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In 2022, the number of job vacancies in Canada averaged 942,000, two and a half times the average of 377,000 observed in 2016 (Statistics Canada Table 14-10-0328-01). The substantial growth in the number of job vacancies observed during this period has brought to the forefront the concept of **labour shortages**, the notion that, in some sectors of the economy, there might be an insufficient number of workers available to fill vacant positions.

Assessing whether there are enough workers to fill specific job vacancies is challenging because vacant positions have different skill requirements—minimum education, amount of experience, occupational and language skills—while workers may be competent in several occupations and have different skills, some of which are not captured in surveys.¹

One starting point is to compare the number of job vacancies requiring a given education level with the number of job seekers who have that education. This simple exercise allows one to answer the following questions:

- 1) In recent years, has the national number of job vacancies requiring a given education level exceeded the number of job seekers with such an education?
- 2) If so, in which regions has this greater number of job vacancies been observed?
- 3) If so, for which education levels has this greater number of job vacancies been observed?

This exercise offers a useful perspective for understanding the nature of the current labour market tightness. For example, it allows an assessment of the degree to which a lack of highly educated workers underlies the recruitment challenges faced by Canadian employers.

Using data from the Job Vacancy and Wage Survey (JVWS) and the Labour Force Survey from 2016 to 2022, this article answers the three questions outlined above.

Since 2016, the number of unemployed Canadians with a bachelor's degree or higher education has always exceeded the number of vacant positions requiring such an education

During every quarter from 2016 to 2022, the number of unemployed individuals with a bachelor's degree or higher education exceeded the number of vacant positions requiring such an education. For example, 113,000 vacant positions required a bachelor's degree or higher education during the fourth quarter of 2022, about half the number of unemployed individuals who had such an education and were either born in Canada or were landed immigrants (227,000) (Table 1). The total number of vacant positions requiring

1. Another consideration is that firms with negligible training costs may maximize profits by using a human resource strategy that combines relatively low wage offers with high worker turnover, resulting in a high number of job vacancies.

such an education (113,000) was even lower than the number of unemployed immigrants (123,000) with a bachelor's degree or higher education.²

Likewise, from 2016 to 2022, the number of unemployed individuals with a partial or complete postsecondary education always exceeded the number of job vacancies requiring such an education.³

In contrast, the number of vacant positions requiring a high school diploma or less education exceeded the number of unemployed Canadians with such an education only since the third quarter of 2021. For example, during the fourth quarter of 2022, 497,000 vacant positions required a high school diploma or less education while 296,000 unemployed Canadian-born individuals and 70,000 unemployed immigrants had such an education.

During the third quarter of 2022, the number of unemployed individuals with a bachelor's degree or higher education exceeded the number of job vacancies requiring such an education in virtually all sizable economic regions

This pattern is not limited to a few regions: during the third quarter of 2022—which recorded close to 1 million job vacancies nationwide—the number of vacant positions requiring a high school diploma or less education surpassed the number of unemployed individuals with such an education in all the economic regions considered in Table 2. For example, Montréal had about 35,000 such job vacancies during this quarter while the number of unemployed individuals with a high school diploma or less education averaged about 18,000. During the third quarter of 2022, hourly wages offered in these vacant positions averaged at most \$20.35 per hour nationwide (Statistics Canada Table 14-10-0328-01).

In contrast, the number of vacant positions requiring a bachelor's degree or higher education was lower than the number of unemployed individuals with such an education in all selected regions except Capitale-Nationale (Quebec). Likewise, the number of vacant positions requiring a partial or complete postsecondary education was generally lower than the number of unemployed individuals with such an education.

Taken together, Tables 1 and 2 provide no evidence that the recruitment difficulties experienced by Canadian employers seeking to fill positions requiring some postsecondary or higher education can be attributed to a **lack of job seekers with such education levels**.⁴ Instead, they suggest that the source of these recruitment difficulties likely reflects a mismatch between:

- A) the skills required for the job or the wages offered and
- B) the skills possessed (or recognized by employers) by highly educated unemployed individuals or their reservation wages.

2. For simplicity, Table 1 omits unemployed individuals who are neither born in Canada nor landed immigrants. Adding this group does not alter any of the findings reported above. Nor does restricting samples to unemployed individuals who are not on temporary layoffs.

3. The term "partial or complete postsecondary education" refers to the following JAWS categories: non-university certificate or diploma and university certificate or diploma below bachelor's level.

4. This finding holds even after accounting for the fact that the JAWS excludes some sectors (religious organizations; private households; and federal, provincial, territorial, international and other extraterritorial public administrations) and therefore does not count all job vacancies in the labour market.

A lack of concordance between the field of expertise required for the job and the field of study of job seekers or between the working conditions that prevail in some occupations and those desired by job seekers, the non-recognition of foreign credentials or foreign work experience, insufficient work experience, and inadequate language skills are examples of such mismatch.

Tables 1 and 2 also indicate that in recent quarters, the number of job vacancies requiring a high school diploma or less education has exceeded the number of unemployed individuals with such an education nationwide and in most economic regions. The relatively large number of such vacancies likely reflects a combination of factors, such as relatively low wage offers and fringe benefits, work schedules that might not align with the preferences of job seekers, and shortages of candidates with relevant experience in some—but not necessarily all—low-skilled occupations.

Conclusion

Not all job vacancies are equal. Some require relatively little education and offer relatively low wages while others require highly educated employees and offer relatively high wages.

This article shows that employers' difficulties to fill job vacancies requiring high levels of education cannot, in general, be attributed to a national shortage of highly educated job seekers or to local shortages of such job seekers. For these jobs, there is **potentially** a large enough pool of highly educated workers at the national and local levels, but since these jobs are not homogenous, vacancies may arise because of a lack of concordance between the skills required for the job and the skills possessed by highly educated job seekers. A lack of individuals trained in specific areas (e.g., nursing and engineering), a lack of concordance between job seekers' reservation wages and the wages offered in some vacant positions, and job seekers' potentially imperfect knowledge about the existence of these vacancies may also be contributing factors.⁵

This article also shows that national and local shortages of job seekers with appropriate education levels have been observed only for job vacancies requiring a high school diploma or less education. Furthermore, these shortages have been observed only recently, since the third quarter of 2021. The degree to which these job vacancies can be attributed to labour shortages in specific low-skilled occupations instead of relatively low-wage offers and fringe benefits or other factors remains an open question.

These findings add an important nuance to discussions about the optimal strategies to use, if any, to alleviate the recruitment challenges faced by several employers in Canada. They make it clear that the concept of labour shortage cannot be applied indiscriminately when analyzing the current state of Canada's labour market.

5. As many job seekers use the Internet for their job search, informational issues are likely to be less prevalent now than in the past.

Table 1
Number of job vacancies and unemployed individuals, by education, 2016 to 2022

Period	Education								
	High school diploma or less			Some or completed postsecondary education			Bachelor's degree or higher		
	Job vacancies	Unemployed Canadian-born individuals	Unemployed immigrants	Job vacancies	Unemployed Canadian-born individuals	Unemployed immigrants	Job vacancies	Unemployed Canadian-born individuals	Unemployed immigrants
	thousands								
2016									
First quarter	193	504	106	95	454	113	42	128	135
Second quarter	242	455	97	103	412	119	46	107	137
Third quarter	253	450	96	100	382	108	52	162	146
Fourth quarter	241	402	88	94	360	98	46	108	128
2017									
First quarter	236	465	103	104	430	102	47	115	125
Second quarter	295	432	101	113	387	99	52	111	117
Third quarter	298	388	93	116	366	103	53	142	147
Fourth quarter	303	335	79	113	338	100	53	101	129
2018									
First quarter	287	402	89	119	377	100	56	112	109
Second quarter	351	380	78	135	345	89	61	119	119
Third quarter	349	349	99	138	353	90	64	146	127
Fourth quarter	344	317	73	138	295	91	65	103	119
2019									
First quarter	302	378	90	137	374	100	67	113	129
Second quarter	362	358	87	150	338	87	69	98	124
Third quarter	354	354	97	141	323	91	68	139	140
Fourth quarter	308	329	83	132	297	82	69	98	121
2020									
First quarter	290	425	92	149	416	108	74	125	161
Second quarter	...	689	188	...	856	254	...	247	267
Third quarter	...	570	170	...	584	199	...	270	233
Fourth quarter	328	450	145	161	470	148	72	187	192
2021									
First quarter	304	481	147	168	569	187	81	171	187
Second quarter	444	455	146	194	478	181	93	159	185
Third quarter	583	421	139	228	418	161	101	186	179
Fourth quarter	570	315	107	240	320	121	106	119	146
2022									
First quarter	517	374	103	259	351	113	115	123	140
Second quarter	636	329	97	272	264	94	124	103	128
Third quarter	604	317	87	271	278	89	117	140	145
Fourth quarter	497	296	70	246	240	82	113	104	123

... not applicable

Note: Postsecondary education includes trades certificates or diplomas.

Sources: Statistics Canada, Labour Force Survey and Job Vacancy and Wage Survey.

Table 2

Number of job vacancies and unemployed individuals in selected economic regions, by education, third quarter of 2022

Economic region	Education					
	High school diploma or less		Some or completed postsecondary education		Bachelor's degree or higher	
	Job vacancies	Unemployed	Job vacancies	Unemployed	Job vacancies	Unemployed
	thousands					
Halifax	7.8	6.5	2.8	4.0	1.8	3.7
Capitale-Nationale, Quebec	13.9	4.3	10.6	5.5	3.3	3.0
Montréal	35.2	18.2	25.5	25.8	15.9	33.3
Ottawa	23.1	11.8	8.1	11.8	5.2	13.3
Kingston–Pembroke	7.2	5.9	2.9	3.7	0.7	2.4
Toronto	94.7	92.8	48.4	80.6	30.6	87.9
Kitchener–Waterloo–Barrie	24.4	18.6	9.8	18.3	2.9	10.9
Hamilton–Niagara Peninsula	25.3	18.4	9.6	13.9	2.2	10.1
London	13.7	9.4	5.4	8.9	2.5	6.7
Windsor–Sarnia	8.8	7.9	4.0	9.3	0.9	5.8
Winnipeg	13.7	10.4	5.1	6.9	2.6	6.7
Regina–Moose Mountain	4.9	4.3	1.5	1.9	0.6	2.6
Calgary	24.8	19.3	9.4	14.0	4.9	24.1
Edmonton	22.3	21.2	8.5	16.5	2.9	10.6
Vancouver Island and Coast	16.1	7.0	4.9	7.2	1.7	5.5
Lower Mainland–Southwest	58.2	28.2	24.1	26.1	12.4	32.8

Note: Postsecondary education includes trades certificates or diplomas.

Sources: Statistics Canada, Labour Force Survey and Job Vacancy and Wage Survey.

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