Catalogue no. 75-006-X
ISSN 2291-0859

Insights on Canadian Society

Persistent overqualification among immigrants and non-immigrants

by Louis Cornelissen and Martin Turcotte

Release date: September 2, 2020

Statistics Canada Statistique Canada

Canada

How to obtain more information

For information about this product or the wide range of services and data available from Statistics Canada, visit our website, www.statcan.gc.ca.

You can also contact us by

Email at STATCAN.infostats-infostats.STATCAN@canada.ca

Telephone, from Monday to Friday, 8:30 a.m. to 4:30 p.m., at the following numbers:

- Statistical Information Service 1-800-263-1136
- National telecommunications device for the hearing impaired 1-800-363-7629
- Fax line 1-514-283-9350

Depository Services Program

- Inquiries line 1-800-635-7943
- Fax line 1-800-565-7757

Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, Statistics Canada has developed standards of service that its employees observe. To obtain a copy of these service standards, please contact Statistics Canada toll-free at 1-800-263-1136. The service standards are also published on www.statcan.gc.ca under "Contact us" > "Standards of service to the public."

Note of appreciation

Canada owes the success of its statistical system to a long-standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued co-operation and goodwill.

Published by authority of the Minister responsible for Statistics Canada

An HTML version is also available.

Cette publication est aussi disponible en français.

Persistent overqualification among immigrants and non-immigrants

by Louis Cornelissen and Martin Turcotte

Overview of the study

Using integrated data from the 2006 and 2016 censuses, this study examines persistent overqualification over time among immigrants and non-immigrants. More specifically, the study examines the link between various characteristics associated with immigration and the probability of overqualification in both 2006 and 2016. In the study, overqualification is defined as a situation in which university degree holders (bachelor's degree or higher) hold jobs that require no more than a high school education.

- Among workers aged 25 to 49 with a university degree in 2006, 20% experienced overqualification at least once in 2006 or in 2016. However, 5% were persistently overqualified (i.e., they were overqualified in both 2006 and 2016).
- The proportion of workers who were overqualified in both 2006 and 2016 was nearly 10% among immigrants and 4% among non-immigrants.
- Among immigrants, the location of study was an important factor in the risk of overqualification; 14% of immigrants who studied outside Canada experienced overqualification in both 2006 and 2016, compared with 4% of those who studied in Canada.
- Immigrants who graduated in North America, Oceania, and Western and Northern Europe differed little from Canadian graduates in terms of overqualification, while graduates from Southern and Southeast Asia were more likely to be overqualified in both 2006 and 2016.
- Recent and older immigrants were particularly at risk of persistent overqualification. Among immigrants aged 40 and over who arrived in Canada in the five years prior to the 2006 Census and who had a university degree, nearly 1 in 5 was overqualified in both 2006 and 2016.

Introduction

Among various definitions of overqualification, a worker can be considered overqualified when their level of education is higher than what is typically required for the position they hold.

Overqualified workers earn lower salaries and have lower life satisfaction compared with workers who hold a position that corresponds to their level of education.[1] Collectively, overqualification can raise questions about the ability of the educational system to help people improve their lives. Economically, it can also represent an underutilization of human resources. For all these reasons, overqualification has become a widespread topic of research and a growing concern for decision makers. This is particularly true because, in general, recent decades have seen an increase in overqualification rates.[2]

As past studies have shown, overqualification rates are generally higher among young workers, women and graduates in certain fields (e.g., humanities or arts rather than education or applied sciences) or certain levels of education (e.g., bachelor's degrees rather than graduate degrees).[3] Overqualification is also more common among highly educated immigrants, who are of particular interest in this study.

Overqualification among immigrants remains relevant in the context of the COVID-19 pandemic. In terms of job losses, the pandemic has had a greater impact on immigrants, particularly recent immigrants.[4] The latter, who often work in sectors that have been hardest hit by the pandemic (retail, accommodation and food services), are among the subgroups most likely to be overqualified. Immigrants, many of whom are overqualified, are also overrepresented among workers in health service support sectors, which have been particularly exposed to the risk of contracting COVID-19.[5] Lastly, while the COVID-19 pandemic has revealed difficulties in recruiting skilled workers in some key areas, immigrants are overrepresented among adults who have studied health but are not working in the health sector.[6]

Various characteristics have been identified as factors associated with the risk of overqualification among immigrants: recent immigration, location of study, official language proficiency and literacy skills, membership in certain groups designated as visible minorities, pre-migration work experience, admission category, and the characteristics of the programs through which immigrants are selected.[7] The effect of several—but not all—of these factors is likely associated with a particular difficulty for immigrants to have their degrees recognized by employers. Recent immigrants also seem to be more affected by variations in the supply and demand of university-educated workers, and they seem to be particularly impacted by competition with other highly qualified recent immigrants.[8]

Most studies on overqualification—in particular those that focus on immigrants—use cross-sectional data (i.e., they assess whether individuals are overqualified at a specific single point in time). While these studies are informative in many ways, they do not assess the persistent or temporary nature of overqualification. Overqualification probably would not be an important public policy issue if it were only a temporary or transitional situation for most workers. However, overqualification that lasts for several years could be particularly harmful for the individuals who experience it. Some have suggested that prolonged overqualification, and not applying what has been learned for a long period of time, could eventually result in a loss of skills acquired during studies.[9] Others have suggested that experiencing periods of overqualification could have a persistent effect on career paths, and those affected could be at greater risk later in their careers of experiencing periods of unemployment or overqualification, and of receiving lower wages.[10]

Some longitudinal studies on overqualification and its persistence have been conducted in Canada. Most have examined overqualification in the context of labour force entry. For example, some studies have analyzed persistent overqualification among new Canadian graduates in the years following graduation, while others have examined access to skilled employment by recent immigrants in the first years after being admitted to Canada.[11] Other studies have examined persistent overqualification, but generally do not allow for an in-depth analysis of factors related to overqualification among immigrants.[12]

By integrating data from the 2006 and 2016 censuses, this study adds to and expands this portrait by examining the issue of long-term persistence of overqualification among immigrants and non-immigrants (see the "Data sources, methods and definitions" textbox). The study is limited to those with a bachelor's degree or higher and defines overqualification as a situation in which individuals with a university degree hold jobs that require no more than a high school education. It differs from previous studies in that it examines persistent overqualification based on many factors that have a significant impact for immigrants (location of study, place of birth, recent admission and age at the time of admission, official language proficiency, and admission category). It also examines the impact of other general factors (age, sex, region of residence, highest level of educational attainment and field of study) related to persistent overqualification, particularly by analyzing whether the impact of these factors differs among immigrants and non-immigrants.

Persistent overqualification is not the predominant form of overqualification, but immigrants are three times more likely to experience it than non-immigrants

In 2016, 15.5% of Canadian workers aged 25 to 59 with at least a bachelor's degree were overqualified. As found in previous studies, immigrants were more likely to be overqualified than non-immigrants (24% and 11%, respectively).[13]

This study of persistent overqualification examines trajectories related to overqualification (referred to as "overqualification trajectories"). By combining information regarding the

Table 1
Overqualification trajectories between 2006 and 2016 for workers aged 25 to 49 in 2006, by immigration status and sex, Canada, 2000 to 2016

				Non-immigrants		Immigrants	
	Total	Non-immigrants	Immigrants	Women	Men	Women	Men
2006 to 2016 trajectory	percent						
No overqualification	80.4	83.9	70.7	82.5	85.6	66.2	74.7
Start of overqualification (overqualification in 2016, not in 2006)	4.6	4.2	5.5	4.6	3.7	6.1	5.0
End of overqualification (overqualification in 2006, not in 2016)	9.7	8.3	13.7	9.1	7.2	16.1	11.6
Persistent overqualification	5.3	3.6	10.1	3.8	3.5	11.6	8.7

Source: Statistics Canada, integrated data from the 2006 and 2016 censuses.

jobs and characteristics of the same workers in 2006 and 2016, there are four possible trajectories (Table 1).

Among all workers aged 25 to 49 in 2006 who had a bachelor's degree or higher,[14] 1 in 5 (19.6%) experienced overqualification at least once during the two years observed (80.4% never experienced overqualification). Immigrants were generally more likely to experience overqualification than non-immigrants: 29.3% experienced overqualification at least once in the two reference years, compared with 16.1% of non-immigrants. Moreover, women were generally more likely than men to experience overqualification. However, the difference was more pronounced among immigrants: 33.8% of immigrant women experienced overqualification at least once, compared with 25.3% of immigrant men.

Persistent overqualification was not the predominant form of overqualification. Only 5.3% of workers were overqualified in both 2006 and 2016. However, the relative gap between immigrants and non-immigrants was even more pronounced with respect to persistent overqualification: 10.1% of immigrants were overqualified in both periods, compared with 3.6% of non-immigrants.

Overall, women (5.6%) were slightly more likely than men (5.0%) to have experienced persistent overqualification. This gap was even greater among immigrants: 11.6% of immigrant women experienced persistent overqualification, compared with 8.7% of their male counterparts.

In short, compared with non-immigrants, immigrants were about twice as likely to be overqualified at some point (see Table A1), but almost three times more likely to be persistently overqualified. This later result was even more pronounced among immigrant women.

More recent immigrants and older immigrants are more likely to have experienced persistent overqualification

By cross-tabulating age, immigration status and, as applicable, immigration periods, the effects of age and age at time of admission on overqualification can be simultaneously considered for immigrants (Table 2). The risk of having experienced persistent overqualification increased with age and recentness of immigration (the people with the least risk in this area were non-immigrants). The workers who experienced such a trajectory most often were immigrants over the age of 40 who had arrived in the country in the decade before the 2006 Census (1997 to 2006).

Overall, more recent immigrants were more likely to have experienced overqualification at least once in 2006 or 2016. Among immigrants who arrived earlier (i.e., those who arrived before 1997), as well as among non-immigrants, workers aged 25 to 29 in 2006 were proportionally more likely to be overqualified at some point.

More recent immigrants and younger immigrants (particularly those aged 25 to 29 in 2006) were more likely to escape overqualification. This result is consistent with the idea that overqualification can sometimes be a transitional situation that is part of integrating into the workforce after initially entering the labour force or completing education (for young people), or after arriving in the country (for immigrants). Thus, although young people were more likely to have experienced overqualification at least once, they were also less likely to have experienced persistent overqualification. Conversely, the older the workers, the less likely they were to experience overqualification, but their overqualification was more likely to be persistent.

Table 2
Overqualification trajectories between 2006 and 2016 for workers aged 25 to 49 between 2006 and 2016, by age and immigration status and period, Canada, 2006 to 2016

	Age in 2006					
Immigration status and period	**25 to 29**	**30 to 34**	**35 to 39**	**40 to 44**	**45 to 49**	**Total**
			percent			
No overqualification						
Non-immigrants	77.9	85.3	84.8	85.8	85.9	83.9
Immigrants—admitted before 1987	77.8	82.2	87.2	83.4	82.8	83.5
Immigrants—admitted from 1987 to 1996	73.9	80.0	75.6	74.3	73.4	75.0
Immigrants—admitted from 1997 to 2001	63.6	72.2	71.5	67.3	61.8	68.6
Immigrants—admitted from 2002 to 2006	50.6	57.8	53.9	52.6	52.5	54.2
Total (immigrants)	65.8	70.6	71.6	71.0	71.7	70.7
Total	76.0	81.7	80.7	81.2	81.8	80.4
Start of overqualification (overqualification in 2016, not in 2006)						
Non-immigrants	4.0	3.8	4.1	4.3	5.1	4.2
Immigrants—admitted before 1987	F	4.5	2.8	4.2	4.3	3.8
Immigrants—admitted from 1987 to 1996	5.2	4.8	5.5	6.0	6.2	5.7
Immigrants—admitted from 1997 to 2001	6.1	5.4	6.4	7.8	7.2	6.6
Immigrants—admitted from 2002 to 2006	4.6	5.0	6.4	8.2	5.5	6.0
Total (immigrants)	4.6	5.0	5.4	6.4	5.7	5.5
Total	4.1	4.1	4.5	5.0	5.2	4.6
End of overqualification (overqualification in 2006, not in 2016)						
Non-immigrants	14.8	7.7	6.9	6.3	5.1	8.3
Immigrants—admitted before 1987	14.8	9.8	5.6	7.3	5.7	7.5
Immigrants—admitted from 1987 to 1996	17.0	9.1	10.1	9.0	8.2	10.2
Immigrants—admitted from 1997 to 2001	17.4	12.9	12.8	12.6	12.8	13.0
Immigrants—admitted from 2002 to 2006	31.4	25.2	25.7	21.8	23.1	25.4
Total (immigrants)	21.3	15.8	13.8	11.8	10.0	13.7
Total	15.8	9.7	9.1	8.0	6.5	9.7
Persistent overqualification						
Non-immigrants	3.4	3.2	4.1	3.5	4.0	3.6
Immigrants—admitted before 1987	5.4	3.5	4.3	5.1	7.3	5.3
Immigrants—admitted from 1987 to 1996	3.9	6.1	8.8	10.7	12.2	9.1
Immigrants—admitted from 1997 to 2001	12.9	9.5	9.4	12.3	18.3	11.7
Immigrants—admitted from 2002 to 2006	13.4	12.0	14.0	17.4	19.0	14.5
Total (immigrants)	8.4	8.6	9.3	10.9	12.6	10.1
Total	4.1	4.5	5.7	5.8	6.4	5.3

F too unreliable to be published

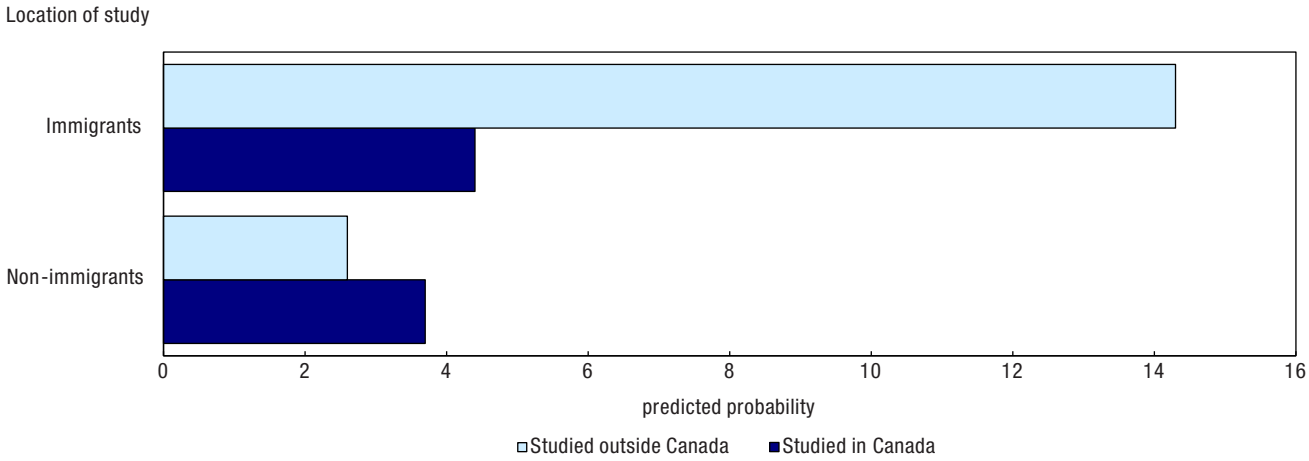
Source: Statistics Canada, integrated data from the 2006 and 2016 censuses.

Trajectories that lead out of overqualification are important and could be studied in their own right. However, the next sections focus on the main topic of this study, factors associated with persistent overqualification among immigrants and non-immigrants.

Immigrants who obtained their degree outside Canada are most likely to experience persistent overqualification

The greater probability of persistent overqualification among immigrants appears to be closely linked to the location of study (understood in this study as the place where the highest certificate, diploma or degree was obtained). Immigrants who completed their highest level of educational attainment in Canada had trajectories relatively similar to those of non-immigrants who also graduated from a Canadian institution (Chart 1). However, immigrants who graduated from a Canadian institution were less

Chart 1
Predicted probabilities of persistent overqualification among immigrant and non-immigrant workers aged 25 to 49 in 2006, by location of study, Canada, 2006 and 2016



Source: Statistics Canada, integrated data from the 2006 and 2016 censuses.

likely to experience overqualification in both 2006 and 2016 than their counterparts who graduated outside Canada (4.4% and 14.3% respectively). This suggests that it is not so much immigrant status as the location of study (in Canada or outside Canada) that is at the core of the differences between immigrants and people born in Canada. It should be noted that the majority of immigrants in the study population had graduated outside Canada (56%).

Location of study, educational attainment and field of study are important determining factors in overqualification trajectories

To disentangle the respective effects of various factors in overqualification trajectories, logistic regression models were produced to calculate adjusted predicted probabilities of experiencing persistent overqualification (see the "Data sources, methods and definitions" textbox). Table 3 presents the results of the model for all immigrant and non-immigrant workers.

The probability of experiencing persistent overqualification over a period of 10 years varies significantly based on the highest level of educational attainment. There is a clear gradient that extends from bachelor's degree holders to doctoral degree holders, with each increase in educational attainment being associated with a reduction in the probability of persistent overqualification. Continuing education and obtaining a higher degree between 2006 and 2016 (see the "Data sources, methods and definitions" textbox) was also generally associated with a smaller probability of persistent overqualification.

The field of study was also an important factor in the probability of persistent overqualification. Education, mathematics, computer and information sciences, architecture, engineering and related technologies, and health and related fields graduates were less likely to experience persistent overqualification (approximately 3%). Graduates in humanities programs stood out for their particularly high probability of being overqualified in both 2006 and 2016 (11.4%). Graduates of programs in visual and performing arts and communications technology, in social and behavioural sciences and law, and in agriculture, natural resources and conservation also demonstrated, although to a lesser degree, above-average probabilities of persistent overqualification (predicted probabilities were about 8%).

The location of study was as important, if not more important, than the field of study in determining the likelihood of persistent overqualification. When other factors were taken into account,

Table 3
Predicted probabilities of experiencing persistent overqualification, based on certain selected characteristics, Canada, 2006 and 2016

	predicted probability
Sex	
Women	5.4
Men	5.1
Highest level of educational attainment	
Bachelor's degree without further studies (ref.)	6.8
Bachelor's degree with further studies	3.0*
University certificate or diploma above bachelor level without further studies	3.7*
University certificate or diploma above bachelor level with further studies	2.6*
Degree in medicine, dentistry, veterinary medicine or optometry	2.3*
Master's degree without further studies	2.4*
Master's degree with further studies	0.4*
Doctorate acquired	0.5*
Field of study[1]	
Education (ref.)	3.3
Visual and performing arts, and communications technologies	8.2*
Humanities	11.4*
Social and behavioural sciences and law	8.3*
Business, management and public administration	5.4*
Physical and life sciences and technologies	5.7*
Mathematics, computer and information sciences	2.4*
Architecture, engineering, and related technologies	3.0
Agriculture, natural resources and conservation	8.0*
Health and related fields	3.0
Other	10.0*
Level of familiarity with official languages (in 2006)	
1. Highest level (ref.)	3.9
2.	4.4*
3.	4.7
4.	5.7*
5.	7.3*
6. Lowest level	8.5*
Location of study	
Canada (ref.)	3.8
North America	5.1*
Central and South America	7.3*
Caribbean and Bermuda	12.1*
Western Europe	5.7
Eastern Europe	10.9*
Northern Europe	3.7
Southern Europe	7.1*
Sub-Saharan Africa	8.6*
Northern Africa	7.3*
West Central Asia	8.7*
Eastern Asia	8.2*
Southeast Asia	20.4*
Southern Asia	18.2*
Oceania	6.2

* significantly different from reference category (ref.) ($p < 0.05$)

1. Classifications of education programs used: 2000 classification of education programs for 2006; 2011 classification of education programs for 2016.

Note: Age and region of residence are also taken into account in the model.

Source: Statistics Canada, integrated data from the 2006 and 2016 censuses.

persistent overqualification was less likely not only among graduates from Canada (3.8%), but also among those who graduated elsewhere in North America (5.1%), Oceania (6.2%), Western Europe (5.7%) and Northern Europe (3.7%). Graduates from other regions had higher rates of persistent overqualification. Those who graduated in Southern Asia (18.2%) and Southeast Asia (20.4%) together made up a separate class, with about one-fifth having been overqualified in both 2006 and 2016.

Further analyses[15] showed that, among immigrants who studied in Southeast Asia, graduates from the Philippines stood out with high predicted probabilities of persistent overqualification (20.9%). Among immigrants who graduated in Southern Asia, the highest probabilities of persistent overqualification were observed among workers who completed their studies in Bangladesh (26.0%), followed by those who completed their studies in India (18.2%), Pakistan (18.2%) and the rest of the region (13.2%). Despite the considerable differences observed from country to country, the probabilities of overqualification for each country in these regions were still systematically higher than those for other regions of the world. Therefore, these two regions appear to stand out on a strictly regional scale because of specific dynamics that result in graduates being significantly more likely to experience persistent overqualification.

Even when they graduated in Canada, workers born in Southern and Southeast Asia were at a greater risk of persistent overqualification

The risk of persistent overqualification is reduced for immigrants who completed their studies in Canada. However, does this protection extend to all immigrants, regardless

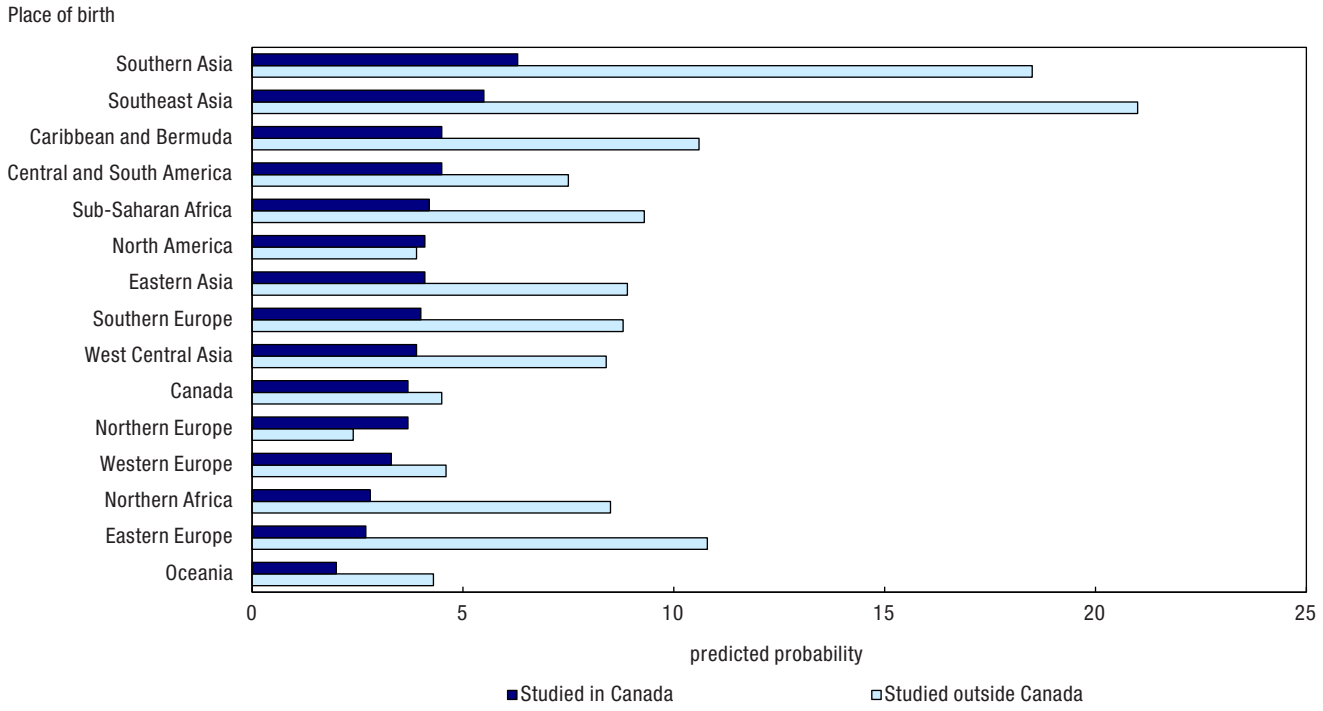
of their place of origin? Chart 2 shows the probabilities of persistent overqualification by region of birth and completion of education in Canada or outside Canada (once the other factors are taken into account).[16] Overall, workers who graduated in Canada, regardless of their region of origin, were significantly less likely to have experienced persistent overqualification than those who studied outside Canada.

However, although completing studies in Canada greatly reduces the gaps in overqualification based on place of birth, it does not completely eliminate them. Canadian graduates from Southern Asia (6.3%) and Southeast Asia (5.5%) were particularly likely to have experienced persistent overqualification. In comparison, for example, the probabilities of persistent overqualification were less than 3% among workers from Oceania, Eastern Europe and Northern Africa who graduated in Canada.

For the majority of regions of origin, workers who graduated outside Canada (i.e., in their region of birth, in the vast majority of cases) were significantly more at risk of overqualification, which is consistent with the results presented earlier. However, there are some exceptions: workers born in North America (United States), Western or Northern Europe, and Oceania—even when they studied outside Canada—experienced rates of persistent overqualification similar to those of their counterparts who graduated in Canada.

How can regional variations in the probabilities of overqualification be explained? They likely stem, in part, from differences—documented in the literature—in the ability of international graduates to have their degrees recognized by employers. It is known that a significant proportion of immigrants struggle to have their degrees recognized by employers, professional associations or educational institutions—to the point that some graduates do not

Chart 2
Predicted probabilities of persistent overqualification among workers aged 25 to 49 in 2006, by location of study and place of birth, Canada, 2006 and 2016



Note: Predicted probabilities in a model that takes into account age, immigration period, level of education, region of residence, familiarity with official languages and field of study.
Source: Statistics Canada, integrated data from the 2006 and 2016 censuses.

even try to obtain recognition—and that recognition rates vary by country of origin.[17] The concept of recognition must be understood here in the broad sense, both as formal equivalency certification by certain institutions, and as the value that employers place on the degree when assessing candidates for a position. There is also a tendency to assume that graduates' skills are the same, regardless of where they graduated, or that they are entirely transferable from country to country, which is not necessarily the case.[18]

Some of the differences that exist between regions of graduation may also be because of migration dynamics specific to certain regions, or even certain countries. For instance, the fact that immigrants from Northern Europe are at a slightly higher risk of overqualification when they graduated in Canada rather than abroad (see Chart 2) is likely because some graduates from those regions come to Canada because they have a skilled position waiting for them. The distinctive cases of immigrants from Southeast and Southern Asia may also be because of particular migration dynamics. Previous studies have already highlighted some features of immigration from the Philippines, including the country's emigration policies—which support the emigration of university graduates— a strong presence in certain immigration programs linked to labour supply for the care sector (such as caregiving programs), and specific difficulties in obtaining degree recognition. to obtaining degree recognition.[19] Less attention has been paid to the equally specific case of university graduates from Southern Asia.

The level of familiarity with Canada's official languages influences the probability of persistent overqualification among immigrants

Among immigrants, there is a gradient in the probability of overqualification that follows the level of familiarity to Canada's official languages (i.e., English and French) (see the "Data sources, methods and definitions" textbox): the greater the level of familiarity with the official languages, the lower the probability of persistent overqualification. Among non-immigrants, this effect is also seen among people who speak a non-official language most often at home, but the gaps are much smaller.

With respect to certain regions of birth, the level of familiarity with Canada's official languages seems to explain, in part, higher risks of persistent overqualification (Eastern and Southern Europe, Central and South America, Asia) (see Chart 3). For other regions, the level of familiarity with official languages made little or no difference, because of the greater tendency for immigrants from those regions (North America, Western and Northern Europe, Caribbean and Bermuda, Sub-Saharan Africa, and Oceania) to be familiar with Canada's official languages.

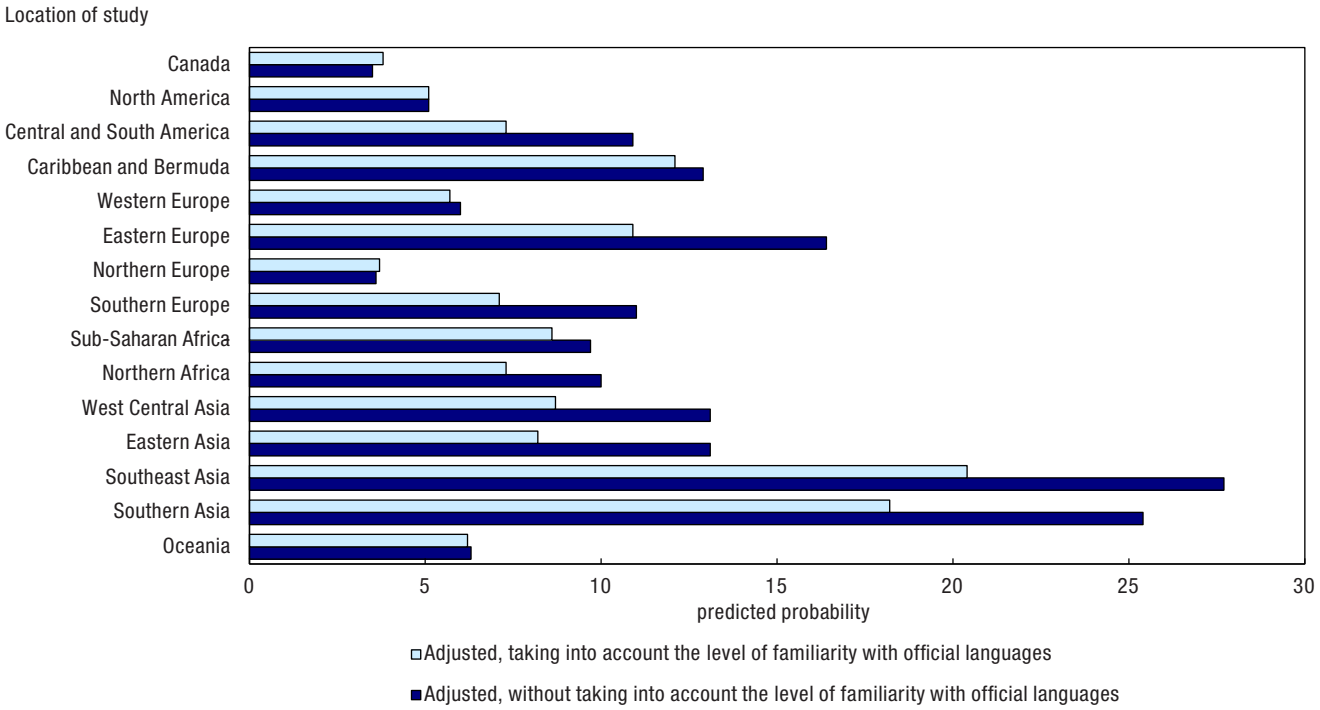
A graduate university degree is less protective against persistent overqualification for immigrants compared with non-immigrants

The impact of the highest level of educational attainment on the risk of overqualification for immigrants and non-immigrants varied based on the location of study (see Table 4). Among non-immigrants (the vast majority of whom graduated in Canada) and among immigrants who graduated in Canada, the predicted probabilities of experiencing persistent overqualification were slightly higher than average for those whose highest level of educational attainment was a bachelor's degree. These probabilities of persistent overqualification are reduced considerably and become marginal among graduates with degrees above the bachelor's level.

However, among immigrants who graduated outside Canada, there was a less pronounced gradient in the probabilities of persistent overqualification, with graduate degree holders also being at a relatively higher risk. For example, the probability of persistent overqualification among immigrants with a master's degree obtained outside Canada (without further studies) was 9.5%, compared with 1.1% among their immigrant counterparts who obtained the same degree in Canada. The probability of persistent overqualification among those with graduate degrees (master's, doctorate) thus seemed to be distinctly greater among immigrants who graduated outside Canada.

Immigrants who completed their studies outside Canada and whose highest level of educational attainment was a degree in medicine, dentistry, veterinary medicine or optometry also had particularly high predicted probabilities of persistent overqualification (10.1%), compared with non-immigrants (0.2%).

Chart 3
Predicted probabilities of persistent overqualification among workers aged 25 to 49 in 2006, by location of study and place of birth, Canada, 2006 and 2016



Note: Predicted probabilities in a model that also takes into account age, highest level of educational attainment, region of residence and field of study.
Source: Statistics Canada, integrated data from the 2006 and 2016 censuses.

Among immigrants with a degree in education from outside Canada, nearly one in five had experienced persistent overqualification

The effect of fields of study on the risks of over-qualification was similar among non-immigrants, immigrants who studied in Canada and those who studied outside Canada. However, the field of education was a notable exception. Non-immigrants and immigrants who studied in this field in Canada were among those who had the lowest probabilities of having experienced persistent overqualification (2% and 3%, respectively). Conversely, immigrants who graduated in education and studied outside Canada were more likely than average to have experienced such a trajectory (18%).

These results suggest that degrees in education obtained abroad are the hardest to have recognized and valued in the Canadian labour market, compared with education degrees obtained in Canada, which offer particularly favourable prospects for access to skilled employment.

Immigrant women admitted as economic immigrants are more likely to have experienced persistent overqualification than their male counterparts

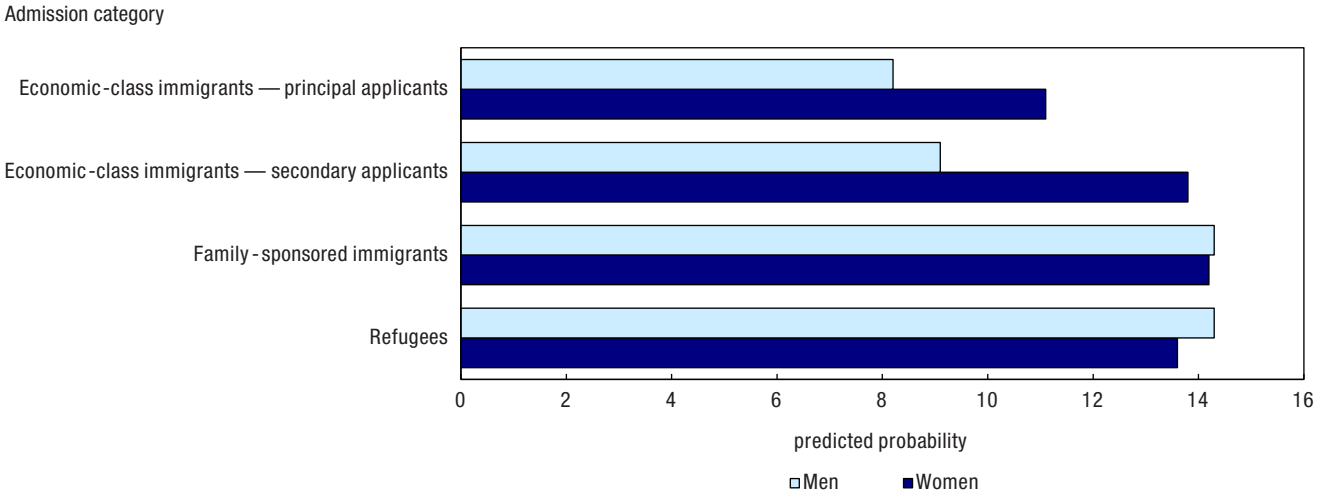
As shown is Table 1, women were more likely than men to experience persistent overqualification, particularly among immigrants. This difference narrowed when a series of variables were taken into account, but was still significant. Specifically, a gap was seen between men and women among more recent immigrants (1997

Table 4
Predicted probabilities of experiencing persistent overqualification, based on certain characteristics, by immigration status and location of study, Canada, 2006 and 2016

		Immigrants	
	Non-immigrants	Studied in Canada	Studied outside Canada
Sex		predicted probability	
Women	3.6	4.7	15.0
Men	3.5	4.4	13.2*
Highest level of educational attainment			
Bachelor's degree without further studies (ref.)	4.7	6.4	16.8
Bachelor's degree with further studies	1.4*	2.7*	11.7*
University certificate or diploma above bachelor level without further studies	1.8*	1.2*	13.8
University certificate or diploma above bachelor level with further studies	1.0*	0.7*	10.7*
Degree in medicine, dentistry, veterinary medicine or optometry	0.2*	0.5*	10.1*
Master's degree without further studies	1.0*	1.1*	9.5*
Master's degree with further studies	0.1*	NE	2.1*
Doctorate acquired	0.2*	NE	2.4*
Field of study[1]			
Education (ref.)	1.5	3.0	17.7
Visual and performing arts, and communications technologies	6.0*	8.7*	15.1
Humanities	8.9*	8.7*	24.8*
Social and behavioural sciences and law	5.6*	7.8*	19.7
Business, management and public administration	3.3*	4.6	15.9
Physical and life sciences and technologies	4.2*	4.4	14.5
Mathematics, computer and information sciences	1.4	1.5	8.0*
Architecture, engineering, and related technologies	1.0*	2.9	10.5*
Agriculture, natural resources and conservation	4.2*	7.2	25.4*
Health and related fields	1.7	2.6	9.9*
Other	10.1*	NE	18.3
Level of familiarity with official languages (in 2006)			
1. Highest level (ref.)	3.3	2.9	7.9
2.	3.7*	3.8	6.0
3.	3.7	3.3	10.4
4.	3.4	4.8*	12.5*
5.	4.5	5.5	14.0*
6. Lowest level	5.0	6.7*	16.1*
Location of study			
Canada (ref.)[2]	3.5	…	…
North America	…	…	7.3
Central and South America	…	…	8.2
Caribbean and Bermuda	…	…	15.2*
Western Europe	…	…	6.9
Eastern Europe	…	…	11.6*
Northern Europe	…	…	5.2
Southern Europe	…	…	8.8
Sub-Saharan Africa	…	…	10.2
Northern Africa	…	…	8.5
West Central Asia	…	…	10.4*
Eastern Asia	…	…	10*
Southeast Asia	…	…	23.6*
Southern Asia	…	…	22*
Oceania	…	…	11.3
Outside Canada (non-immigrants only)	4.7	…	…

… not applicable
NE: Value not estimated, category not included in the model (no cases of persistent overqualification within the sample).
* significantly different from reference category (ref.) ($p < 0.05$)
1. Classifications of education programs used: 2000 classification of education programs for 2006; 2011 classification of education programs for 2016.
2. Immigrants who graduated outside Canada: the reference category for the location of study variable for statistical tests is "Northern Europe."
Note: In all models, age and region of residence are also taken into account, as is the immigration period in models related to immigrants.
Source: Statistics Canada, integrated data from the 2006 and 2016 censuses.

Chart 4
Predicted probabilities of experiencing persistent overqualification among immigrant workers aged 25 to 49 in 2006, by admission category, Canada, 2006 and 2016



Note: Includes only immigrants admitted to Canada since 1980. Predicted probabilities in a model that takes into account age, immigration period, level of education, region of residence, field of study, familiarity with official languages and location of study.
Source: Statistics Canada, integrated data from the 2006 and 2016 censuses.

to 2006). The predicted probabilities of persistent overqualification among women immigrants admitted before that were similar to what was seen among men.[20]

There were also differences between men and women in terms of the probability of persistent overqualification based on the admission category[21] (Chart 4), but only among immigrants admitted in the economic class. Immigrant women in this category were at greater risk than men of having experienced persistent overqualification, among both principal and secondary applicants.

Conclusion

Among graduates with a bachelor's degree or higher, long-term persistent overqualification disproportionately affects immigrants who obtained their highest degree outside Canada. However, for these immigrants, their place of origin and graduation is a determining factor. Probabilities of overqualification for immigrants who studied in the United States, Europe (except Eastern Europe) and Oceania were similar to or even lower than those of non-immigrants and immigrants who graduated in Canada. In contrast, immigrants who studied in certain regions (i.e., Southern and Southeast Asia) stood out for their particularly high probability of experiencing persistent overqualification. Immigrants who studied in Canada were more similar to non-immigrants in this regard, although some differences can be seen depending on the region of origin.

These regional variations in the probability of persistent overqualification may be explained by differences in the recognition of degrees, variations related to the graduates' competencies or their international transferability, or specific migration dynamics. However, this study does not allow for conclusions to be drawn on these different hypotheses.

Regional differences in the probability of persistent overqualification were also related to the level of familiarity with English and French. The greater the level of familiarity with Canada's official languages—estimated by cross-tabulating the official language knowledge, mother tongue and languages spoken at home variables—the lower the risk of having experienced persistent overqualification.

In addition to the location of study, the other characteristics associated with the degree (i.e., educational attainment and field of study) are also important predictors of overqualification. Certain fields of study were less associated with persistent overqualification (education; mathematics, computer and information sciences; health

and related fields; architecture, engineering and related technologies), while the association was stronger with others (humanities).

Overall, the impact of the field of study was similar whether the studies were completed in Canada or abroad. However, the field of education was a notable exception. This field showed a low probability for overqualification among workers who studied in Canada, but higher than average probabilities for those who studied outside Canada.

While a higher level of educational attainment tended to reduce the risk of persistent overqualification, immigrants who obtained a graduate degree were less protected from such a trajectory than non-immigrants. Furthermore, there were immigrants who graduated abroad in medicine, dentistry, veterinary medicine or optometry and who showed probabilities of persistent overqualification that were not consistent with what was seen among Canadian graduates.

The impact of sex was significant among immigrants, particularly recent immigrants. Overall, women were more likely than men to experience persistent overqualification.

Recent immigrants were at greater risk of experiencing overqualification in 2006, but the risk of it transforming into persistent overqualification was higher among older immigrants, as younger immigrants were more likely to experience a trajectory leading out of overqualification.

The relative risks of persistent overqualification affecting workers with certain characteristics differently from others must not obscure the fact that the majority of workers—whether they are immigrants, graduates in humanities or Southern Asian graduates—did not experience this trajectory. That said, these trajectories represented only a part of those characterized by at least one incident of overqualification.

Future work could also focus on dynamics that distinguish immigrants with foreign degrees from each other, based on their region of origin. In particular, the distinctive cases of Southeast Asia, and particularly Southern Asia, should be further explored. The effects of certain additional factors (work experience, competencies, belonging to certain population groups designated as visible minorities, the specific immigration program, having lived in Canada as a student or temporary worker for a certain number of years before obtaining permanent residency) should also be studied. It would also be relevant to directly examine the issue of formal and informal recognition of diplomas obtained abroad, which seems to be an important factor in differentiating certain groups of immigrants, but that a study of overqualification only allows us to examine in approximate terms.

Louis Cornelissen *is a research analyst at Statistics Canada's Centre for Ethnocultural, Language and Immigration Statistics and* ***Martin Turcotte*** *is Editor in Chief of Insights on Canadian Society, which is part of Statistics Canada's Centre for Social Data Insights and Innovation.*

Data sources, methods and definitions

Data sources

This study is based on integrated data from the 2006 and 2016 censuses. The integration consists of linking responses by the same person who answered the long-form census questionnaire in the two census cycles.

Compared with other surveys, this data integration has the benefit of providing a larger sample that is representative of the Canadian labour force as a whole. This facilitates comparisons between various groups. Its main drawback is the 10 years between the periods measured, which is a long period in terms of employment.

There are particular error risks associated with this data integration. In addition to the possibility of measurement and imputation errors specific to each census,[22] there is the possibility of errors in linkages between the two cycles. From a longitudinal perspective, these sources of errors could lead to an overestimation of change when comparing the values for a single variable over time, as is done for occupation (which provides information on the level of qualification for a job and is, by extension, used in defining overqualification) and for level of education.

The analyses were weighted in a way that takes into account the probability of selection for both the 2006 and 2016 censuses.

Population

The population includes graduates with a bachelor's degree or higher who were between the ages of 25 and 49 in 2006 (35 and 59 in 2016), and who reported having a job during the census reference week or, if they had not worked that week, during the period up to January 1 of the previous year. Therefore, the population includes people who were inactive or unemployed during the census reference week, as long as they reported having worked at a job in 2005 or early 2006, and in 2015 or early 2016. Only those who reported having at least a bachelor's degree in each census cycle are included in the study (individuals who graduated between 2006 and 2016 are excluded). In addition, non-permanent residents were excluded from the study, as were very recent immigrants (admitted in 2005 or 2006) who reported their last job as being outside Canada.

Definitions

Immigrants and non-immigrants

The term "immigrant" refers to individuals who are not Canadians by birth and who were admitted to Canada as permanent residents. The term "non-immigrant" refers to individuals who are Canadian by birth.

Overqualification

This study is based on the "objective" approach to defining overqualification (Vultur 2006). The National Occupational Classification (NOC) was used. The NOC assigns a skill level from A to D to all professional categories (and a level of 0, off the scale, which includes management professions), corresponding to the diploma normally required to hold positions in that group. Individuals with bachelor's degrees or higher are considered to be overqualified if they hold a position at skill level C or D (i.e., jobs that normally require no more than a high school diploma or short on-the-job training). This is a narrow definition of overqualification; workers in jobs at level B (normally requiring a non-university postsecondary diploma) are not classified as overqualified, even though they are in jobs that normally require a diploma below the university level. There are various considerations behind this definition choice.

First, this narrow definition of overqualification identifies cases of overqualification that are often clearer. Some of the overqualification situations identified in jobs at level B are artefacts (i.e., that category is heterogeneous and includes jobs in which university graduates would not actually be overqualified). From a cross-sectional perspective, these potential false cases of overqualification may be negligible, considered random noise. However, they become more problematic from a longitudinal perspective, as they are particularly likely to appear to be a form of persistent overqualification: situations where there are matches between education and employment are presumably more stable than those marked by mismatch. Since persistent overqualification is already relatively infrequent, this is likely to distort the results significantly.

It is also likely that the factors affecting overqualification are the same, regardless of the definition adopted, such that adopting the narrow definition could help eliminate noise without fundamentally changing the results obtained. Finally, it also simplifies the treatment of management professions, which are characterized by high presence of postsecondary diplomas, but not necessarily university. In this case, we simply consider that all graduates with a bachelor's degree or higher who are in a management position are not overqualified, whereas there are several possible choices when using the broader definition.

Highest level of educational achievement and continued education

The variable for highest level of educational attainment used in the multivariate analyses includes a dimension related to continuing education between 2006 and 2016. For example, the "bachelor's degree with further studies" category includes people who had obtained no more than a bachelor's degree in 2006, but who reported in 2016 that they had obtained any higher degree. This category does not include people who continued their studies without obtaining a higher degree, such as obtaining a second bachelor's degree. The continuation of studies for graduates in medicine, dentistry, veterinary medicine or optometry was not considered because of the small number of people in the sample.

It should be noted that the use of the term "university graduates" was avoided because a greater number of bachelor's diplomas in Canada are issued by colleges.

Level of familiarity with Canada's official languages

The variable used regarding familiarity with official language is based on the variable proposed by Ledent, Bélanger and Marois (2014). It is built by combining various linguistic variables: mother tongue, language spoken most often at home and knowledge of official languages. Its purpose is to present a more nuanced picture of official language proficiency that goes beyond the mere fact of whether someone knows the languages by adding a dimension related to familiarity. The hypothesis here is that speaking a language at home or having it as a mother tongue would tend to be associated with greater familiarity with that language and, by extension, would increase the probability of having greater *proficiency*. This is, of course, an approximate indicator, not a direct measurement. The categories form a gradient from the highest level of familiarity with official languages (category 1) to the lowest level (category 6). They are defined as follows:

Cat.	Mother tongue(s) (MT)	Language(s) spoken most often at home (LSMOH)	Knowledge of official languages (KOL)
1. Highest level	Official (French and/or English only)	Official (French and/or English only)	French and English
2.	Official (French and/or English only)	Official (French and/or English only)	French or English
3.	Non-official language	Official (French and/or English only)	French and English
4.	Non-official language	Official (French and/or English only)	French or English
5.	Official and/or non-official language	Non-official language	French and English
6. Lowest level	Official and/or non-official language	Non-official language	French or English, or no official language spoken

Multivariate analyses

Binomial logistic regression models (logit function) were used to estimate the adjusted predicted probabilities of experiencing persistent overqualification (i.e., a trajectory characterized by being overqualified in both 2006 and 2016).

Predicted probabilities must be interpreted as the probability of a person with a given characteristic experiencing this trajectory, with the other variables included in the model being maintained at their average value measured within the sample. For example (from Table 3), if it is assumed that people who studied in education were distributed in the same way as the population as a whole in terms of the other variables included in the model (e.g., age, place of residence, highest educational attainment), 3.3% could be expected to have experienced persistent overqualification (when, in reality, this was only the case for 2.5%).

Limitations of the study

It is important to note that this study considered only the overqualification of individuals with a bachelor's degree or higher. However, the various elements identified (or not) as risk factors for overqualification in this population are not necessarily determining factors for overall employment difficulties for the population as a whole. Furthermore, individuals who did not work during the census reference years were excluded from the population. However, experiencing periods of inactivity during a career may be characteristic for a certain part of the population, in particular women, and also for certain trajectories marked by a greater tendency for overqualification. Immigrants are also more likely to emigrate (and therefore leave the sample) than non-immigrants. This is particularly likely if they become overqualified, which could result in an attrition bias. Furthermore, the analysis did not consider individuals who entered the labour market after 2006, a group that includes immigrants admitted to Canada since then, and those populations may be characterized by different dynamics.

Finally, the trajectories as defined were based solely on two points in time, spaced 10 years apart, with the limitations that implies. Longitudinal studies that track individuals at more frequent periods would be relevant to better understand the scope of overqualification on individual employment trajectories. That said, there are few, if any, sources of longitudinal data that provide a sample with the scope and versatility of the integrated census data used in this analysis.

Table A1
Overqualification rate per year, by different characteristics, workers aged 25 to 59, Canada, 2006 and 2016

	Total		Immigrants		Non-immigrants	
	2006	2016	2006	2016	2006	2016
Characteristics	percent					
Total	**16.7**	**15.5**	**25.8**	**24.0**	**12.6**	**10.9**
Sex						
Women	18.1	16.4	29.9	27.2	13.5	11.1
Men	15.1	14.5	22.1	20.7	11.5	10.5
Age						
25 to 29	21.9	20.3	31.5	25.9	19.4	18.4
30 to 34	16.7	15.1	27.2	24.2	12.2	10.5
35 to 39	17.0	14.5	26.6	25.0	11.8	8.5
40 to 44	16.4	14.0	26.3	22.8	10.9	8.2
45 to 49	15.3	14.8	25.9	22.7	10.2	9.2
50 to 54	14.2	14.9	23.0	23.7	10.3	9.3
55 to 59	13.9	15.0	19.2	24.5	11.3	10.1
Region of residence						
Atlantic provinces	13.9	12.7	15.3	18.7	14.1	12.1
Quebec	13.8	12.1	27.2	21.4	12.5	8.9
Ontario	18.2	15.9	27.2	22.0	14.6	11.5
Manitoba and Saskatchewan	15.1	19.8	29.1	39.6	13.9	11.4
Alberta	15.5	17.5	26.5	28.4	13.8	10.7
British Columbia	19.2	17.7	28.0	24.8	14.0	12.2
Territories	10.5	11.9	37.7	28.7	10.0	7.8
Highest level of educational attainment						
Bachelor's degree	19.5	18.2	30.3	28.6	15.3	13.3
University certificate or diploma above bachelor level	15.2	13.9	27.2	24.7	9.6	7.3
Degree in medicine, dentistry, veterinary medicine or optometry	7.8	7.8	16.1	15.4	2.5	1.9
Master's degree	11.3	10.0	19.5	16.7	6.1	5.0
Earned doctorate	5.4	4.1	6.6	5.8	4.4	2.4
Field of study[1]						
Education	9.1	8.8	22.0	25.3	6.8	5.6
Visual and performing arts, and communications technologies	21.6	19.4	25.3	21.1	20.3	18.7
Humanities	26.6	25.4	36.4	37.0	22.7	20.0
Social and behavioural sciences and law	20.4	18.5	30.0	27.1	17.5	15.5
Business, management and public administration	18.4	17.1	30.2	27.3	13.1	10.4
Physical and life sciences and technologies	17.6	15.9	23.6	21.7	14.2	12
Mathematics, computer and information sciences	13.0	12.2	18.1	16.1	8.0	6.2
Architecture, engineering, and related technologies	15.1	11.9	22.4	17.3	5.8	4.4
Agriculture, natural resources and conservation	20.2	19.6	35.9	32.1	14.2	14
Health and related fields	10.4	10.8	19.8	21.7	6.6	5.4
Other fields	25.5	27.9	35.5	43.0	20.6	19.7
Level of familiarity with official languages (in 2006)						
1. Highest level (ref.)	11.6	9.4	11.5	9.1	13.2	12.6
2.	13.2	12	15.2	14.7	13.0	11.7
3.	15.6	13.6	16.9	15.4	13.5	10.6
4.	20.4	17.7	23.4	20.1	13.2	10.7
5.	24.9	20.4	25.8	21.1	18.5	15.6
6. Lowest level	33.4	30.3	34.0	30.8	18.5	17.6
Immigration category						
Immigrants admitted before 1980	…	…	…	10.0	…	…
Economic-class immigrants—principal applicants	…	…	…	23.3	…	…
Economic-class immigrants—secondary applicants	…	…	…	24.6	…	…
Family-sponsored immigrants	…	…	…	29.6	…	…
Refugees	…	…	…	24.5	…	…
Other immigrants	…	…	…	27.3	…	…

Table A1
Overqualification rate per year, by different characteristics, workers aged 25 to 59, Canada, 2006 and 2016

	Total		Immigrants		Non-immigrants	
	2006	2016	2006	2016	2006	2016
Characteristics	percent					
Immigration period						
Before 1987	...	...	14.6	15.0	...	...
1987 to 1996	...	...	24.8	22.3	...	...
1997 to 2001	...	...	29.0	30.2	...	...
2002 to 2006	...	...	39.3	36.4	...	...

... not applicable
1. Classifications of education programs used: 2000 classification of education programs for 2006; 2011 classification of education programs for 2016.
Source: Statistics Canada, data from the 2006 and 2016 censuses.

Table A2
Rate of overqualification by year, by place of birth and location of study, workers aged 25 to 59, Canada, 2006 and 2016

	Total		Studied in Canada		Studied outside Canada	
	2006	2016	2006	2016	2006	2016
Place of birth	percent					
Canada	12.6	10.9	12.7	10.9	10.5	9.0
North America	12.1	12.0	10.4	11.2	14.2	13.0
Central and South America	26.2	20.8	15.9	12.7	33.4	26.0
Caribbean and Bermuda	22.0	20.6	18.3	16.2	31.9	28.8
Western Europe	12.5	9.3	11.2	9.2	14.5	9.4
Eastern Europe	24.1	18.6	14.2	11.6	27.2	22.2
Northern Europe	10.6	9.5	11.1	9.7	9.7	9.3
Southern Europe	18.4	14.7	12.1	11.7	27.2	18.6
Sub-Saharan Africa	21.0	22.5	16.3	16.4	26.3	28.7
Northern Africa	23.9	21.3	15.1	13.0	29.1	26.1
West Central Asia	23.9	18.6	14.7	11.0	29.2	24.7
Eastern Asia	23.9	18.5	15.5	13.4	29.8	23.6
Southeast Asia	40.3	44.6	17.6	13.9	50.3	53.6
Southern Asia	39.9	32.1	16.6	13.4	46.0	38.0
Oceania	12.2	11.3	10.2	11.3	14.4	11.3

Source: Statistics Canada, data from 2006 and 2016 censuses.

Notes

1. See Boudarbat and Montmarquette (2017) on the effect on wages, and Frank and Hou (2017) on life satisfaction.
2. See Cornelissen (2019).
3. See Boudarbat and Montmarquette (2017).
4. Employment among very recent immigrants (five years or fewer) declined more sharply between February and April 2020 (-23.2%) than among people born in Canada (-14.0%).
5. See Turcotte and Savage (2020).
6. See Hou and Schimmele (2020).
7. See Wald and Fang (2008), Ewoudou (2011), Bastien (2011), Ledent, Bélanger and Marois (2014), Malé (2015), Bélanger and Vézina (2016), Boudarbat and Montmarquette (2017), and Lu and Hou (2019).
8. See Hou, Lu and Schimmele (2019).
9. For example, see Boudarbat and Montmarquette (2017).
10. See Clark, Joubert and Maurel (2019).
11. See Frenette (2004) and Lamarre (2010) on recent graduates, and Renaud and Cayn (2006), Bastien (2011), and Bégin and Renaud (2012) on recent immigrants. These works lead to the conclusion that overqualification rates fall over time as workers complete their integration into the workforce, but that overqualification persists in many cases.
12. See Li, Gervais and Duval (2006) and Chen and Fougère (2014). These studies found that immigrants seemed to be at greater risk of experiencing forms of persistent overqualification over time, but did not analyze in depth the reasons for those findings because of the limitations of the data used.
13. For information purposes, cross-sectional overqualification rates (i.e., overqualification rates at a specific point in time) are attached (Table A1).
14. As part of this study, the population of interest is defined as workers aged 25 to 59. Therefore, only workers aged 25 to 49 in 2006 (and thus 35 to 59 in 2016) are used in the analysis.
15. These analyses use the same model and consider the same variables, but break down the regions of Southern and Southeast Asia in the location of study variable.
16. The model used to produce these probabilities takes into account age, sex, region of residence, educational attainment, field of study and language proficiency. The rate of overqualification per year based on place of residence and location of study are attached in Table A2 for information purposes.
17. See Houle and Yssaad (2010). See also Girard and Smith (2013) on differences in access to regulated professions.
18. See Sweetman (2004 and 2014) and Bélanger and Vézina (2016 and 2017).
19. See Martin et al. (2004) and Houle and Yssaad (2010).
20. These results are not shown and are available on request.
21. In this case, only immigrants who were admitted to Canada since 1980 are considered because of issues related to the availability of information regarding admission category.
22. See the guides for the 2006 Census (https://www12.statcan.gc.ca/census-recensement/2006/ref/index-eng.cfm) and the 2016 Census (https://www12.statcan.gc.ca/census-recensement/2016/ref/98-304/index-eng.cfm) for a description of these errors and for more information on imputation rates related to the various variables.

References

Bastien, Nicolas. 2011. *Les déterminants de l'accès à un premier emploi qualifié chez les immigrants récents au Canada : analyse de l'impact des caractéristiques pré-migratoires et post-migratoires des immigrants*. Master's thesis. Université du Québec, Institut national de la recherche scientifique.

Bélanger, Alain and Samuel Vézina. 2017. "Niveau de littératie et intégration économique des immigrants canadiens" (French only). *Canadian Ethnic Studies*. Vol. 49, no. 2. p. 53–74.

Bélanger, Alain and Samuel Vézina. 2016. "L'impact de la connaissance des langues officielles, du niveau de littératie et du pays d'origine sur le risque de surqualification au travail des immigrants canadiens." (French only). *Cahiers québécois de démographie*. Vol. 45, no. 2. p. 145–166.

Boudarbat, Brahim and Claude Montmarquette. 2017. *La surqualification professionnelle chez les diplômés des collèges et des universités : État de la situation au Québec* (French only). Project report 2017RP-03. Centre interuniversitaire de recherche en analyse des organisations, Montréal.

Chen, Xuyang and Maxime Fougère. 2014. "How Persistent Is the Occupation–Education Mismatch in Canada?" *ISRN Economics*. Article ID 490914. Hindawi Publishing Corporation. p. 1–9.

Clark, Brian, Clément Joubert, and Arnaud Maurel. 2017. "The career prospects of overeducated Americans." *IZA Journal of Labor Economics*. Vol. 6, no. 3.

Cornelissen, Louis. 2019. "Massification de l'éducation supérieure et qualification de l'emploi : l'évolution de la surqualification en emploi au Québec" (French only). *Enjeux et perspectives économiques en Afrique francophone* (Dakar, February 4 to 6, 2019). Observatoire de la Francophonie économique de l'Université de Montréal. p. 76–102.

Ewoudou, Jacques. 2011. "Location of Study and the Labour Market Success of Immigrants to Canada." *Culture, Tourism and the Centre for Education Statistics: Research Papers*, no. 093. Statistics Canada Catalogue no. 81-595-M.

Frank, Kristyn and Feng Hou. 2017. "Over-education and Life Satisfaction among Immigrant and Non-immgrant Workers in Canada." *Analytical Studies Branch Research Paper Series*, no. 393. Statistics Canada Catalogue no. 11F0019M.

Frenette, Marc. 2004. "The overqualified Canadian graduate: The role of the academic program in the incidence, persistence, and economic returns to overqualification." *Economics of Education Review*. Vol. 23, no. 1. p. 29–45.

Girard, Magali and Michael Smith. 2013. "Working in a regulated occupation in Canada: An immigrant–native-born comparison." *Journal of International Migration and Integration*. Vol. 14. p. 219–244.

Hou, Feng, and Christoph Schimmele. 2020. "Adults with a health education but not working in health occupations", StatCan COVID-19: Data to Insights for a Better Canada. Statistics Canada Catalogue no. 45-28-0001.

Hou, Feng, Yao Lu, and Christoph Schimmele. 2019. "Recent Trends in Over-education by Immigration Status." *Analytical Studies Branch Research Paper Series*, no. 436. Statistics Canada Catalogue no. 11F0019M.

Houle, René and Lahouaria Yssaad. 2010. "Recognition of newcomers' foreign credentials and work experience." *Perspectives on Labour and Income*. Vol. 11, no. 9. Statistics Canada Catalogue no. 75-001-X. p. 19–36.

Lamarre, Francis. 2010. *Le sentiment de surqualification chez les diplômés* (French only). Master's thesis, Université de Montréal.

Ledent, Jacques, Alain Bélanger, and Guillaume Marois. 2014. *La surqualification des salariés d'origine immigrée résidant sur l'île de Montréal en 2006*. Institut national de la recherche scientifique, Centre—Urbanisation Culture Société.

Li, Chris, Ginette Gervais, and Aurélie Duval. 2006. "The Dynamics of Overqualification: Canada's Underemployed University Graduates." *Analysis in Brief*, no. 093. Statistics Canada Catalogue no. 11-621-M.

Lu, Yao and Feng Hou. 2019. "Over-education Among University-educated Immigrants in Canada and the United States." *Analytical Studies Branch Research Paper Series*, no. 434. Statistics Canada Catalogue no. 11F0019M.

Malé, Chata. 2015. *Chômage et surqualification de la population active québécoise née hors Canada et/ou appartenant à une minorité visible : une analyse logistique multinomiale des déterminants* (French only). Master's thesis. Université du Québec à Montréal, Institut national de la recherche scientifique.

Martin, Philip, Manolo Abella, and Elizabeth Midgley. 2004. "Best Practices to Manage Migration: The Philippines." *The International Migration Review*. Vol. 38, no. 4. p. 1544–1560.

Renaud, Jean and Tristan Cayn. 2006. *Jobs Commensurate with Their Skills? Selected Workers and Skilled Job Access in Québec*. Study conducted on behalf of the Quebec Ministère de l'Immigration et des communautés culturelles. Montréal.

Sweetman, Arthur. 2014. "The international portability of migrant human capital: Canadian experiences." *Matching Economic Migration with Labour Market Needs*. OECD Publishing: Paris. p. 229–248.

Sweetman, Arthur. 2004. "Immigrant Source Country Educational Quality and Canadian Labour Market Outcomes." *Analytical Studies Branch Research Paper Series*, no. 234. Statistics Canada Catalogue no. 11F0019M.

Turcotte, Martin and Katherine Savage. 2020 "The contribution of immigrants and population groups designated as visible minorities to nurse aide, orderly and patient service associate occupations." StatCan COVID-19: Data to Insights for a Better Canada. Statistics Canada Catalogue no. 45-28-0001.

Uppal, Sharanjit and Sébastien LaRochelle-Côté. 2014. "Overqualification among recent university graduates in Canada." *Insights on Canadian Society.* Statistics Canada Catalogue no. 75-006-X.

Vultur, Mircea. 2006. "Diplôme et marché du travail. La dynamique de l'éducation et le déclassement au Québec" (French only). *Recherches sociographiques*. Vol. 47, no. 1. p. 41–68.

Wald, Steven and Tony Fang. 2008. "Overeducated immigrants in the Canadian labour market: Evidence from the workplace and employee survey." *Canadian Public Policy*. Vol. 34, no. 4. p. 457–479.