructure and state-of-the-art skills to retain the population in high-quality jobs and to train newcomers to meet local labour market needs.

Apart from social and economic strife, the COVID-19 pandemic may present an opportunity for needed “creative destruction” in Atlantic Canada to dismantle old paths and clear new and improved channels for the labor force (Schumpeter, [1947](#); Blit, [2020](#)), such as green initiatives and the associated creation of high-quality jobs, as reflected in the Atlantic Canada Momentum document (Sharpe, 2023). The following review documents the depth of COVID-19’s restructuring effects on businesses and workers and the consequent opportunity for the revitalization of labour market development in Atlantic Canada.

### 2.1 Business Impacts and Organizational Responses

#### 2.1.1 Impact by Industry and Organization

While almost all industries felt the shock of the COVID-19 pandemic, the hardest hit initially were those that are high in personal contact while being deemed non-essential: tourism and accommodation, and restaurants. The tourism and accommodation industry in Atlantic Canada contracted 60% from 2019 to 2020, by \$3.3 billion, and restaurants and bars experienced a 57% initial drop in sales (APEC, [2020](#)).

**Table 4: Economic summary — Hardest hit Atlantic Canadian industries 2019-2020 (Chapman et al., [2021](#))**

Sector	YOY Revenue Change 2019-2020 (CAD\$)	Employed 2019
Tourism	-\$3.3 billion	100,000
Restaurants	-\$700 million	66,000
Construction	-\$3.3 billion	85,000
Oil and mining	-\$1.3 billion	17,300
Manufacturing	-\$3 billion	78,000

While tourism was slow to recover, restaurants quickly employed new practices, like unique in-store safety precautions and online ordering options, which successfully contributed to sales rebounding to only 23% below the pre-pandemic level, as of July 2020. Construction benefited from its classification as an essential service and was able to maintain altered residential operations, but delays in large energy projects generated pronounced adverse effects in natural resource industries, especially in Newfoundland and Labrador (Atlantic Economic Council, AEC, [2020a](#)).

Atlantic exports, which accounted for 29% of Atlantic Canada’s GDP and supported over 118,000 jobs, remained 50% lower year-over-year in May 2020. Other manufactured exports like seafood also suffered, with seafood exports contracting 24% in 2020. Some manufacturing export companies, however, successfully pivoted operations (Chapman et al., 2021).

The federal government entered into contracts with several manufacturers — including Irving Oil and Stanfield’s Ltd. Atlantic Canadian operations — to produce personal protective equipment (PPE) and medical-related goods like medical gowns and masks using local materials. Over 200 previously laid-off employees returned to work, providing supplementary protection to a sector worth 7% of employment and 15% of GDP in Atlantic Canada (AEC, [2020b](#)).

#### **Impacts on Small-and-Medium-sized Enterprises**

In general, small enterprises felt significantly more pandemic pressures than large ones. Small businesses, which represent 98.1% of all employers and employ two-thirds of the Canadian

workforce, face overwhelming financial obstacles. Approximately 20.6% of companies with 1-19 employees reported an inability to take on more debt and foresaw challenges repaying government support programs (Tam et al., [2020](#)). The result was a decline in business ownership: in the four months between February and May 2020, incorporated firm ownership dropped 14.8% and unincorporated entities fell by 10.1%, while immigrant and women self-employment fell 16.1% and 12.9%, respectively (Beland et al., [2020](#)).

### **2.1.2 Changes in Workplace Practices**

#### **Remote work**

Corporations are using COVID-19 as an opportunity to reconstruct workplace routines. There is now a “distance economy” defined by a virtual workplace, full-time or hybrid work-from-home arrangements, and remote work opportunities. Many employers now indicate their plans to allow employees to work remotely post-pandemic ([Steemers et al., 2021](#)), leaving long-term implications for organizations, human resource managers, and employees.

The acceleration of remote work was a natural progression. 41% of jobs in Canada can be performed remotely, and remote work options were previously established as a competitive advantage in attracting and retaining talent (Eversole et al., [2012](#); Morgan, [2014](#)). Remote work is often a benefit to employees and positively contributes to the employee-employer psychological contract; employees who can work remotely perceive their employers as more supportive of employee well-being (Danna & Landry, [2011](#)). Some employees view remote work as allowing a better fit between themselves and their job, and some view remote work as a family-friendly option to enhance work-life balance, lessening family-work conflict (Shockley & Allen, [2010](#); Hyland et al., [2005](#); Barrero et al., [2021](#)), and leading to greater life satisfaction, which improves employee productivity (Kazekami, [2020](#)).

#### **Training**

The COVID-19 pandemic required coupling new remote work arrangements with upskilling and reskilling for existing previous employees and new hires alike (Przytuła et al., [2020](#)). Workers needed mental flexibility, autonomy, initiative, and the capability to make decisions if they were to adjust to new business-to-business and business-to-client relationships, as well as training

programs or mentorship opportunities that facilitated a long-term transition to new workplace practices (Devyania et al., [2020](#)).

### **Virtual socialization**

The trade-off of remote work is between the convenience of working from home and the connection of the workplace. Working from home can distort crucial employee experience in the absence of real coworker workplace interactions or informal questions and conversation with others (Hancock & Schaninger, [2020](#); Morrisson, [1993](#); Sias & Myers, [2001](#)). In a virtual environment, managers should emphasize the significance of new employee engagement to ensure a sense of belonging (Przytuła et al., [2020](#)). Otherwise, the absence of face-to-face interactions can cause negative perceptions of person-environment fit and overall dissatisfaction (Carnevale & Hatak, [2020](#)). Some human resource managers have resorted to virtual lunches, coffee breaks, and townhall meetings between staff, but their effectiveness has not yet been well researched (Carnevale & Hatak, [2020](#)).

### **Performance management and compensation**

Some workers suffer from work-from-home policies and unique occupational stress factors. Workplace isolation, lack of communication, family distractions, and role overload are the most common (Prasad & Vaidya, [2020](#)). Remote work also accentuates situational constraints — like computer problems or a lack of accessible information from coworkers — that can reduce productivity (Sonnertag et al., [2008](#)). Ineffective management can exacerbate such issues, as successful human resource managers maintained efficient communication, assistance, and oversight during the COVID-19 pandemic to mitigate the occupational stresses of remote work (Aitken-Fox et al., [2020](#)).

Aside from well-adapted human resource management practices, financial advantages were also strongly correlated with staff retention and productivity during the COVID-19 pandemic (Elsafty & Ragheb, [2020](#)). These financial advantages often manifested in unique short-term compensation plans, subcontracted labour and employment agreements, temporary agency work, and freelancers; these methods allowed for better organizational flexibility and ensured productivity through performance-oriented pay (Giupponi & Straub, [2020](#); Spurk & Straub, [2020](#)).



Given the benefits and disadvantages of forced working from home due to the pandemic, a hybrid work arrangement (part telework, part on-site work) is becoming the mainstream flexible work arrangement after the pandemic (Kazekami, 2020; Bloom, 2021).

### **2.1.3 Accelerated Technological Change**

COVID-19 is an extreme example of a decline in long-term jobs. Since the beginning of the information and communications technology revolution, economic recessions have served as a stimulus for transitions away from routine employment to increasing use of automation and robotics (Jaimovich & Siu, [2020](#)). Most of the jobs lost over the last three recessions have not returned, suggesting that recessions — like the one induced by the COVID-19 pandemic — foster automation, the use of advanced digital technologies (including artificial intelligence), and the reallocation of productive resources in the economy (Blit, [2020](#)).

More than 10% of the Canadian workforce is at significant risk (>70% chance of automation) of having their employment automated, and almost 30% of jobs in the Canadian workforce is at a 50-70% risk of automation in 2016 (Frenette & Frank, [2020](#)). Automation risk is particularly pronounced in New Brunswick and Newfoundland and Labrador, where there is a generally low proficiency in core skills (including communication, socio-emotional, digital and basic literacy and numeracy skills), and in Prince Edward Island, where unemployment caused by automation technology is high (ACOA, [2019a](#)). However, automation risk is not pressing in the very short-term because there are still significant barriers to adopting new technologies in Atlantic Canada on account of technological risk and uncertainty, the lack of skills in the workforce, and different financial priorities (AEC, [2021](#)). Ultimately, long-standing organizational habits and significant upfront investments may prevent the embrace of new strategies, especially among small and medium-sized enterprises (AEC, [2021](#)).

Those workers not at risk of automation in the foreseeable future are in employment that requires optimizing trade-offs, quality control, emotional intelligence, creative thinking and project skills, and other nonroutine non-cognitive tasks, that are unlikely to be replaced by automation (Broady et al., [2021](#); Eloundou et al., 2023).

## **2.2 Labour Market Impacts and Responses**

Before the COVID-19 pandemic, about half of Atlantic Canadian businesses reported challenges finding qualified labour (Fang et.al., [2022](#), [2023](#)). In general, the region's pre-pandemic labour market was already challenged by an aging population, declining fertility, and youth out-migration; there were 20 new labour market entrants for every 10 retirements in the early 1990s in Atlantic Canada compared to 10 new entrants for every 10 retirements today (AEC, [2022](#)). Population projections from Statistics Canada predict that these trends will continue. The rural unemployment rate, the rate of female labor force participation, and the rate of temporary and low-skilled employment are higher than the national averages, while the overall labour force participation rate is lower (ACOA, [2019b](#)).

The potential solutions to these labour market problems include offering skill development, providing effective education programs, and stimulating skilled job creation and population growth in a post-pandemic environment.

### **2.1.1 Employment contraction and labour shortages**

The co-existence of labour and skill shortages was a significant cause of financial and operational pressure on Atlantic Canadian firms before the pandemic (Canadian Federation for Independent Businesses, [2018](#)). Then, the COVID-19 pandemic spurred an extensive employment contraction. The primary groups of workers affected were youth under the age of 25, those with lower levels of education, those working in low-wage positions, and workers from underrepresented groups, such as recent immigrants (AEC, [2020c](#)). These same groups are more likely to work in the sectors hardest hit by the pandemic, like accommodations and restaurants. The adverse impacts on youth and underrepresented group career trajectories following the rapid disappearance of jobs and the subsequent business restructuring of the COVID-19 pandemic are yet to be fully explored.

#### **Low wage earners and vulnerable workers**

Low-wage workers in Atlantic Canada, generally between the ages of 15 and 25 and without post-secondary education, were already unemployed at a higher rate than the national average

prior to the pandemic (AEC, [2020c](#)). The pandemic widened that gap, with employment for those without post-secondary education declining by 25% during the peak of the crisis, while employment for those with post-secondary and graduate degrees fell by only 9% (AEC, [2020c](#)). Likewise, employment for those under 25 fell by 30%, and for those over 25 it fell by only 13% (AEC, [2020c](#)). The underlying issue is that these jobs may not return.

### **Rural workers in Secondary sectors and manufacturing**

Rural areas face a similar predicament after experiencing a greater decline in employment than urban areas in Atlantic Canada (AEC, [2020c](#)). The likely cause is the higher reliance on manufacturing, construction, and secondary sector positions in rural areas, which were paused during the pandemic. While output in these industries is expected to climb, job opportunities may not: improved technologies and automation are legitimate threats to existing temporary and low-skilled employment (AEC, [2020d](#)). It is likely that jobs in the manufacturing and secondary sectors will become more concentrated in high-skill fields like shipbuilding, bioscience, and aerospace that are more concentrated in urban areas, further attracting job opportunities and youth away from rural regions. Likewise, the rural population is already shrinking faster than urban centers due to both the ageing population and youth outmigration. Rural areas account for 53% of the total Atlantic Canadian population but 63% of the senior population (AEC, [2020d](#)).

### **2.1.2 Newcomers, people with disabilities, visible minorities**

Underrepresented groups, like newcomers, people with disabilities, and visible minorities, are hit harder by recessions (Borjas & Cassidy, [2020](#); Botric, [2018](#); Zhang & Gunderson, [2022](#)); conversely, underrepresented groups disproportionately benefit from economic expansions (Borjas & Cassidy, [2020](#); Botric, [2018](#)). Research suggests that both these trends also occurred in the COVID-19 pandemic environment because of the types of positions workers in underrepresented groups tend to hold as well as the eventual increase in labour demand after initial shutdown measures.

### **Types of employment**

Particular adverse recession effects on underrepresented groups are largely attributed to their types of employment. In the case of the pandemic, newcomers tend to work in high-contact sectors that were hardest-hit, like accommodation, restaurants, long-term care, and domestic

work; on the other hand, they are less likely to work in positions that can be done remotely, like business, technology, and information services (Benzeval et al., [2020](#); Guadagno, [2020](#); Dinç, [2021](#)). Likewise, they tend to work in part-time, temporary, and low-wage positions/sectors (partially because of the lack of foreign credential recognition and a lack of Canadian work experiences) (Hou et al., [2020](#); Lemieux et al., [2020](#); Maye et al., [2020](#)).

### **Late-stage high labour demand**

The economic rebound in 2021 and 2022 spurred strong employment growth for newcomer and visible minority groups. The share of recent immigrants of core working age who were working in December 2021 was 8% higher than in December 2019, while the share of indigenous people who were employed increased by 10% over the same time frame (Statistics Canada, [2022](#)). The growth was likely driven by an accelerating demand for workers in the second half of 2021, when job vacancies rose over 60% compared with pre-pandemic levels (Statistics Canada, [2022](#)). On the one hand, many businesses were lowering educational requirements to attract workers during this time, and some were increasing their wages. On the other hand, about 10% of workers in late 2021 found jobs that typically require post-secondary education — compared to 4% at a pre-pandemic level — and wages among new hires rose 10% in late 2021, indicating the dichotomy of labour demand by skill levels (Statistics Canada, [2022](#)).

### **Immigration rate, arrival, and learning**

Despite somewhat of a post-pandemic employment rebound for underrepresented groups, the pandemic effects were still slowing much needed immigration to Atlantic Canada. The immigration rate slowed by over 50% due to border restrictions and slower processing times, resulting in a 68% decline in population growth from international migration in 2020 (AEC, [2020c](#); Statistics Canada, [2022](#)). Net outmigration was negative in 2020 for the first time since records became available (Statistics Canada, [2022](#)).

The Canadian federal government did announce an increase in immigration targets to compensate for the slowed pandemic flows, focusing on temporary residents (temporary foreign workers and international students) who are already in the country, but there is still valuable time being lost for an Atlantic Canadian labour market that needs more workers quickly and that has a limited pipeline of new workers without immigration. Atlantic Canada has a lower proportion of

high-skilled jobs than the national average (ACOA, 2019a). Immigrants generally depend on precarious or temporary jobs as stepping stones, which often distract them from acquiring educational opportunities and new skill development, hindering the region's ability to attract and retain skilled immigrants (Zhang & Banerjee, [2021](#)).

### **2.1.3 Employee mental health and job satisfaction**

A product of the social and economic costs associated with the COVID-19 the impaired mental health caused by the pandemic. A central concern is the spillover effect from employment loss to financial stress to negative mental health impacts (Hamouche, [2020](#)). Financial distress is a common cause of psychological disorders, and a detrimental influence on career outcomes and aspirations (Hamouche, [2020](#); Baert et al., [2020](#)). In addition, those that kept their jobs during the pandemic often functioned in remote work arrangements, where concerns remain over how anxiety and stress can be best communicated and mitigated in a virtual environment (Kniffen et al., [2021](#)). To ensure a healthy workforce, human resource management professionals need to consider how to combat isolation in remote work arrangements where there can be little opportunity for peer support and one-on-one interactions (Prasad & Vaidya, [2020](#)).

Research suggests that mental health has not rebounded to pre-pandemic levels. In June 2021, 61% of the Canadian population reported very good or excellent mental health, compared to 67% in 2019 (Statistics Canada, [2022](#)). The mental health decline is greater among women (-7.5%) than men (-4.0%) (Statistics Canada, [2022](#)).

## 3.0 Data Analysis and Main Findings

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This research explores four key aspects of employer experiences of and responses to COVID-19 impacts on their business operations and workplace practices:

- **Hiring difficulties and filling job vacancies:** by sector, location, and size
- **Work arrangements and workplace practices:** altered workplace practices, employee supports, remote work opportunities, and organizational performance
- **Business operations:** short-term and longer-term changes in automation technology (i.e., self-service, robotics and artificial intelligence technology), altered methods of production, altered products or services, and altered delivery methods
- **COVID-19 Supports:** medical and mental health resources/support, support in job-related training, etc.

Each of these four key aspects is analyzed using quantitative analysis of the survey data collected from our 805 survey respondents, supplemented by the qualitative evidence from our 28 in-depth follow-up employer interviews, and 4 on-site field research visits.

### 3.1 Hiring Difficulties

#### 3.1.1 Most organizations with greater than four employees experience hiring difficulties

In 2021, 44.5% of Canadian businesses of all sizes had difficulties finding candidates with the necessary skills (Statistics Canada, [2022b](#)). The national trend is that organizational size is positively correlated with hiring difficulties, and that small organizations of less than four employees have the lowest likelihood of experiencing difficulties (Statistics Canada, [2022b](#)).

Our Atlantic Canadian data conforms to this trend: organizations with five or more employees in all Atlantic Canadian provinces are more likely to experience hiring difficulties than those with four employees or less. 32.5% of organizations with less than five employees experienced hiring

difficulties during the last 6 months as of the interview (Table 7). The number goes up to 46.5% for organizations with at least five employees (Table 8).

**Table 5: Hiring difficulties for organizations with four employees or less, by province (%)**

<b>Organizations &lt;= Four Employees</b>	<b>NB</b>	<b>NL</b>	<b>NS</b>	<b>PEI</b>	<b>Total</b>
<b>Experienced Hiring Difficulties</b>	34.1%	28.0%	31.8%	45.4%	<b>32.5%</b>
<b>No Hiring Difficulties</b>	63.5%	71.0%	68.2%	54.6%	<b>66.6%</b>
<b>DK/NA</b>	2.4%	0.9%	0.0%	0.0%	<b>0.9%</b>

**Table 6: Hiring difficulties for organizations with more than four employees, by province (%)**

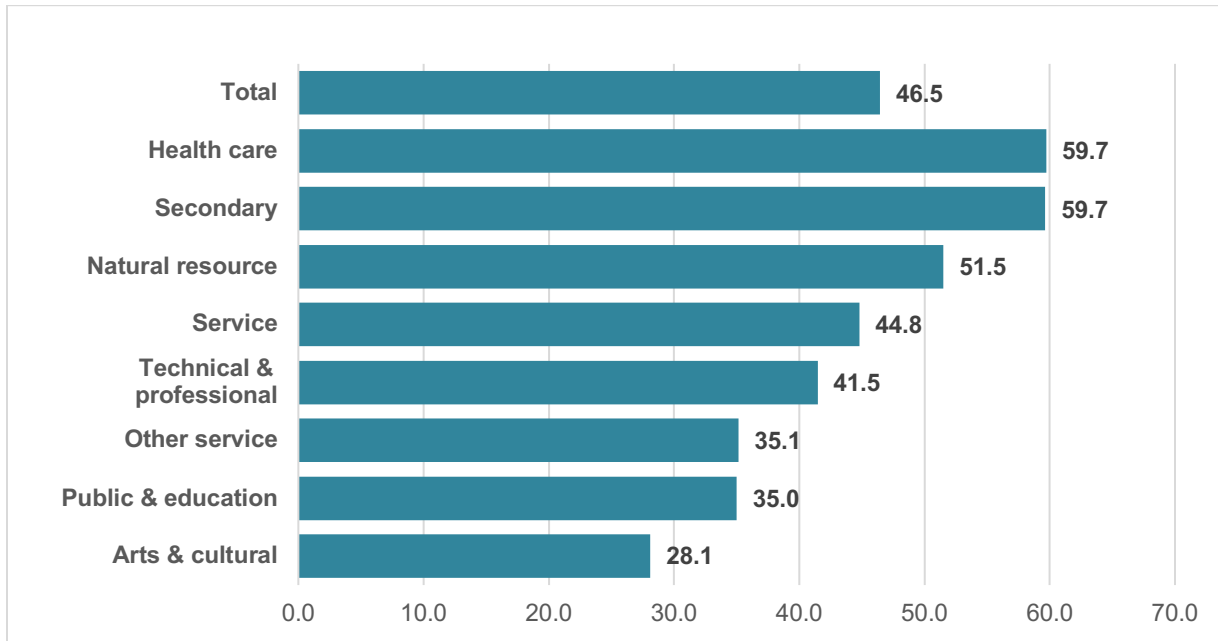
<b>Organizations &gt; Four Employees</b>	<b>NB</b>	<b>NL</b>	<b>NS</b>	<b>PEI</b>	<b>Total</b>
<b>Experienced Hiring Difficulties</b>	48.3%	39.3%	48.7%	50.5%	<b>46.5%</b>
<b>No Hiring Difficulties</b>	51.0%	59.7%	51.0%	49.5%	<b>52.9%</b>
<b>DK/NA</b>	1.0%	1.0%	0.3%	0.0%	<b>0.6%</b>

For organizations with at least five employees, the hiring difficulty issue is most pervasive in PEI (50.5%), Nova Scotia (48.7%) and New Brunswick (48.3%). Notably, only 39.3% of these employers have reported hiring difficulties in Newfoundland and Labrador (Table 8).

### **3.1.2 Hiring difficulties are most prominent in the healthcare, secondary, and natural resource sectors**

Most Canadian organizations in the healthcare, secondary, and natural resource sectors face similar challenges. Those industries hold high proportions of employees in jobs that require no post-secondary education and employees in jobs that require vocational training in the workforce, both of which are associated with higher probabilities of reporting skills gaps and recruitment difficulties (Statistics Canada, [2022b](#)). This is consistent with the pattern of labour and skill shortages in Atlantic Canada. Figure 1 shows that organizations of all sizes in the healthcare, secondary, and natural resource sectors are most likely to experience difficulties in recruiting employees in Atlantic Canada.

**Figure 1: Hiring difficulties by sector (%)**



### 3.1.3 Hiring difficulties are positively correlated with organizational size

Naturally, larger businesses are predisposed to report higher job vacancies than smaller ones because of their sheer organizational size and large scope of positions. Still, even despite indications that larger organizations are relatively more endowed with financial, capital, and human resources that enhance their resilience, larger organizations were still underprepared for the disruptions of the COVID-19 pandemic. Survey data reveals that organizations with fewer than five employees were much less likely to report hiring difficulties. Only 32.5% of mini companies (2-4 employees) reported hiring difficulties, while 74.6% of large organizations (50+) reported hiring difficulties (Table 9).

**Table 7: Hiring difficulties by organization size (%)**

Experienced Hiring Difficulties	Mini (2-4)	Small (5-9)	Medium (10-49)	Large (50+)	Total
Yes	32.5%	46.5%	59.8%	74.6%	46.5%
No	66.6%	52.9%	39.7%	25.4%	52.9%
DK/NA	0.9%	0.5%	0.5%	0.0%	0.6%



### 3.1.4 The main causes of hiring difficulties are a lack of applicants and a lack of necessary skills, education, and experience

Approximately 42.3% of employers who reported hiring difficulties emphasized “too few applicants” as the main reason. This is an issue that is particularly pervasive for organizations in NL (51.9%) (Table 10) and for mini organizations (51.4%) (Table 12). Another 28.4% of employers found that applicants lacked the necessary skills, education, or experience to be considered qualified.

**Table 8: Main causes of hiring difficulties for organizations, by province (%)**

	NB	NL	NS	PEI	All	Total
<b>Too few applicants</b>	35.1%	51.9%	43.3%	37.5%		42.3%
<b>Too many unqualified applicants to review</b>	16.5%	10.1%	10.7%	10.4%		12.0%
<b>Lack of applicants with necessary skills</b>	15.5%	13.9%	9.3%	20.8%	13.4%	
<b>Lack of applicants with necessary experience</b>	7.2%	5.1%	12.7%	12.5%	9.6%	28.4%
<b>Lack of applicants with necessary education</b>	5.2%	6.3%	5.3%	4.2%	5.4%	
<b>Salary expectations too high</b>	4.1%	1.3%	1.3%	0.0%		1.9%
<b>People don't want to work</b>	8.3%	2.5%	7.3%	2.1%		5.9%
<b>COVID-19/CERB Related</b>	2.1%	1.3%	2.7%	2.1%		2.1%

Compared with the survey conducted in 2019 before COVID, a much higher portion of employers reported hiring difficulties in 2022 due to “too few applicants” (Fang et al., [2022](#)). In the in-depth employer interviews, a few employers mentioned the “disappeared job applicants”.

One hiring manager in a Newfoundland-based manufacturing plant voiced their concern of this trend in an in-depth interview:

*“Before COVID, a job ad attracted more than 50-60 applicants. After COVID, we got only 5-6 applications across the country. It's the same situation to other companies in truck drivers, operators, skilled labour. Skilled trade is no problem*

*because there's a college nearby. The situation didn't change even after COVID; labour shortage will be a long-term thing."*

When augmented with our Newfoundland and Labrador employer survey in Winter 2021, the data reveals that the order of most significant reasons for hiring difficulties has not changed, except for a drop-in reason pertaining to COVID-19 pandemic supports (such as CERB) (Fang et al., [2023](#)) (Table 11).

**Table 9: Reasons for hiring difficulties of organizations with greater than four employees, by province (%)**

<b>Organizations greater than four employees</b>	<b>NL</b>	<b>NB</b>	<b>NS</b>	<b>PEI</b>
<b>Too few applicants</b>	51%	26%	40%	39%
<b>Too many unqualified applicants to review</b>	10%	19%	11%	12%
<b>Lack of applicants with necessary skills</b>	18%	22%	10%	27%
<b>Lack of applicants with necessary experience</b>	4%	4%	14%	12%
<b>Lack of applicants with necessary education</b>	4%	6%	6%	0%
<b>People don't want to work</b>	4%	7%	8%	0%

The provincial data suggests that employers in New Brunswick and Prince Edward Island are more likely to report a 'lack of skills, education, and experience' as a significant hiring barrier, while Newfoundland and Labrador is an overwhelming leader in receiving 'too few applicants.' (Table 11).

The existing research explains that these trends are due to the generally shrinking Atlantic Canadian workforce, but also attributable in this instance to the volatile worker preferences spurred by the COVID-19 pandemic, whereby some are more inclined to prioritize work-life balance and a safe working environment (Brown, [2020](#); Bajram et al., [2021](#); Causa et al., [2022](#)).

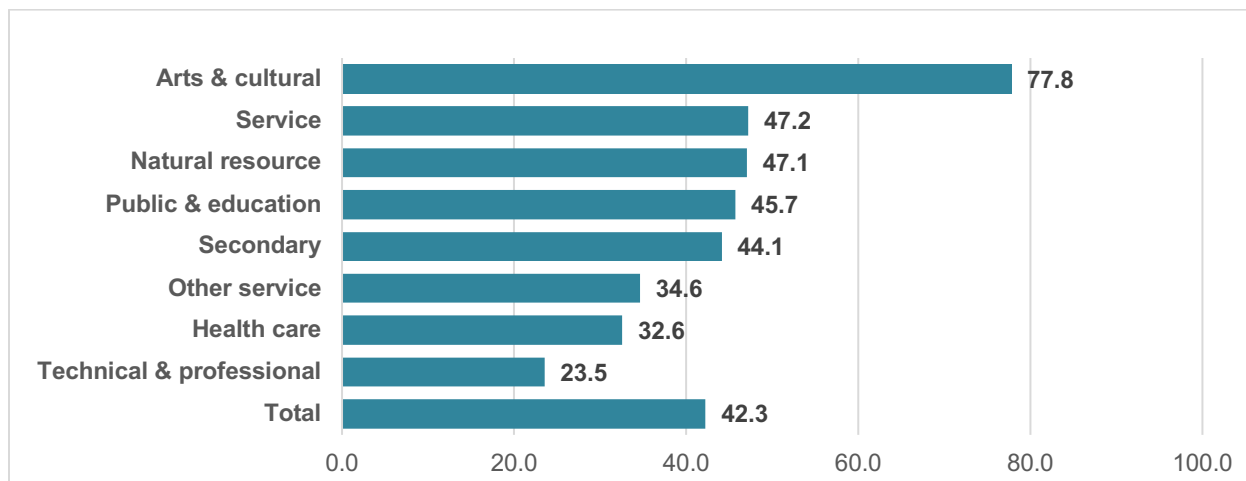
**Table 10: Main causes of hiring difficulties, by organizational size (%)**

	Mini (2-4)	Small (5-9)	Medium (10-49)	Large (50+)	Total
<b>Too few applicants</b>	51.4%	35.6%	41.8%	34.1%	42.3%
<b>Too many unqualified applicants to review</b>	9.2%	9.2%	14.9%	15.9%	12.0%
<b>Lack of applicants with necessary skills</b>	5.5%	26.4%	11.9%	11.4%	13.4%
<b>Lack of applicants with necessary experience</b>	10.1%	8.1%	10.5%	9.1%	9.6%
<b>Lack of applicants with necessary education</b>	6.4%	1.2%	6.0%	9.1%	5.4%
<b>People don't want to work</b>	5.5%	9.2%	5.2%	2.3%	5.9%
<b>COVID-19/CERB Related</b>	0.0%	3.5%	2.2%	4.6%	2.1%
<b>Salary expectations too high</b>	1.8%	3.5%	0.8%	2.3%	1.9%

Those organizations who did not describe accentuated hiring difficulties during the pandemic explained that the reason for their low turnover and hiring success was a selective and attentive hiring process. One executive from a small air transportation business noted “sensitive staff selection at the beginning” as the reason for their staffing success.

**3.1.8 Natural resource, secondary, arts and cultural, service, and public service and education sectors are most likely to experience hiring difficulty due to ‘too few applicants’**

**Figure 2: Employers citing ‘too few applicants’ as a reason for hiring difficulties, by sector (%)**



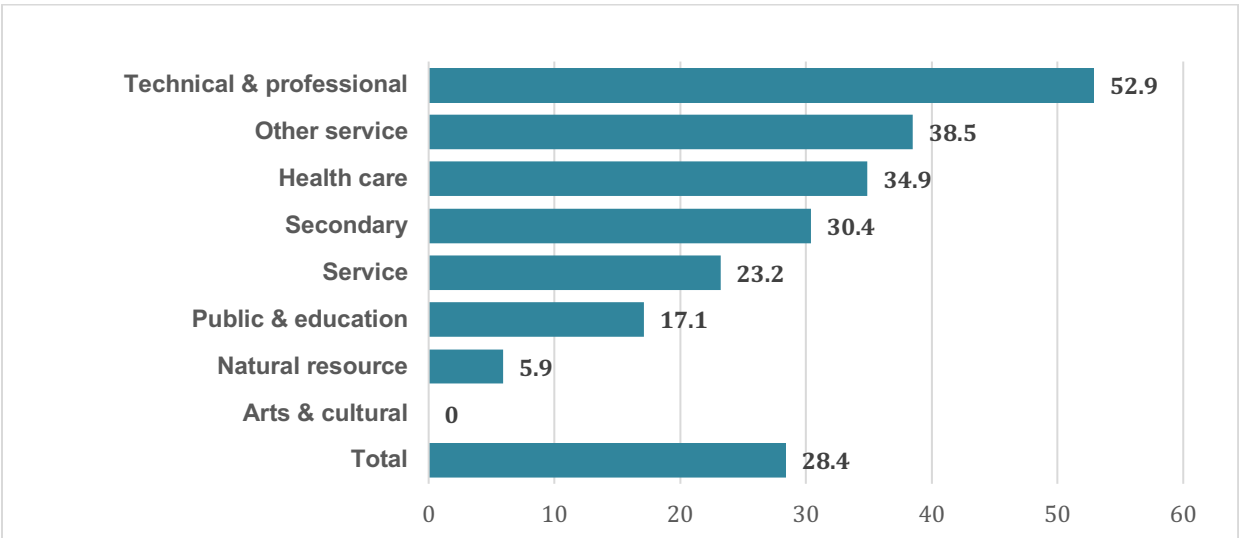
More than three-quarters (78%) of arts & cultural sector employers described having ‘too few applicants’ as the main driver of hiring difficulties, possibly also due to relatively low and volatile pay in this sector. Almost half of natural resource (47%), service (47%), and secondary (44%) sectors cited the same reason.

**3.1.9 Technical and professional, healthcare, and social assistance sectors are the most likely to experience hiring difficulties due to lack of qualifications**

The COVID pandemic accelerated digitalization and AI applications (Amankwah-Amoah et al., 2021; Vargo et al., 2021). Over half (52.94%) of technical and professional sector organizations reported that applicants lacking skills, qualifications, and education was the primary driver of hiring difficulties (Figure 3).

The healthcare and social assistance sector is Atlantic Canada’s number one sector, accounting for 16.1% of the regional workforce; 83.3% of workers in the sector have at least a post-secondary certificate (Job Bank, 2023). The COVID pandemic dramatically increased the demand for workers in this sector, where relevant education, experience and skills are the basic requirements for most jobs. Approximately 34.9% of employers in this sector reported hiring difficulties due to lack of qualifications.

**Figure 3: Employers citing ‘lack of skills, education, and experience’ as a reason for hiring difficulties, by sector (%)**



### **3.1.10 Government and private sector organizations overwhelmingly reported ‘too few applicants’ as a barrier to hiring**

While 42.4% of private sector organizations reported ‘too few applicants’ as a significant barrier to hiring, 55.5% of government agencies did so. The two sectors differ, however, in quality of applicants. While 30% of private organizations described a lack of education, skills, and experience, only 5.5% of government organizations reported it as a significant obstacle.

### **3.1.11 Rural organizations are more likely to experience hiring difficulties due to “too few applicants”**

Organizations in rural areas are constantly facing recruitment and retention issues due to demographic challenges (Statistics Canada, [2022](#)), and inaccessibility to public services (Fang et al., 2023; Phillipson et al., 2019; De Hoyos & Green, 2011; Hodge et al., 2002). Even though the proportion of organizations in rural areas who reported hiring difficulties is similar to that for urban organizations (48.2% vs. 45.3%), the main reason for hiring difficulties is significantly different.

Approximately 67.3% of rural organizations cited ‘too few applicants’ as a reason for hiring difficulties, compared to 47.4% for urban organizations. One rural employer described that casual hiring is easy, but permanent hiring is hard. The underlying explanation is skill mismatch, as employers had a hard time finding highly-skilled local workers to fill high-skill positions, while local workers were not interested in the low-paying and low-skilled positions even though they were unqualified for high-skilled positions.

### **3.1.11 Professional and technical/trade positions pose the greatest hiring challenges for organizations of all sizes**

A total of 34.5% of organizations have difficulties filling technical/trades positions. Professional positions are the second most difficult to fill, and the trend is particularly pronounced among large- and medium-sized organizations, with 27.3% of large organizations reporting difficulty in filling professional positions, compared to 21.1% of organizations in total.

**Table 11: Hiring difficulties by position, by organizational size (%)**

	<b>Mini (2-4)</b>	<b>Small (5-9)</b>	<b>Medium (10-49)</b>	<b>Large (50+)</b>	<b>Total</b>
<b>Managers</b>	11.0%	4.6%	7.5%	13.6%	8.6%
<b>Professionals</b>	15.6%	25.3%	20.9%	27.3%	21.1%
<b>Technical/Trades</b>	34.9%	33.3%	35.8%	31.8%	34.5%
<b>Marketing/Sales</b>	14.7%	10.3%	9.0%	11.4%	11.2%
<b>Clerical/Administration</b>	5.5%	5.8%	5.2%	0%	4.8%
<b>Production Workers (no trade/certification)</b>	16.5%	19.5%	18.7%	13.6%	17.7%

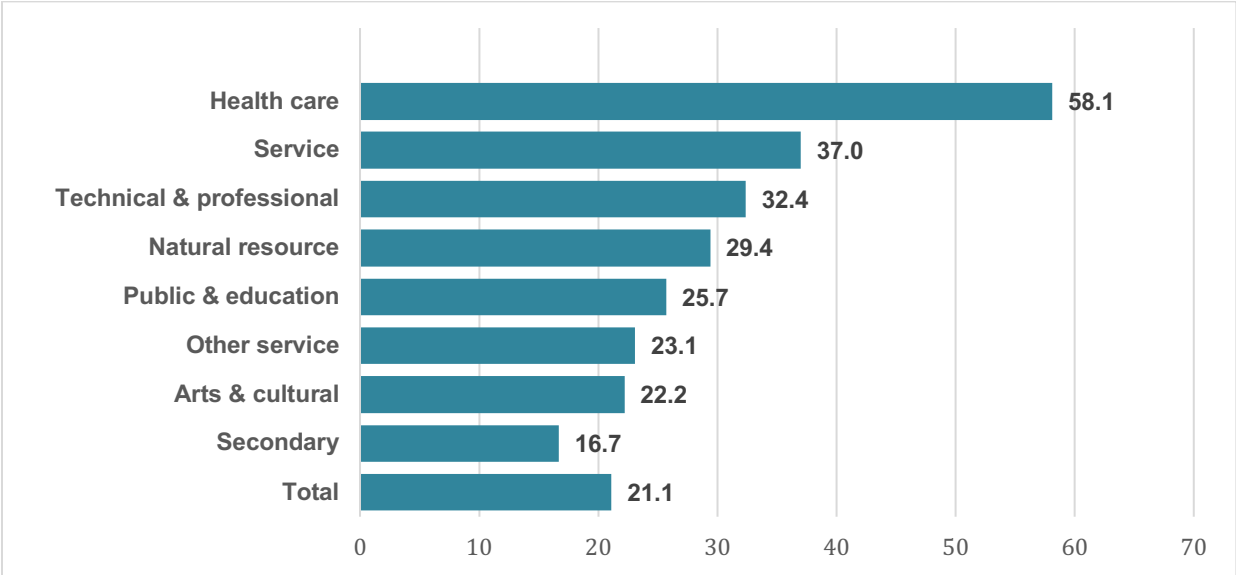
- 21.1% of all organizations face difficulties hiring for professional positions
- 34.5% of all organizations face difficulties hiring for technical/trades positions
- 17.7% of all organizations face difficulties hiring for production workers (with no trade certification)

### **3.1.12 Professional and technical/trades positions pose the greatest hiring challenges for all firms**

Interestingly, in-depth interviews also revealed that many explain that there are too many underqualified applicants. Vacancies for professionals are most difficult to fill in the healthcare and social assistance (58.1%), service (37.0%), and technical and professional (32.4%) sectors (Figure 4).

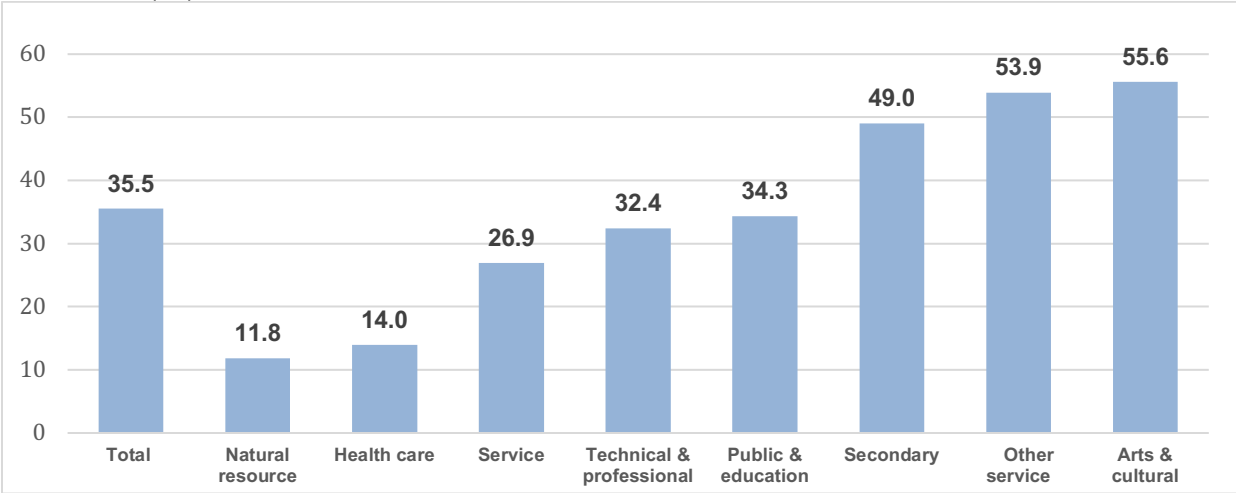
Vacancies for technical/trades positions are most difficult to fill in the arts and cultural (55.6%), other service (53.9%), and primary (49.0%) sectors (Figure 5), while vacancies for production workers (with no trade certificate) are hardest to fill in the natural resource (35.3%), primary (23.5%) and service (20.4%) sectors.

**Figure 4: Organizations facing difficulties hiring for professional positions across all industries (%)**



The degree of difficulty filling these positions varies by sector. The healthcare and social assistance (58.1%), technical and professional (32.3%) and natural resource (29.4%) sectors have the most difficulty finding professional workers, while technical/trades positions are most difficult to fill in the arts and cultural (55.5%), other service (53.9%), and secondary (49.0%) sectors.

**Figure 5: Organizations facing difficulties hiring for technical/trades positions across all industries (%)**



Meanwhile, vacancies for production workers (with no trade certificate) are hardest to fill in the natural resource (35.3%), secondary (23.5%) and service (20.4%) sectors.

### 3.1.12 Hiring difficulties by position and province

43.0 % of all employers reported hiring difficulties in technical/trades positions, and 32.9% of them reported it was hard to fill in general labour positions in the last 6 months, followed by Professionals (24.9%).

When considering the province for filling vacancies, employers in New Brunswick have experiences the greatest hiring difficulties almost in all occupations, except for marketing/sales (Nova Scotia) and Clerical/Administration (Newfoundland and Labrador).

**Table 12: Hiring difficulties by position, by province (%)**

	<b>NB</b>	<b>NL</b>	<b>NS</b>	<b>PEI</b>	<b>Total</b>
<b>Technical/Trades</b>	48.5%	44.3%	46.7%	39.6%	<b>43.0%</b>
<b>Production Workers (no trade/certification)</b>	36.1%	30.4%	31.3%	35.4%	<b>32.9%</b>
<b>Professionals</b>	29.9%	29.1%	20.0%	22.9%	<b>24.9%</b>
<b>Marketing/Sales</b>	15.5%	15.2%	18.7%	8.3%	<b>15.8%</b>
<b>Clerical/Administration</b>	12.4%	15.2%	10.0%	10.4%	<b>11.8%</b>
<b>Managers</b>	11.3%	5.1%	8.7%	8.3%	<b>8.6%</b>

### 3.1.13 Newfoundland and Labrador employers are least likely to receive out-of-province job applications

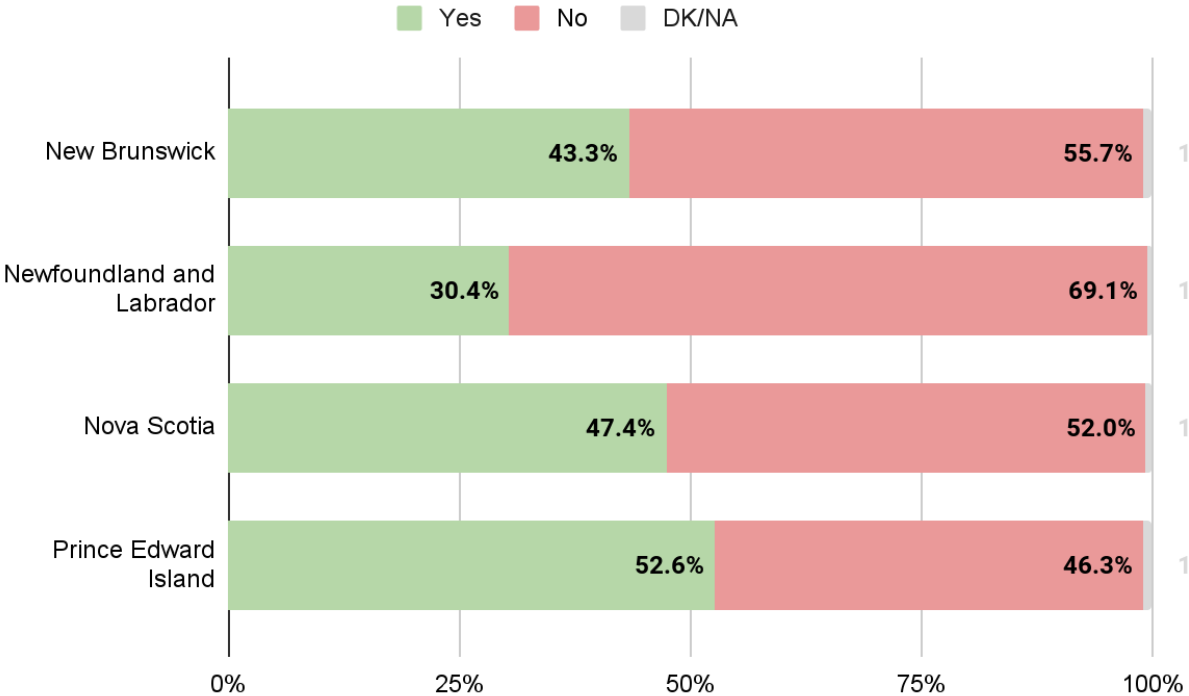
Out-of-province job applicants are a positive indication of the quality of local jobs, and they provide the opportunity for needed migration to the Atlantic Canadian labour market. The data indicated that 42.7% of all organizations received out-of-province applications to fill their job vacancies. This average would score higher if not for one outlier: only 30.4% of Newfoundland and Labrador firms received out-of-province applications, 13.3% below the next lowest provincial score. This has some significant implications: either Newfoundland and Labrador has



a labour market with a greater capacity to absorb local jobs; the local job market is slack, so positions are not available; or employers are not offering as many attractive positions; or employers are not hiring many out-of-province job candidates; or immigration to Newfoundland and Labrador is less likely than immigration to other Atlantic provinces, among other possibilities. Prince Edward Island ranked first for out-of-province applicants, with 52.6% of firms receiving out-of-province applicants (Figure 6).

In our detailed interviews, the employers who recalled successfully hiring out-of-province applicants described that they often had additional reasoning for coming to Atlantic Canada. One out-of-province hire, for example, wanted to be close to family in Nova Scotia.

**Figure 6: Received out-of-province applications, by province (%)**

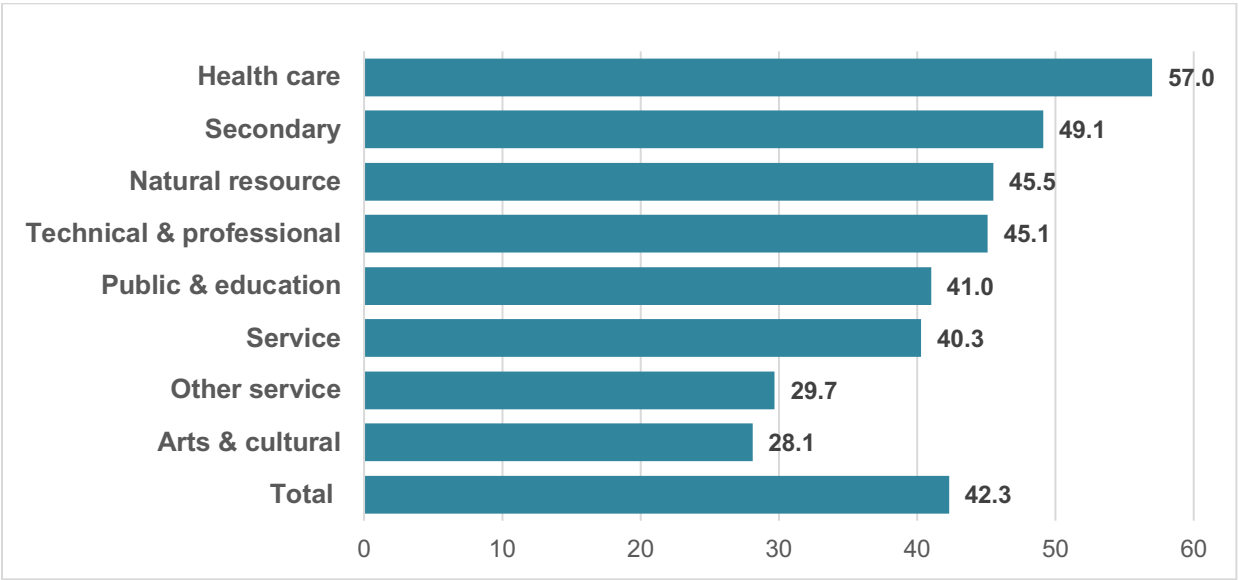


The four sectors most likely to attract out-of-province applicants were the healthcare and social assistance (62.5%), technical/professional (51.2%), secondary (49.1%), and public and education (49.0%) sectors. The service and arts and cultural sectors were the least likely.

**3.1.14 Healthcare and social assistance, secondary, natural resource, and technical/professional sectors were the most likely to receive newcomer applications**

57.0% of healthcare and social assistance employers reported receiving newcomer applications, followed by 49.1% and 45.5% in the secondary and natural resource sectors. 45.1% of the technical and professional sector employers also received newcomer applications. The high rate in the healthcare and social assistance sector may speak to the sector’s general economic size as the largest employer in the Atlantic region, and may be supported by targeted immigration efforts made by provincial governments to supplement the healthcare workforce. Notable efforts include Newfoundland and Labrador’s mission to recruit Indian registered nurses, and Nova Scotia’s “International Graduates in Demand” (IGD) stream of its Provincial Nominee Program (PNP; Government of Newfoundland and Labrador, [2023](#); Sivakumar, [2023](#)).

**Figure 7: Probability of receiving newcomer applications, by industry (%)**



**3.1.15 The Highest Percentage of Prince Edward Island employers received newcomer applications by a wide margin**

In 2022, landed immigrants in the Atlantic region had a higher labour market participation rate than the Atlantic population as a whole (67.1% against 60.9% of the total population), and PEI has the highest annual immigrant rate (1.56% in 2022) among the Atlantic provinces relative to

provincial population (IRCC, [2023](#); Statistics Canada, [2023](#)). One result is that a higher portion of employers in PEI (60.0%) reported receiving newcomer applications. Nova Scotia similarly attracts more immigrants than the other two Atlantic provinces, with the second highest rate of receiving newcomer applications.

**Table 13: Probability of receiving newcomer applications, by province (%)**

<b>Received Applications from Newcomers</b>	<b>New Brunswick</b>	<b>Newfoundland and Labrador</b>	<b>Nova Scotia</b>	<b>Prince Edward Island</b>	<b>Total</b>
<b>Yes</b>	36.8%	31.3%	49.4%	60.0%	42.3%
<b>No</b>	61.2%	65.2%	48.7%	40.0%	55.0%
<b>DN/NA</b>	1.5%	3.5%	2.0%	0%	2.0%

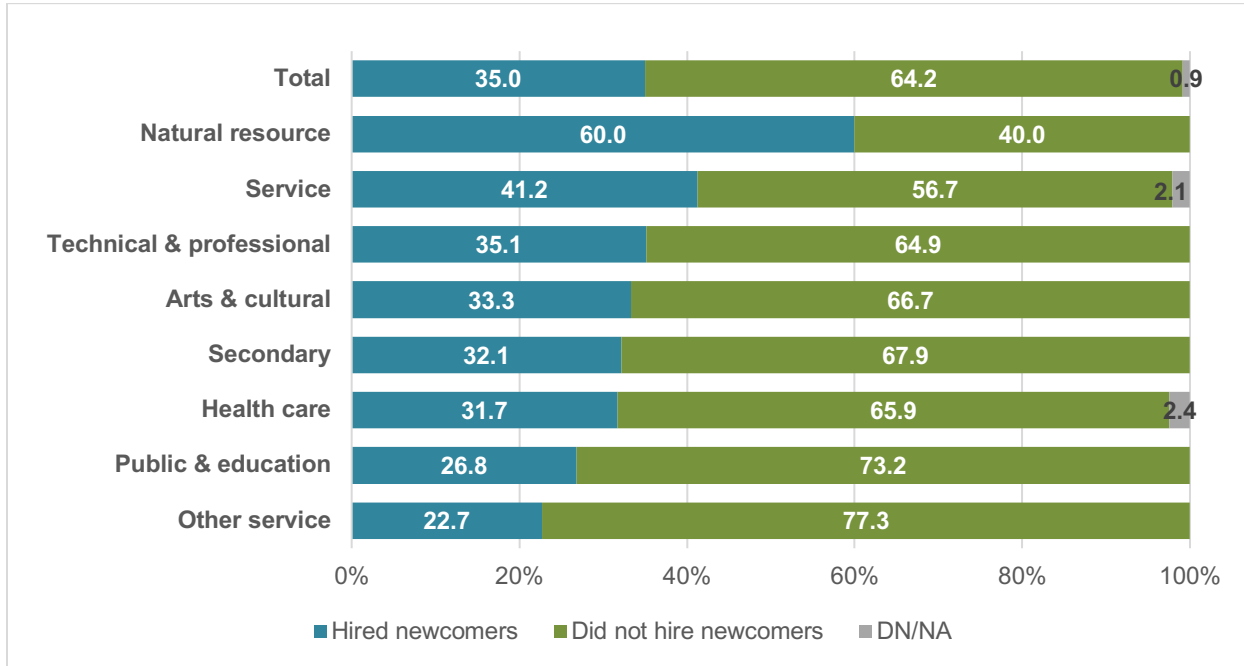
- Out of 805 employers, 346 received applications from newcomers (43%). Among those 346 employers, 121 hired newcomers (60.3%).
- Compared to their relevant low share of the population, international students (IS's) were very active in job applications. 44.2% of employers (n=153) who reported receiving applications from newcomers said they received job applications from IS's. Refugees in NL were more active in job searching than their peers in other provinces (12.7% in NL vs. 10.8% in NB, 6.6% in NS and 7.0% in PEI).
- IS's were more likely to apply for jobs in the service sector (55.5%), which typically need less experience and provide more part-time jobs, fitting IS schedules better.
- Permanent residents were more likely to apply for jobs in the primary, public and education, and technical and professional sectors than other sectors (50.6% in those three sectors vs. 38.0% in other sectors). Jobs in these three sectors need more extensive skills and experiences than other sectors, in general.

### **3.1.16 Natural resource and service sectors were most likely to report newcomer hires**

- 346 out of 805 employers received applications from newcomers (43.0%).
- As shown in Figure 8, 121 out of 346 employers reported that they hired newcomers (35.0%).

- In the natural resource sector, the hiring rate is 60.0%; in the services sector, it is 41.2%. In the technical and professional sector, it is 35.1%.

**Figure 8: Percentage of employers who hired newcomers, by sector (%)**



### 3.1.17 Organizations in PEI were most likely to hire newcomers

Highest portion of employers who hired newcomers in the region was in PEI, where 50.9% of the employers who reported receiving applications from newcomers had hired them (Table 16).

**Table 14: Probability of hiring newcomers, by province, among employers who received applications from newcomers (%)**

	New Brunswick	Newfoundland and Labrador	Nova Scotia	Prince Edward Island	Total
<b>Hired newcomers</b>	31.1%	25.4%	34.9%	50.9%	35.0%
<b>Did not hire newcomers</b>	68.9%	73.0%	65.1%	45.6%	64.2%
<b>DK/NA</b>	0%	1.6%	0%	3.5%	0.9%

Conversely, employers in Newfoundland and Labrador were least likely to receive newcomer applicants (31.3%) or to hire newcomer applicants (25.4%). This is definitely impacted by the relatively small portion of immigrants in the population, but is also possibly due in part to a lack of relevant experience and expertise in hiring and managing newcomer employees.

In in-depth interviews, employers expressed willingness to hire newcomers to fill their job vacancies, but expressed some apprehension due to possible strains on management and supervision time. For example: while most employers ranked their willingness to hire newcomers as 5/5, some self-evaluated at 4/5 because of their concern for the language barrier. One food and beverage industry manufacturer in New Brunswick explained:

*“Our willingness to hire immigrants is a 5, but the practicality is a 3 because of the need for French.”*

Another described the associated paperwork as an obstacle, and only one evaluated at a 4 because of a previous negative experience with a newcomer hire. No respondents in the follow-up interviews ranked below 4/5.

A high proportion of firms with newcomer hires also described taking steps to help them settle in Canada, like helping with Atlantic Immigration Program (AIP), PNP, and permanent residency applications. Some employers viewed international students as important part-time, temporary workers. For example, one firm described paying international students less but helping with immigration documents — a benefit that they believed larger companies neglected. Some firms actively seek workers who fall within available subsidy categories. One company hired College of the North Atlantic students with a 75% wage subsidy and invested in training, resulting in a high retention rate.

*“Even though the people are less qualified, they can still be hired and trained with subsidies.”*

However, more than one employer did express frustration with the AIP because of extensive paperwork and slow-moving processing.

### 3.1.18 Urban organizations were more likely to hire newcomers

Employers in urban areas were more likely to receive applications (Table 17) and hire newcomers (Table 18) than employers in rural areas, which is troubling given that an even higher portion of employers in rural areas reported hiring difficulties.

**Table 15: Probability of applications from newcomers, by location (%)**

	Urban	Rural	Total
Received applications from newcomers	49.9%	33.0%	43.0%
Did not receive applications from newcomers	47.4%	66.9%	55.0%
DK/NA	2.7%	0.9%	2.0%

**Table 16: Probability of hiring newcomers, by location (%), among employers who received applications from newcomers**

	Urban	Rural	Total
Hired newcomers	38.4%	27.5%	35.0%
Did not hire newcomers	60.3%	72.5%	64.2%
DK/NA	1.3%	0%	0.9%

Likewise, one rural production firm noted that they have not been able to hire any newcomer workers in the past five years because of their remote location.

### 3.1.19 About half of organizations who hired immigrants provided unique supports to newcomer hires

52.2% of employers who hired newcomers reported supporting their newcomer employees (Table 19). One smaller employer explained helping newcomer hires with their immigration

documents in in-depth interviews, which turned out to be the most common (16.5%) form of support for newcomer hires. Some employers (10.7%) also reported providing housing support for newcomers – the second most common form of support – an issue that has gained importance given an influx of new immigrants to Atlantic Canada in recent years and a general lack of housing supply, especially in rural areas (IRCC, [2023](#); Government of Canada, [2023](#)).

**Table 17: Probability of providing unique supports to newcomer hires**

<b>Unique supports provided to newcomers</b>	<b>Total</b>	<b>Percentage</b>
<b>Provided support in immigration documents</b>	18	16.5%
<b>Provided housing</b>	13	10.7%
<b>Provided language training</b>	12	9.9%
<b>Provided financial support</b>	10	8.3%
<b>Provided cross-cultural training</b>	7	5.8%
<b>Provided general training</b>	6	5.0%
<b>Provided diversity and anti-discrimination training</b>	3	2.0%
<b>Supported newcomers to connect with friends and family overseas</b>	2	1.7%
<b>Other</b>	5	4.1%
<b>None/No supports</b>	43	35.5%
<b>Don't know/No answer</b>	15	12.4%
<b>Total</b>	<b>121</b>	<b>100%</b>

## **3.2 Workplace Practices and Alternative Work Arrangements**

### **3.2.1 The most common practices to fill job vacancies were increasing wages, adjusting working hours and scheduling, and using part-time workers**

Most employers explored new hiring strategies to deal with the staffing struggles of the pandemic. The most common practices were increases wages, increases in the use of part-time workers, and the restructuring of working hours for improved flexibility.

In general, organizations resorted to both financial and non-financial practices to fill job vacancies (Table 20). Most commonly, 64.4% of employers increased wages. To respond to workers transforming attitudes towards work, 52.6% of employers reported increasing work flexibility by altering working hours and scheduling. 36.0% of employers also resorted to increasing their usage of part-time workers.

**Table 18: HR adjustments to address job vacancies, all organizations (%)**

Practices		Yes		No		
		With hiring difficulties	Without hiring difficulties	With hiring difficulties	Without hiring difficulties	
Financial incentives	Direct	Increased wages	78.3%	51.9%	20.9%	46.2%
				64.4%		34.3%
		Added or increased non-wage benefits	40.6%	14.1%	57.0%	83.8%
				26.3%		71.4%
		Raised wages but reduced non-wage benefits	20.3%	5.6%	78.6%	93.0%
	Indirect			16.9%		80.9%
		Provided signing bonuses	22.7%	12.0%	74.9%	85.9%
				12.4%		86.3%
		Increased working hours of employees without overtime	35.8%	15.3%	61.5%	82.9%
				24.7%		73.0%
	Increased overtime	27.8%	7.3%	70.9%	90.4%	
			16.8%		81.4%	
Non-financial incentives	Increased use of flexible working hours and scheduling	66.8%	40.6%	31.6%	57.5%	
			52.6%		45.7%	
	Increased use of part-time workers	51.6%	22.8%	46.0%	75.6%	
			36.0%		62.0%	



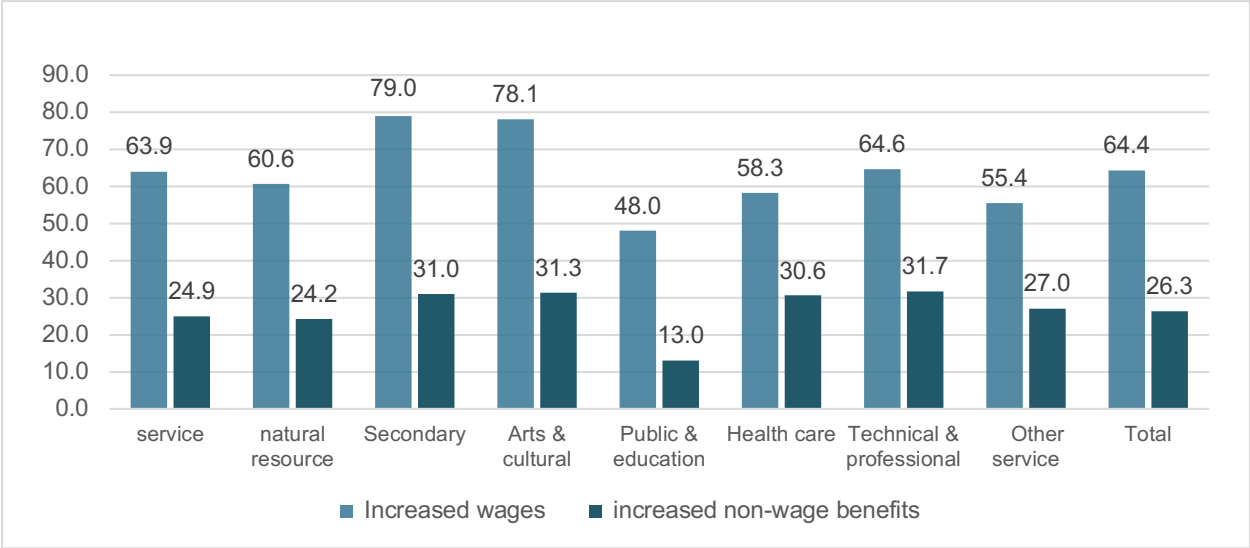
In addition, organizations with hiring difficulties were more likely to offer employees financial or non-financial incentives to fill job vacancies.

**3.2.2 Most firms resorted to increasing wages to fill job vacancies while not increasing non-wage benefits**

Employers in the secondary and the arts & cultural sectors were the most likely to increase wages for their workforces during the pandemic. Most of the employers reported increasing the wages of their opening positions, and some indicated increasing the wages of their current employees. The data also aligned with existing research in revealing that the larger the organization, the more likely it is to increase wages to fill job vacancies. This is probably due to an increased financial resource capacity.

Increases to non-wage benefits, however, were much less common; some employers in our in-depth interviews explained that they even reduced their non-wage benefits to compensate for the financial strain they were dealing with. Financial incentives other than wages were also uncommon. For example, only a few employers implemented signing bonuses.

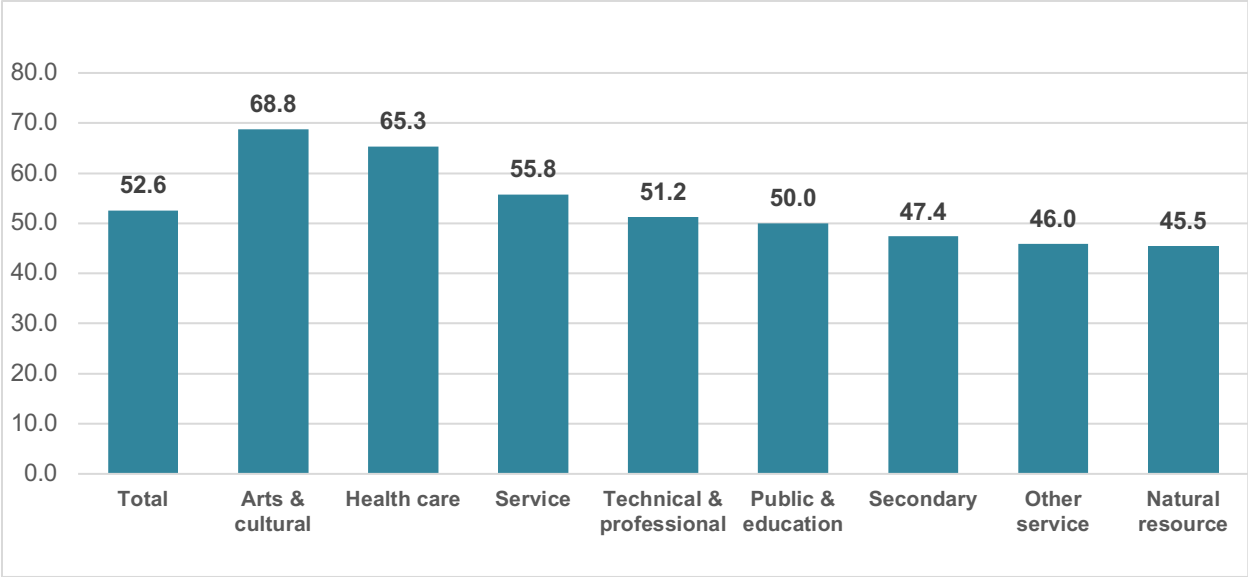
**Figure 9: Percentage of firms to increase wages or non-wage benefits to fill job vacancies, by sector (%)**



**3.2.3 The sectors most likely to increase the use of flexible working hours were the arts and culture, healthcare and social assistance, and the service sectors**

Many employers also increased the attractiveness of their vacancies by implementing more flexible working hours: four-day work weeks, flexible job design and rotation, and most importantly, remote work opportunities. These practices were most common in the arts and cultural (68.8%), healthcare and social assistance (65.3%), and service (54.8%) sectors. One employer changed their working hours by necessity, describing the negative mental health effects of a ‘9-5’ digital environment on their workforce.

**Figure 10: Percentage of organizations implementing flexible work hours and scheduling, by sector (%)**



**3.2.4 Organizations also addressed existing job vacancies by increasing teamwork, relying more on employee referrals, even hiring unqualified personnel and providing more training than to qualified employees**

Our survey shows 53.7% of organizations increased teamwork, 42.4% of organizations relied more on employee referrals. Surprisingly, nearly half of organizations (47.7%) hired unqualified personnel (Table 21).

Not surprisingly, when hiring unqualified personnel, the majority of employers (91.7%) would provide training. About half of employers (50.5%) paid the same wage as qualified employees, while 39.3% of employees paid them at lower wages.

**Table 19: Practices used to address job vacancies, all organizations (%)**

Practices		Yes
Increased teamwork		53.7%
Relied more on employee referrals		42.4%
Implemented flexible job design		31.6%
Allowed remote work		23.1%
Different or more intensive job advertising methods		37.5%
Hired unqualified personnel (47.7%)	At lower wages than qualified employees	39.3%
	At wages of qualified employees	50.5%
	Provided more training than qualified employees	91.7%

Approximately 50.5% of the employers who hired unqualified personnel would hire them at wages of qualified employees, while about 39.3% of employers would hire unqualified personnel at a lower wage than qualified employees.

Table 22 also indicates that hiring difficulties are the main reason for organizations to hire unqualified personnel.

When implemented effectively, increasing teamwork can reduce employee strain; however, one employer described their concern that increased teamwork materializes in additional responsibilities for existing employees and accentuates employee anxiety and stress.

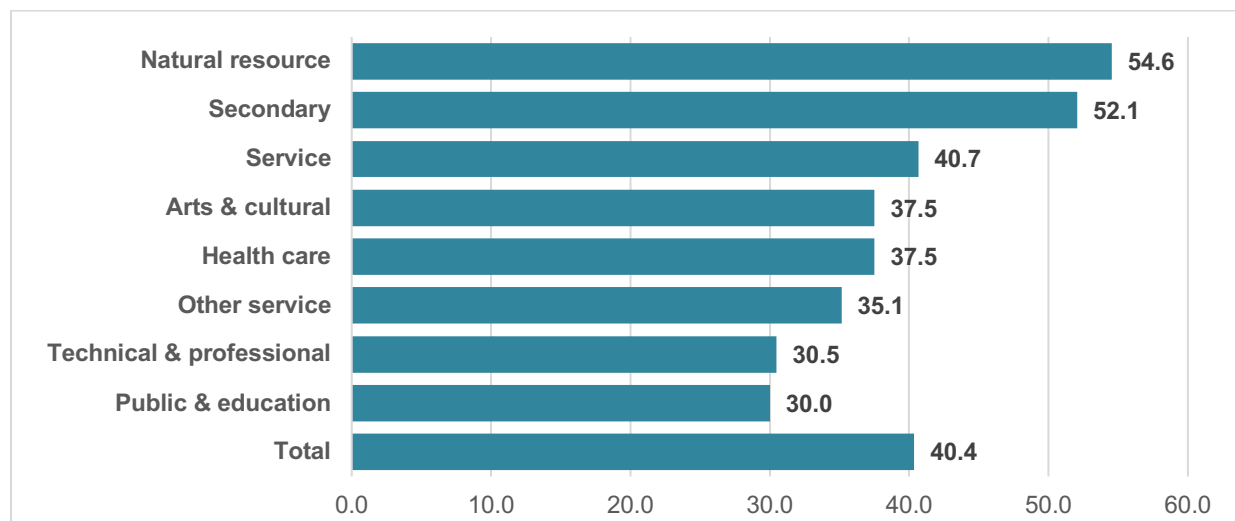
**Table 20: Hiring unqualified personnel to address job vacancies (%)**

Hiring unqualified personnel	With hiring difficulties	Without hiring difficulties
At lower wages than qualified employees	32.1%	7.3%
At wages of qualified employees	41.4%	9.2%
Provided more training than qualified employees	63.6%	20.4%

### 3.2.5 Many organizations who hired unqualified personnel altered training methods

Our survey data shows that over three-quarters of organizations who hired unqualified personnel provide them with more training than usual. Of the organizations that hired unqualified personnel at a lower wage than qualified personnel, 79.5% would provide more training than usual; of the organizations who hired unqualified personnel at the same wage as qualified personnel, 83.0% would provide more training than usual. In our in-depth interview, some of employers who hired unqualified personnel invested more in on-site training. Others justified reduced wage levels for unqualified staff because of the increased cost burdens associated with more training. One employer ultimately reduced the required qualifications and general requirements for their vacant positions.

**Figure 11: Probability of organizations hiring unqualified personnel and providing more training than usual, by sector (%)**



Interestingly, one employer found that older workers were a valuable source of non-traditional labour for their business:

*“I hired a 68-year-old. Some old people without enough pension have to work, and love it for the social interaction.”*

Employers in Newfoundland and Labrador were the least likely (34.8%) to hire unqualified workers and provide more training than usual. This can be employer response to structural factors such as the types of vacancies in the province, or employer strategy to combat labour shortages and the aging population. Older workers may require less skill training other than technology training given their extensive experiences in the labour market, another possible explanation for the results in NL, the country’s oldest province.

**Table 21: Probability of hiring unqualified personnel and providing more training than usual, by province (%)**

	NB	NL	NS	PEI
<b>Yes</b>	40.3%	34.8%	44.2%	40.0%
<b>No</b>	59.7%	64.7%	54.2%	60.0%
<b>DK/NA</b>	0.0%	0.5%	1.6%	0.0%

**3.2.7 The use of remote work arrangements**

The COVID-19 pandemic accelerated the use of remote work arrangements, a practice which could prevent the virus from spreading through in-person contact while keeping organizations operational (Table 24).

During the peak time of COVID-19, the number of employers who reported implementing remote work arrangement for their entire workforce increased by 7.2%, and the number of employers implemented remote work arrangements for some employees increased by 22.0%.

After COVID-19 ended, although there has been a decline, the percentage of employers using remote working arrangements is still higher than that prior to the COVID-19.

Figure 12 shows that remote working arrangements were greatly used during the peak period of the epidemic: 33.2% of organizations reported that at least some employees were working from home, with approximately 1 in 10 (9.7%) reporting that all employees were working from home, compared to 11.2% and 18.6% prior to COVID and after COVID.

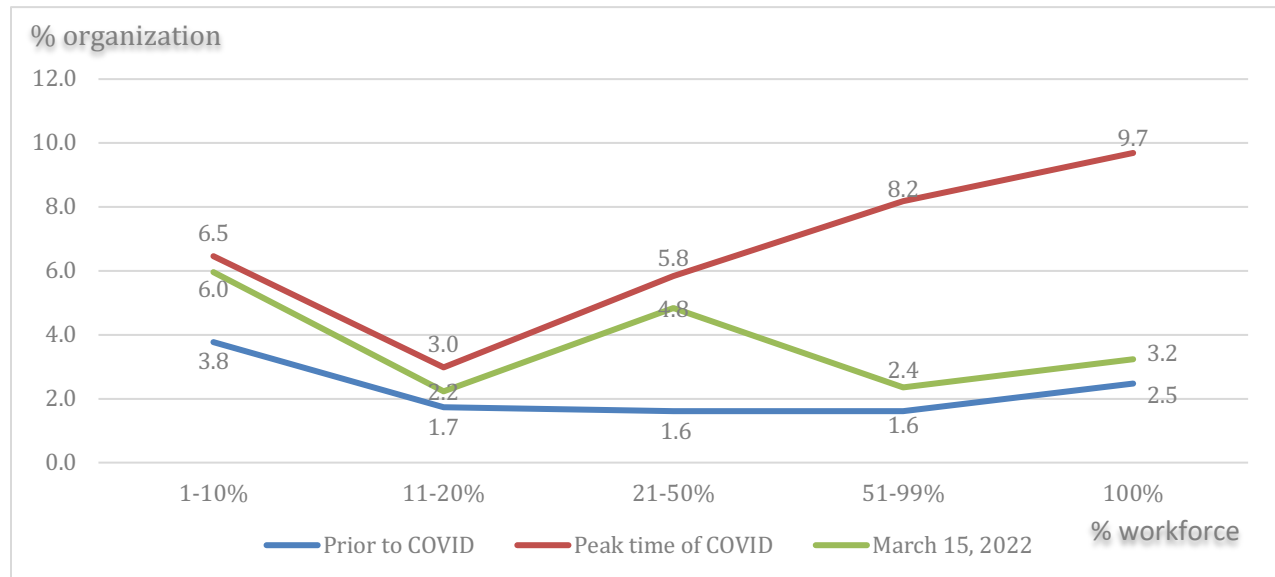
**Table 22: Using remote work arrangements**

<b>% of Employers who reported using remote work arrangements, by % of their workforce working remotely</b>						
<b>% of the workforce working remotely</b>	<b>Prior to COVID</b>		<b>Peak time of COVID</b>		<b>As of March 15, 2022</b>	
0%	85.7%		64.5%		79.1%	
1-10%	3.8%	<b>11.2%</b>	6.5%	<b>33.2%</b>	6.0%	<b>18.6%</b>
11-20%	1.7%		3.0%		2.2%	
21-50%	1.6%		5.8%		4.8%	
51-99%	1.6%		8.2%		2.4%	
100%	2.5%		9.7%		3.2%	
DN/NA	3.1%		2.4%		2.2%	

As of March 15, 2022, when the epidemic was officially declared over, 18.6% of employers reported using remote working arrangements, which was higher than the pre-epidemic level (11.2%).

Notably, there was a dramatic decrease in the percentage of firms with a majority-remote workforce (51-100%) at the pandemic's end (17.9% vs. 5.6%). The percentage of employers who reported 1-50% of their workforce working remotely at the end of the pandemic (13.0%) was similar to the percentage during the pandemic's peak time (15.3%).

**Figure 12: Percentage of organizations allowing remote work (%)**



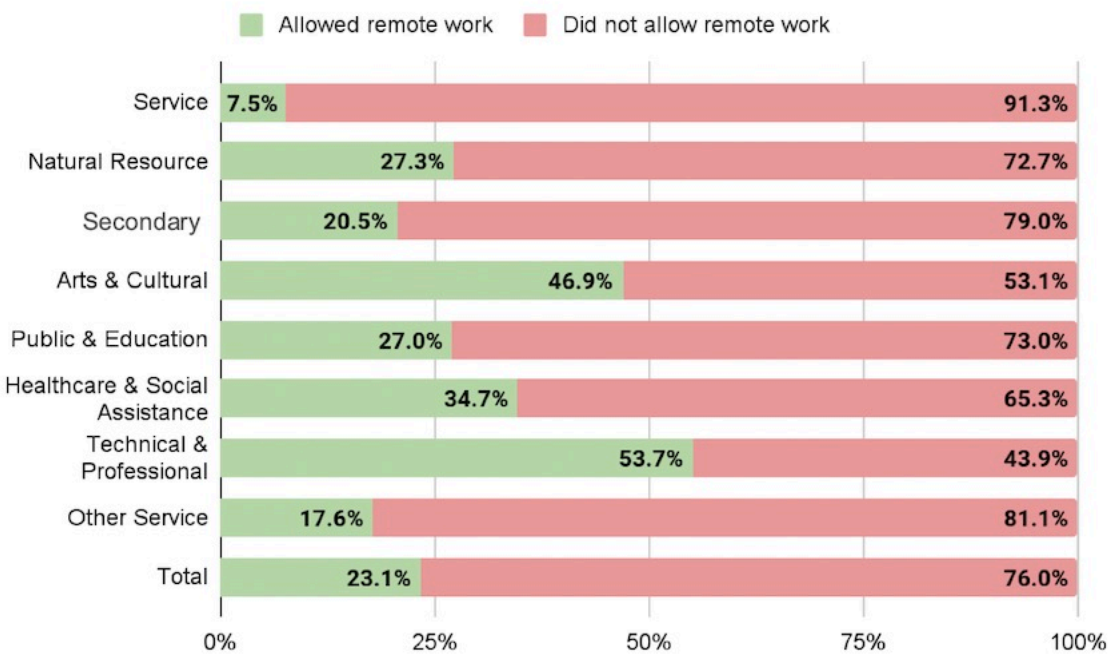
When asked if remote work arrangements would be a permanent option, about 4 in 10 employers (41.1%) said yes.

### 3.2.8 Remote work arrangements were most popular in the technical and professional, arts and cultural, and healthcare and social assistance sectors

It is no surprise that knowledge-based sectors like technical and professional, and arts and cultural are leading adopters of remote work arrangements. The high percentage in healthcare and social assistance likely reflects the substantial administrative and clerical component of this sector's workforce, as well as the increase in remote health service provision (AKA telehealth). In total, only 23.1% of organizations allowed remote work, an average brought down by the preponderance of in-person occupations like services, the secondary sector, and other service sector.

It should also be noted that an organization that implemented flexible job design is more likely to allow remote work (31.1%) than those that did not implement flexible job design (19.5%). This is not surprising, though.

**Figure 13: Percentage of firms allowing for remote work, by sector (%)**



**3.2.9 The majority of organizations will not offer more flexibility to employees regarding remote and on-site work options after the pandemic**

Table 25 shows that most Atlantic Canadian organizations (57.5%) will not offer more flexibility for employees to decide whether to work remotely or on-site in a post-pandemic world. Only 23.1% will consider remote work at all, with the leading sectors in remote work allowance again being the technical and professional (46.3%) and arts and cultural (43.8%) fields. 18.8% of organizations found that the question did not apply: on-site operations were essential. Particularly, 27.3% of organizations in the natural resources sector and 17.6% of them in the other service sector believed remote work was not a feasible option for their business.

According to in-depth interviews with employers, most employers who have adopted teleworking arrangements mentioned that their administrative staff, accounting, and IT staff can work from home, especially when they are sick or have some family responsibility and have to stay at home, while other employees have to work on-site due to the nature of their work.

*“Office/telework – employees working remotely and [they] split [their time] between remote work and [the] office.”*



Those that do offer remote work flexibility are most likely to be in the government (43.6%) or not-for-profit sectors (49.2%), where the likelihood of remote work offerings are in stark contrast to the private sector (16.9%).

**Table 23: Remote work flexibility post-pandemic, by organization type (%)**

	Private sector company	Government	Not-for-profit	Total
<b>Will provide remote flexibility</b>	16.9%	43.6%	49.2%	23.0%
<b>Will not provide remote flexibility</b>	61.2%	51.3%	40.0%	57.5%
<b>DK/NA</b>	0.6%	0%	1.7%	0.8%
<b>Does not apply to the organization</b>	21.4%	5.1%	9.2%	18.8%

Organizations of large sizes are more likely to have permanent remote positions (28.8%), than mini (22.1%), small (24.1%), and medium (21.9%) ones (Table 26).

**Table 24: Remote work flexibility will be a permanent option, by firm size (%)**

	Mini (2-4)	Small (5-9)	Medium (10-49)	Large (50+)	Total
<b>Will provide remote flexibility</b>	22.1%	24.1%	21.9%	28.8%	23.0%
<b>Will not provide remote flexibility</b>	57.6%	60.4%	54.5%	59.3%	57.5%
<b>DK/NA</b>	1.2%	1.0%	0.0%	0.0%	0.8%
<b>Does not apply to the organization</b>	19.1%	14.4%	23.7%	11.9%	18.8%

Remote work is also especially prevalent in Newfoundland and Labrador (28.4%) compared to other Atlantic provinces (Table 27). While it is not clear why this is the case, the prevalence of government and non-profit sectors and the province's recent increase in technology start-ups may have some effect (Graham & Pottie-Sherman, 2022).

**Table 25: Remote work flexibility post-pandemic, by province (%)**

	NB	NL	NS	PEI	Total
<b>Will provide remote flexibility</b>	18.9%	28.4%	23.1%	20.0%	23.0%
<b>Will not provide remote flexibility</b>	63.7%	50.3%	57.1%	61.1%	57.5%
<b>DK/NA</b>	0.5%	1.0%	0.3%	2.1%	0.8%
<b>Does not apply to the organization</b>	16.9%	20.4%	19.5%	16.8%	18.8%

Interviewed employers explained that while remote work accounted for 10-15% of their pandemic workload, they did not view remote work as a permanent option. Those who previously reverted the majority of their operations online are now mostly transitioned back to full or near-full in-person activity, with the exception of some administrative and sales staff.

### **3.2.14 Urban organizations are more likely to maintain permanent remote work options post-pandemic**

In total, 41.1% of all organizations will maintain remote work flexibility. 25.1% of urban firms will maintain remote work flexibility post-pandemic, compared to 20.0% of their rural counterparts (Table 28). This is expected, given a generally higher rural reliance on in-person activities like manufacturing, construction, and secondary sector positions (AEC, 2020c).

However, it is somewhat troubling since telework and remote arrangements are commonly perceived as gateways to the future of rural work, and should be trusted and harnessed by more rural companies to allow for rural economic sustainability in the near future (Davies, 2021).

**Table 26: Remote work flexibility post-pandemic, by location (%)**

	Urban	Rural	Total
<b>Will provide remote flexibility</b>	25.1%	20.0%	23.0%
<b>Will not provide remote flexibility</b>	55.6%	60.3%	57.5%
<b>DK/NA</b>	0.6%	0.9%	0.8%
<b>Does not apply to the organization</b>	18.7%	18.8%	18.8%

### 3.2.15 The impact of remote work on organizational and employee performance

Based on surveys or interviews from different countries, the impact of remote work arrangements on organizational productivity, organizational innovation, costs, turnover, employee performance, and so on is mixed and depends on many factors, such as regulations and support for the arrangements, the percentage of time employees spend on working remotely, organizational culture, etc. (Hackney et al., 2022; Krehl & Büttgen, 2022).

Our survey shows a slightly greater share of employers thought remote work decreased/greatly decreased than increased/greatly increased organizational productivity (22.5% vs. 21.7%), 38.3% of employers believed it increased/greatly increased management complexity (6.3% decreased), and 28.8% reported increased operating costs (17.2% decreased). For the most part, office space can't be gotten rid of just two years after the break of the pandemic, minimizing potential cost savings in this area as of the time of our most recent survey. Organizations do, however, appear to reduce their office space due to their workforce's remote work arrangements after a certain time, as the commercial real estate firm CBRE reported in the third quarter of 2023. Canada's overall national office vacancy rate rose to 18.2% in this quarter, the highest level since 1994 (CBRE, 2023).

Before the pandemic broke out, only 11.2% of organizations had experience in remote work. The pandemic forced a lot of organizations (33.2%) to implement remote work without being well prepared either in infrastructure or in management. Organizations therefore had to invest a lot in IT equipment (50.9%), the training of staff (24.2%), and more communications, both formal and informal (17.5%), to cope with remote work arrangements.

As Table 27 shows, remote work arrangements helped with innovation output in terms of new products/services and improved products/services. More employers agreed that it increased/greatly increased (23.9%/25.6% agreeing) on new or improved products and services than those who believed it decreased new or improved products and services (13.7%/14.0%, depending on the measure).

Around 7 out of 10 employers thought remote work arrangements had no impact on talent attraction and retention. However, more employers thought remote work arrangements would help than hinder attraction (11.6% vs. 10.3%) and retention (14.7% vs. 8.8%).

**Table 27: Remote work impact on business performance**

	Increased (Greatly)	No changes	Decreased (Greatly)	DK/N A	
Organizational productivity	22.5%	53.7%	21.7%	2.1%	
Management complexity	38.3%	53.3%	6.3%	2.1%	
Operation costs	28.8%	52.6%	17.2%	1.4%	
Innovation output	New products or services	<u>23.9%</u>	59.7%	13.7%	2.8%
	Improved products or services	<u>25.6%</u>	58.6%	14.0%	1.8%
Talent attraction	11.6%	72.6%	10.3%	5.6%	
Talent retention	14.7%	72.6%	8.8%	3.9%	
Employee performance	21.8%	59.7%	16.8%	1.8%	

It is worth noting that there are some often neglected indirect outcomes that are impacted by remote work arrangements, such as organizational commitment, job satisfaction, and work engagement.

Because of the mixed impact of remote work, big tech companies, such as Apple, Amazon, Meta, and Google, who are in the best position to offer remote work due to their strong technical capacities, began to mandate that their employees go back to the office in 2023, revoking their 100% remote policies from 2021 and applying instead hybrid work arrangements. The stated reason behind this policy change is usually a variation on the idea that working onsite keeps employees connected and builds trust, which helps employees work more effectively (Riccardi, 2023).

### **3.3 Business Operations**

Along with remote work arrangements, automation is an important production arrangement adopted by organizations to keep their employees safe and keep their organization operational and efficient during the pandemic (Siderska, 2021; Chernoff & Warman, 2023). An organization's decision on whether to automate processes depends on many factors, such as organizational size, nature of production, customer characteristics, upfront investment, and its industry environment (Parthasarthy & Sethi, 2018).

#### **3.3.1 Organizations in Nova Scotia are more likely to employ automation technology**

Digital automation technology<sup>3</sup> is most popular in Nova Scotia, where 15.6% of organizations either previously or currently implement it in business operations. Overall, rates of adoption remain low: only 13.4% of Atlantic Canadian firms have either previously or currently employed automation technology, equating to 108 of 805 employer respondents (Table 30). The lowest rate of adoption is in New Brunswick (11.4%).

According to our in-depth employer interviews, the two main reason for not using automation technology is because of the massive upfront investment and the infeasibility of automation technology in a particular operational environment. However, those who adopted automation technology tended to believed “it increased productivity, operational efficiency and less labour [was] used”. This is consistent with the literature that automation technology may increase operational efficiency in the long run (Dzigbede et al., 2020; Raghavan et al., 2021) and is a solution for labour and skill shortages (Horii & Yasuaki, 2020).

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<sup>3</sup>Automation technology in the survey includes such things as self-service business approaches, robotics, and artificial intelligence technology.

**Table 28: Previously or currently employing automation technology, by province (%)**

	NB	NL	NS	PEI	Total
<b>Employ automation technology</b>	11.4%	12.4%	15.6%	12.6%	13.4%
<b>Do not employ automation technology</b>	87.1%	86.6%	83.4%	86.3%	85.5%
<b>DK/NA</b>	1.5%	1.0%	0%	1.1%	1.1%

### 3.3.2 Medium and large-sized firms are most likely to employ automation technology

Our data accords with previous assumptions: long-standing organizational habits and prior investments may prevent the ability to embrace new strategies, especially among small and medium-sized enterprises (AEC, [2021](#)). There was a relatively large disparity between small and large organizations in the rate of digital automation technology adoption, from 10.7% in small firms to 17.0% in large firms. The cause likely is a lack of financial capacity to make the significant, capital-intensive investment in small firms. Medium-sized firms (18.9%) actually report greater usage of automation technology than large firms, but there is a much large share of large employers who did not know if automation technology was used (5.1% in large firms vs. 0.5% in medium-sized firms). This data point could reflect informational constraints in large firms with several lines of business.

**Table 29: Organizations currently employing automation technology, by organizational size (%)**

	Small (2-9)	Medium (10-49)	Large (50+)	Total
<b>Adopted automation technology</b>	10.7%	18.9%	17.0%	13.4%
<b>Did not adopt automation technology</b>	88.3%	80.1%	78.0%	85.5%
<b>DK/NA</b>	1.0%	0.5%	5.1%	1.1%

**3.3.3 Automation technology adoption is not strongly correlated with hiring difficulties and location**

There is an insignificant correlation between automation technology adoption and hiring difficulties (13.4% with hiring difficulties vs. 13.6% without). Location does not matter either when analyzing automation decisions, at least without controlling for other factors (13.3% of urban employers vs. 13.6% of rural employers), highlighting the most important determining factors are upfront investment and the nature of business operations (Table 32).

**Table 30: Correlation between hiring difficulties, location, and automation technology adoption**

	<b>Hiring Difficulties</b>	<b>No Hiring Difficulties</b>	<b>Urban</b>	<b>Rural</b>	<b>Total</b>
<b>Adopted automation technology</b>	13.4%	13.6%	13.3%	13.6%	13.4%
<b>Did not adopt automation technology</b>	85.6%	85.2%	85.1%	86.1%	85.5%
<b>DK/NA</b>	1.1%	1.2%	1.7%	0.3%	1.1%

In-depth conversations with employers revealed other reasons for implementing (or not implementing) automation technology. One manager in the accommodations and food service industry is hesitant to do so out of altruistic intentions, despite the effectiveness of their wrapping machine:

*"We're not going to implement automated technology just for business. We have a mandate to serve the community."*

Other employers recalled that their workers are either not open to learning new skills at later stages of their careers, or that new technologies are inaccessible because of limited availability and exposure, especially in rural areas.

*“A lot of fishers are elderly, not interested in learning how to use digital automations. Electronic logs (E-logs) are being rolled out in certain fisheries but for a lot of fishers it's a barrier to their access to communication. A lot of them in the remote communities don't have the internet for electronic reporting. Similar to reporting lost traps, they've tried to make that automated and online and that's been a huge barrier to a lot of people in remote communities.”*

#### **3.3.4 About two-fifths of employers who used automation technology prior to the pandemic reported increased usage during the pandemic**

In response to the unavailability of qualified applicants due to COVID-19, there was an overall increase in automation technology investment and implementation, including self-service, robotics, and artificial intelligence technology (Coombs, 2020; Petropoulos, 2021; Hancock & Schaninger, 2020).

An owner of a professional service provider mentioned:

*“The COVID does accelerate the adoption of those automation technologies because of labour shortages”.*

When asked if the organization used automation technology due to the pandemic, nearly 38.9% of employers who reported using automation technology (such as self-service business approaches, robotics, and artificial intelligence technology), said they increased or greatly increased the use of automation technology, and only 2.8% of them said they decreased the use of automation technology. Increasing the use of automation technology is especially true of employers in New Brunswick (NB), partly because NB organizations reported relatively less use of ADT (11.4%), as previously displayed in Table 29.



Those that did increase automation technology usage reported gains in productivity. For example, one firm digitized a core process by introducing a remote temperature operator, eliminating a labor-intensive task at a reasonable price and for 30-40% gains in efficiency. Likewise, a food and beverage industry producer explained their improved performance because of new automated bottling and semi-automated office work. A worker at another organization described the benefits of their organization’s new online portal for self-serve and check-in options.

### **3.3.5 Many businesses found new, permanent ways to sell products and digitize core business operations**

Despite relatively low automation technology adoption, the COVID-19 pandemic did change organizations’ way of doing business, not only during the pandemic, but also thereafter.

Around 30% or more of the surveyed employers changed business operations. Some employers altered products or services (36.3%), added new ways to sell products or services to customers (36.2%), digitized core business operations (31.7%), diversified products or services (31.3%), and altered methods of production (29.3%) to proactively cope with the effects of COVID-19. A slightly lower proportion of employers either discontinued products or services (28.3%) or downsized staff (21.6%) to reactively cope with the effects of COVID-19 (Table 33).

**Table 31: Probability of implementing permanent changes to business operations, by type of business practice (%)**

<b>Change in Business Operations</b>	<b>Implemented the Change</b>	<b>Implemented the Change Permanently, Among Those Who Made the Change</b>
<b>Altered products or services</b>	36.3%	57.9%
<b>Added new ways to sell products or services</b>	36.2%	80.8%
<b>Digitized core business operations</b>	31.7%	79.2%
<b>Diversified products or services</b>	31.3%	70.0%

<b>Change in Business Operations</b>	<b>Implemented the Change</b>	<b>Implemented the Change Permanently, Among Those Who Made the Change</b>
<b>Altered methods of production</b>	29.3%	59.8%
<b>Discontinued products or services</b>	28.3%	46.5%
<b>Downsized staff</b>	21.6%	35.6%

However, the majority of proactive changes have remained for the long-term, while less employers reported that reactive responses would be long-term changes, especially in terms of laying off employees.

As data showed in one of our surveys, even though most employers reported their number of employees decreasing during the pandemic, they still felt optimistic about increasing employment after COVID-19. In fact, this is consistent with the trend in the unemployment rate since May 2022, as it was even lower than it was before COVID in Atlantic Canada (Statistics Canada, 2023).

**3.4 COVID-19 supports**

In order to cope with COVID-19, besides changing their business operations and HR policies and practices, organizations also provided support to their employees.

**3.4.1 Of the employers who provided health and safety measures, a third of employers provided mental health assistance to employees**

The notable health and safety related measure mentioned by employers is to provide access to medical/health professionals (32.7%). These measures were extremely helpful to help employees recovery from the impact of COVID-19, especially at the peak time of COVID, when the public had little knowledge about the disease and medical resources were very limited.

Psychological problems like stress and anxiety were accentuated during the COVID-19 pandemic (Talevi et al., [2020](#); Hamouche, [2020](#)). Concerns remain today over the spillover effects of financial distress and the ultimate long-term, negative mental health consequences, especially on wellbeing, career outcomes, and career aspirations (Hamouche, [2020](#); Baert et al., [2020](#)).

Our survey shows that 33.0% of employers provided mental health support to their employees (Table 34). Other popular measures are paid sick leave (56.5%) and paid time off for testing and vaccination (66.7%), which contributed positively to employee mental health.

**Table 34: Health-related COVID-19 support for employees, all organizations (%)**

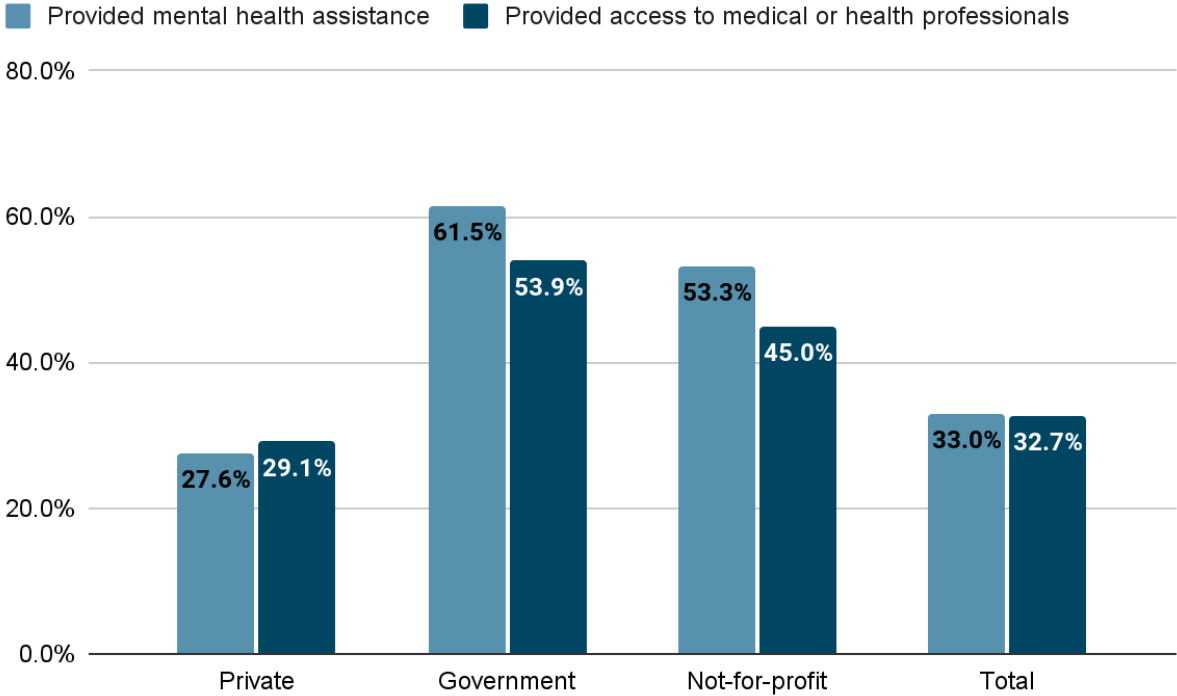
<b>Provided Support</b>	<b>%</b>
Installed protective barriers/equipment	74.7%
Paid time off for COVID-19 testing and/or vaccination	66.7%
Paid sick leave for COVID-19	56.5%
<b>Provided mental health assistance</b>	<b>33.0%</b>
Provided access to medical or other health professionals	32.7%
Provided PPE/Masks	12.7%
Increased cleaning/Access to sanitizer	9.2%

### **3.4.2 Government and not-for-profit employers are more likely to provide mental health assistance**

Our data shows, in general, over 30% of employers provided employees assistance to access to medical or health professionals or mental health assistance. However, there is a significant difference between the private sector, the government sector, and the not-for-profit sector. Government and not-for-profit employers are more likely to provide mental health assistance. Approximately 53.9% of government employers and 45.0% of not-for-profit employers provided employees access to medical or health professionals, while only 29.1% of private employers did so. Even a higher portion of government employers (61.5%) and not-for-profit employers (53.3%) provided employees with mental health assistance, compared to a lower portion of private employers (27.6%).

This situation suggests that industry associations or governments may have to step in to help private organizations with the necessary information or support.

**Figure 14: Probability of providing mental health assistance or access to medical or health professionals due to COVID-19, by organization type (%)**



### 3.4.3 Employer opinions regarding government action in COVID-19 recovery

Many employers did not have a decisive opinion regarding government-provided financial support to deal with post-COVID-19 effects on their businesses. 34.9% of firms didn't have any financial requests and provided no answer. Similarly, 14.8% explained that they needed no unique support.

Ultimately, survey and interview data reveal that employers utilize government support in a myriad of ways, such as using a 75% wage subsidy for an apprenticeship, a subsidy for a recent immigrant employee, or to support training and onboarding costs for unqualified workers.

In-depth interviews also revealed that many employers reported using government subsidies, the majority of which were 75% wage subsidies that lasted between 0.5 and 1.5 years. The reason for DK/NA answers is mainly because those employers might not be eligible for government financial support. In fact, 10 of 26 employers we conducted in-depth interviews with reported they didn't use any financial support.

Other financial support suggestions were narrow. 20.7% requested more grants, loans, or funding, while 18.1% wanted more employee subsidies in the form of wage subsidies.

**3.4.5 Some employers seek non-financial support from government in the form of recruitment and training support**

11.7% of employers requested non-financial support in the form of recruitment and training support (Table 35).

**Table 35: Requests of non-financial support from government (%)**

<b>Non-financial support</b>	<b>%</b>
<b>Recruitment and training support</b>	11.7%
<b>Reduce restrictions and mandates</b>	4.3%
<b>Clear and consistent COVID-19 guidelines and protocols</b>	4.0%
<b>Health and mental health support</b>	3.0%
<b>Advertising and marketing support</b>	3.0%
<b>None/No support</b>	12.5%
<b>Don't know/No answer</b>	55.8%

By comparing the list of preferred financial and non-financial supports, it is evident that Atlantic Canadian employers prefer direct financial support for short-term purposes to indirect non-financial support focused on their long-term development, such as staffing, training and employees' mental health.

## 4.0 Conclusion and Policy Implications

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### 4.1 Hiring Difficulties

#### 4.1.1 Conclusions

- Approximately half of Atlantic Canadian organizations in our survey reported having difficulties hiring in the previous six months.
- Hiring difficulties are more prominent in larger organizations, and in the health care and social assistance, secondary, and natural resource sectors.
- In terms of occupations, those in the technical/trades and general labour categories pose the greatest challenge for organizations, on average.
- The main reason for hiring difficulties, cited by organizations of various types, is a lack of applicants.

#### 4.1.2 Policy Implications

- Many employers increase their reliance on on-the-job training when applicants are hard to come by; some rely on government funds to support this training. Aligning educational programs with skills that are in-demand in the labour market will benefit workers and employers.
- A substantial number of applicants are underqualified but can be trained. Incentives for on-the-job training to bridge skill gaps would be worthwhile to consider.
- With technical, trades, and labour positions in the highest demand relative to supply, innovative ways to increase labour supply are welcome. It is clear that simply relying on traditional college and university programs will not do much to mitigate the most severe labour shortages. Tapping into groups that are underrepresented in such positions, such as females, visible minorities, and indigenous people, could go a long way to filling these shortages. As many trades have aging workforces, better marketing to youth all around would be beneficial. Immigrants are another group that can help boost labour supply to these positions. More likely needs to be done to focus on selecting immigrants with trades and other hands-on technical skills. Credential recognition and collaboration with

both labour unions and contractors will be necessary to ensure this can be done in a way that works for all stakeholders, including domestic workers, some of whom may be lower income in fields such as general labour and therefore can be vulnerable to a substantial increase in job competition.

- Inter-provincial migrants are also important resources to help manage the lack of applicants to Atlantic Canadian firms, keeping in mind the important goal of bettering outcomes for the existing labour force.
- Traditional ‘skilled’ fields such as healthcare are in need of more workers, as well, especially as the Atlantic population ages. Easier credential recognition for workers from other provinces and, where possible, other countries, is a promising route to easing these shortages, as demonstrated by recent efforts by the Government of Newfoundland and Labrador to attract qualified nurses from India.

## **4.2 Hiring Newcomers and Those from Other Provinces**

### **4.2.1 Conclusions**

- There are significant differences in the number of job applications received from out-of-province between the Atlantic provinces. Over half of Prince Edward Island (PEI) employers in our surveys received job applications from those in other provinces recently, whereas just 30% of Newfoundland and Labrador (NL) employers received such out-of-province applications. Similarly, about 60% of PEI employers received applications from immigrants in the prior six months compared to just over 30% of NL employers.
- The health care and social assistance, secondary, and natural resource sectors were the most likely to receive applications from newcomers and hire them. These three industries are also the industries reporting the most hiring difficulties. This suggests that employers may be seeking out workers from underrepresented groups when they face difficulties in hiring.
- Urban organizations are significantly more likely to receive applications from newcomers compared to rural organizations. Consequently, urban organizations are also more likely to hire newcomers. The problem for rural organizations seems to be the lack of newcomer applicants, as the gap between the percentage of urban and rural organizations

who hired newcomers is lower than the gap between urban and rural organizations who received applications from newcomers.

- Slightly more than half of the surveyed employers who hired newcomers reported providing specific support to them, such as help with immigration documents, housing, or language training.

#### 4.2.2 Policy Implications

- There are clear recruitment opportunities for employers to market more jobs to residents of other Canadian provinces when well-matched local labour is in short supply. The success of tourism initiatives in the Atlantic provinces could offer clues for how to market the region to potential out-of-province workers. Low housing costs, safe communities, attractive natural and cultural scenes for lifestyle choices, strong natural resource sectors and growing technology sectors are examples of competitive advantages the Atlantic provinces hold. Provinces such as Alberta have run advertisements in the Atlantic provinces to attract workers from the region. Such a strategy could be considered for the Atlantic provinces.
- Supporting networking between immigrants and companies facing labour shortages is a promising strategy. Such employers appear to often be willing to hire newcomers based on our data.
- Similarly, rural organizations seem willing to hire immigrants but are faced with limited opportunities to do so. Supporting networking between rural companies and immigrants could be a good option. Showcasing the benefits of rural living can be another effective recruitment tool. There is a global trend toward ‘lifestyle entrepreneurship,’ where those seeking a simpler or more natural lifestyle will look to move to smaller towns. Moreover, since many rural communities are driven by natural resources, ensuring credential recognition and pushing for better education-labour market skill matches should help as well. Finally, improved infrastructure, such as affordable housing and public transportation, and cultural opportunities would always be helpful.
- Supporting newcomers with their immigration documents is a much more popular practice in PEI, where immigration rates are very high, compared to other Atlantic provinces.



- Other methods of improving the general economic integration of immigrants include enhanced language and cross-cultural training, and supporting employers, especially the SMEs, to navigate the immigration system more effectively.

## **4.3 Workplace Practices to Fill Labour and Skill Shortages**

### **4.3.1 Conclusions**

- The most common workplace practices to fill job vacancies were increasing wages without reducing non-wage benefits (64.4%) followed by adjusting working hours and scheduling (52.6%).
- Organizations in the secondary industries and arts and cultural sector were the most likely to increase wages as a response to shortages, with nearly four fifths of employers in these industries claiming to take such action, possibly because of their relatively lower level of wages.
- Larger organizations and private sector firms are more likely to use wage increases as a shortage response than their smaller and public sector counterparts as they usually have more resources to do so or more likely to respond to labour market signals.
- Increasing use of teamwork (53.7%) and flexible working hours and scheduling (52.6%) were the most common non-compensation related workplace practices to deal with shortages.
- Flexible hours are most common in the arts and cultural (68.8%), healthcare and social assistance (65.3%), and service (54.8%) sectors.
- Nearly half of organizations surveyed reported hiring unqualified personnel in the face of labour shortages. Such organizations were slightly more likely to pay unqualified personnel the same wage as they would pay a qualified employee, but a significant number of them did pay unqualified personnel less than an adequately qualified employee. Over 90% of organizations that hired unqualified personnel provided more training than usual in order to compensate for the lack of qualifications.

### **4.3.2 Policy Implications**

- Policymakers should keep in mind that larger firms tend to have more resources. Smaller firms may not have as much leeway to raise wages or provide specific training.

- Public sector organizations are the least flexible in terms of raising wages to attract talent, likely to due to strong unions and constraints of multi-year collective agreements. If public sector organizations cannot pay comparable wages to professionals relative to private sector firms, this will put them at a competitive disadvantage which could have widespread implications for policymaking and government service delivery. However, literature tends to find public sector employees are paid 9% more than equivalent private sector employees (Gunderson, Hyatt, and Riddell, 2000).
- Skill mismatch between postsecondary graduates and the needs of employers can lead to poor outcomes for firms and workers alike. Many firms must sometimes hire relatively unqualified candidates based on our data. A good portion of these workers earn less than their qualified counterparts while, for firms, hiring unqualified candidates increases training costs while likely decreasing productivity.

## **4.4 Remote Work**

### **4.4.1 Conclusions**

- The share of employers allowing at least some level of remote work rose from roughly one in ten pre-pandemic to about one in three at the height of the pandemic. As of March 2022, the share of remote allowing employers fell to less than one in five, still higher than pre-pandemic level.
- As of March 2022, non-profit employers were the most likely to allow remote work, followed by government employers, with private sector employers being the least remote friendly.
- Less than 3 in 10 managers who are able to implement remote work would like more flexibility for employees to choose their place of work post-pandemic.
- Firms utilized numerous supports for remote workers. The most popular forms of support were investments in equipment for home offices and technological infrastructure to facilitate remote work.
- Regarding employers' evaluation of the impact of remote work on organizational and employee performance, in general more employers were positive than negative when considering organizational innovation output, talent retention and employee performance.

However, more employers expressed concerns regarding increased management complexities and operational costs.

#### **4.4.2 Policy Implications**

- There is no one size fits all remote working approach. Hybrid work seems to becoming a popular arrangement, with full-time remote likely becoming the least frequent arrangement compared to full-time on-site or hybrid. There are both advantages and disadvantages for remote work arrangement, so the choice of working approach going forward will depend on the organizational characteristics, type of occupation, labour market conditions, and aptitude of particular employees.
- As with any organizational changes, significant investments and adjustment need to be made in order to effectively implement remote working. The forced pandemic remote working experience was an early-stage adoption of large-scale remote work. Poor results in some metrics from remote work during this transition period do not necessarily imply that remote work is to blame. It will likely take some time to optimize the features of remote working from both employer and employee perspectives. Firms that can harness the advantages while working to mitigate disadvantages may benefit from remote working in the long run, although the jury is still out on the staying power of remote work.

### **4.5 Use of Automation Technology**

#### **4.5.1 Conclusions**

- Somewhere between 10-20% of firms report using automation technology across multiple firm characteristics, with medium-and large-sized firms being noticeably more likely to employ automation technology than small firms.
- Automation use does not strongly correlate with hiring difficulties or firm location.
- Of those employers who used automation technology pre-pandemic, nearly 40% reported increasing their usage during the pandemic.
- Finding new and permanent ways to sell products and services, and digitizing core business operations were more popular changes than deploying automation technology.

#### **4.5.2 Policy Implications**

- Exogenous shocks such as the pandemic appear to boost the usage of new technologies such as automation. However, uptake is still low overall.

### **4.6 COVID-19 Supports**

#### **4.6.1 Conclusions**

- The majority of employers provided protective barriers/equipment to employees and provided paid time off/sick leave to help cope with the pandemic.
- Only a third of employers provided mental health assistance to their employees. However, the majority of government and non-profit organizations provide such support compared to less than 30% of private sector organizations.
- Just over 10% of employers sought recruitment and training support from the government.

#### **4.6.2 Policy Implications**

- In terms of core support to remain operational and protect the physical health of employees, employers seem to have done well during the pandemic. Private sector firms do lag far behind in terms of mental health support. This could be an area where government nudges/incentives come into play.
- Training and recruitment support requests to the government appear to be uncommon. However, these are areas where simply providing information could be a low-cost way to help businesses, especially resource-strapped small businesses.

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