Hamilton Immigration Partnership Council

Newcomers and Immigrants in the Hamilton Labour Market: Outcomes and Opportunities for Improvement

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Prepared by Tom Zizys, May 2020

PREFACE

This spring we have witnessed some parts of our economy and society brake suddenly while others go into overdrive. Canada is now in sharp recession, significantly affecting the livelihoods of too many of our immigrants, especially recent immigrants, as well as Canada's ability to return to robust immigration levels this year.

Employment is a hallmark of settlement for many newcomers, many of whom struggle to find work suitable to their skills at the best of times. Immigration is a positive for our economy, but it often takes a toll on individual immigrants who are unable to find work that suits the skills they brought with them. Hamilton has approximately 15,000 immigrants who have arrived since 2011, many of whom are in the labour market or wish to be.

Last fall, HIPC commissioned labour market analyst Tom Zizys to do a deep dive into the most recent census to learn about city's newcomers and their connections to the local labour market. Earlier research had shown that Hamilton was receiving less than its "fair share" of immigrants to Ontario (less than its share of the provincial population overall). Also, Hamilton has tended to attract immigrants and newcomers whose levels of educational attainment have been somewhat lower than those seeking to settle in other parts of Ontario.

The data in this report indicates that Hamilton's newcomers have higher levels of education than previously, particularly women. Among recent immigrants in the labour force, almost half have a university degree, double the rate for Canadian-born Hamilton residents. The most common fields of study for male newcomers are engineering and engineering technology, followed by business and administration. Among newcomer women, the most common fields are health care and business and administration. Despite this, Hamilton's immigrants are more likely than Canadian-born residents to be employed in occupations requiring a high school diploma or less.

Given their skills, Hamilton's newcomers can be an important part of our city's recovery. The recession recovery will likely involve investment in infrastructure and manufacturing, with possible moves to consolidate dispersed global supply chains back into the province. The healthcare field is already experiencing skills shortages, and needs have been exposed throughout this pandemic. We must build more resilience into the health care system, especially around long-term care. Employment in long-term

care could be made more attractive if combined with opportunities for professional advancement, including bridges to other parts of our health care system.

While many may fill gaps in the labour market by taking entry-level positions, maximizing the earnings potential of newcomers benefits our economy in multiple ways and allows newcomers to use the skills that made them attractive for immigration in the first place. Uncertainty about the future abounds, but we know that skills will be needed to rebound the economy, and also to fill gaps in our healthcare system and in other sectors.

Given the prospect of lower immigration in 2020, the need to retain newcomers in Hamilton is all the more urgent. Improving labour market outcomes for newcomers is an economic development imperative as well as a call for social justice. No matter how you look at it, it is the right thing to do.

Sarah Wayland, PhD
HIPC Senior Project Manager

ACKNOWLEDGMENTS

HIPC acknowledges the diligence of Tom Zizys in communicating such complex data and for suggesting several ways our community could use these findings to improve labour market outcomes for newcomers. HIPC members provided feedback to Tom's presentation of his research and prompted some additions, such as inclusion of data on visible minorities and elaboration of potential next steps for HIPC. Past HIPC Chair Judy Travis and current HIPC Chair Lily Lumsden reviewed and provided valuable comments on earlier drafts of this report.

ABOUT THE HAMILTON IMMIGRATION PARTNERSHIP COUNCIL

The Hamilton Immigration Partnership Council (HIPC) is a community table whose members work together to create a positive settlement experience for newcomers. HIPC members represent settlement agencies, educational institutions, the private sector, municipal departments, persons with lived experiences of immigration, and more. HIPC is funded by Immigration, Refugees and Citizenship Canada and housed within the City of Hamilton's Economic Development Division.

HIPC's vision: Hamilton welcomes newcomers, celebrates diversity and is a place for everyone to call home.

EXECUTIVE SUMMARY

This study profiles the labour market outcomes of Hamilton immigrants and newcomers (recently arrived immigrants). It builds on a similar 2010 report, with the added benefit of additional data and analysis, and proposes potential initiatives to achieve better labour market results for newcomers.

As was already identified in the 2010 report, Hamilton receives a slightly lower share of the newcomers arriving to Ontario, compared to the city's share of the provincial population. Hamilton has tended to attract immigrants and newcomers whose levels of educational attainment have been somewhat lower than those seeking to settle in other parts of Ontario, although this gap has been shrinking, particularly among women. Among newcomers arriving in the most recent period of immigration (2011-2016) and who are in the labour force, almost half (49%) have a university degree, double the rate for Canadian-born Hamilton residents (25%).

While Canadian-born individuals make up roughly three-quarters (74%) of all Hamilton residents, immigrants make up a sizeable proportion of STEM university degree holders (Science, Technology, Engineering, Mathematics). Of all Hamilton residents holding a STEM degree higher than a Bachelor, more than half (56%) are immigrants, with almost two-thirds of them earning that degree outside of Canada.

Even with these higher levels of educational attainment, Hamilton immigrants are more likely than Canadian-born residents to be employed in an occupation that typically requires a high school diploma or less. They are particularly more likely to work in blue-collar (entry-level manual labour jobs in construction and manufacturing) and entry-level service occupations (such as cooks, cashiers, cleaners, food counter attendants, personal support workers).

Among those having a STEM degree higher than a Bachelor, immigrants who obtained their degree in Canada generally have labour market outcomes comparable to their Canadian-born counterparts. Immigrants males who earned their STEM degree outside of Canada are less likely to be employed in a professional-level occupation, while immigrant females who earned their STEM degree outside of Canada have lower rates of employment in either professional-level or managerial occupations.

The study further profiles newcomers by their level of educational attainment and field of study, identifying distinct clusters where there are considerable numbers of one or both genders. For example, there are a significant proportion of both male and female newcomers with a Bachelor's degree in Business and Administration, a large number of males with a STEM university degree (Bachelor or post-graduate), and a large number of females with a Health Care university degree (Bachelor or post-graduate). The study further assesses the labour market experience of each cluster for those who earned their degree outside of Canada. Finally, the study provides general suggestions for appropriate labour market assistance relevant for each of these clusters.

Two clusters are singled out for more detailed prescriptions. A bridging program is proposed for Business and Administration Bachelor's degree holders to assist them to access administrative and office support occupations. And for STEM degree holders (either Bachelor's or above Bachelor's) who have been unsuccessful finding employment in a professional-level STEM occupation, a customized program is suggested which could assist these individuals to access specialized technologists, technicians and skilled trades occupations, primarily in the manufacturing sector.

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INTRODUCTION

This paper is a follow-up to a 2010 study which focused on the labour market outcomes of immigrants in Hamilton.[1] The purpose of this current study is to provide more recent analysis about the employment results of immigrants in Hamilton, in particular, newcomers, and to identify ways to improve those outcomes.

This paper has benefited from the availability of more detailed statistical data than was available in 2010 and offers different ways to measure these labour market outcomes. The aim is not simply to update the statistics of the 2010 study but rather to bring forward additional data and analysis which builds on those earlier findings.

The rest of this Introduction clarifies terms and data sources used in this report. The next section reviews labour market outcomes for Hamilton newcomers and immigrants, using a variety of comparisons. This is followed by a closer examination of Hamilton newcomers by their levels of educational attainment and their fields of study, as a means of identifying different categories of newcomers and the supports appropriate for their transition into the Canadian labour market. Finally, possible interventions for two specific categories of Hamilton newcomers are proposed, targeting Business and Administration Bachelor's degree holders as well as STEM degree holders (either Bachelor's or above Bachelor's) who have been unsuccessful finding employment in a professional-level STEM occupation.

Terms and data

In this report, the term ***immigrants*** will refer to those individuals who were not born in Canada and have been in Canada for at least five years; when referring to data, this actually means those who arrived before 2011 (the most recent detailed data comes from the last Census, administered in 2016). The term ***newcomers*** will refer to those individuals who were not born in Canada and have been in Canada for less than five years; when referring to data, this actually means those who arrived between 2011 and 2016.

All of the data used in this report comes from Statistics Canada Census data, relying on the 2016 Census (and the previous 2011 Census for comparisons), and for this reason, the data source is not cited for each table and chart, because it is always the same source. When the geography cited is Hamilton, the data refers to the City of Hamilton. In a few instances, the data was only available for the Hamilton Census Metropolitan Area, which includes the City of Hamilton as well as the City of Burlington and the Town of Grimsby. This data is identified as Hamilton CMA. Residents of the City of Hamilton make up 72% of the population of the Hamilton CMA and consequently the relative proportions found in Hamilton CMA will largely apply to the City of Hamilton, although Burlington does represent a slightly different demographic mix.

There are some who may question reliance on 2016 data. It is true that 2016 numbers are a bit dated. The number of Hamilton residents has changed, as has the numbers for different categories, such as newcomers or residents employed in specific occupations. But the actual *proportions* for different

[1] Tom Zizys, *Immigrants and the Labour Market in Hamilton*, prepared for the Hamilton Immigration Partnership Council and the Hamilton Training Advisory Board (2010).

categories, such as the percentage of residents employed by occupation, will not have changed much and this is the relevance of 2016 data to 2020.

In some cases, the percentages themselves have changed, for example, the unemployment rate. In such instances, what is important is the *relative* position between groups. Thus, where newcomers have a higher unemployment rate than Canadian-born residents in 2016, one can be pretty certain that even though unemployment rates have dropped across all categories, the current unemployment rate for newcomers is still proportionately higher than that which presently is experienced by Canadian-born residents.

Background

Highlights of the 2010 study included:

- Compared to its population, Hamilton receives a slightly lower share of the newcomers arriving to Ontario;
- Hamilton has tended to attract immigrants and newcomers whose levels of educational attainment have been somewhat lower than those seeking to settle in other parts of Ontario, although this gap has been shrinking;
- Hamilton's newcomers, even more so than the rest of the province, have tended to work in entry-level occupations;
- Among the broad occupation categories, Hamilton residents are *less* likely than other residents of Ontario to be employed in: Management; Business, Finance and Administration; and Natural and Applied Sciences; and *more* likely to be employed in Health, and in Processing, Manufacturing & Utilities;
- Hamilton residents are somewhat *less* likely than residents in the rest of Ontario to be employed in jobs that typically require a post-secondary education, and conversely *more* likely to be employed in manufacturing, construction and transportation occupations and in entry-level service sector jobs;
- Newcomers to the Hamilton CMA are somewhat *less* likely to hold degrees in Mathematics, Computer and Information Sciences or Humanities; conversely, they are much *more* likely to hold degrees in Architecture, Engineering, and Related Technologies;
- Prior to 1996, immigrants to Hamilton tended to work in manufacturing jobs or in helping positions in health care or construction; the 1996-2000 wave of immigrants saw a growing proportion of newcomers employed in professional and technical occupations in natural and applied sciences, though not in the same proportions as Ontario as a whole; among 2001-2006 newcomers, the proportions in Hamilton start coming closer to the Ontario average, keeping in mind the smaller share of newcomers settling in Hamilton;
- Nevertheless, compared to Ontario as a whole, Hamilton's newcomers are *more* likely to find themselves in entry-level occupations.

LABOUR MARKET OUTCOMES OF IMMIGRANTS IN HAMILTON

Population context

Table 1 illustrates the size of population groups in Hamilton by their immigration status. All immigrants make up one-quarter (24.7%) of Hamilton's population. Newcomers (those who arrived to Canada in the five years prior to the 2016 Census) make up 2.5% of Hamilton's total population.

Table 1: Distribution of residents by immigration status, Hamilton, 2016

TOTAL	Canadian-born	All immigrants	Period of immigration					Non-permanent residents
			Pre-1981	1981-1990	1991-2000	2001-2010	2011-2016	
527,935	391,335	130,370	50,625	16,565	23,695	26,330	13,150	6,225
100%	74.1%	24.7%	9.6%	3.1%	4.5%	5.0%	2.5%	1.2%

"Non-permanent residents" includes persons from another country who have a work or study permit or who are refugee claimants, together with any family members sharing the same permit.

Table 2 shows how the proportion of immigrants by period of immigration compares to the local area's share of the Ontario population. The table profiles both the Hamilton CMA and the City of Hamilton. Overall, the Hamilton CMA accounts for 5.5% of Ontario's population, while the City of Hamilton is home to 4.0% of the province's residents. Immigrants who arrived before 1981 are present in somewhat higher proportions, compared to the share of the total population. Hamilton has 4.7% of all pre-1981 immigrants to Ontario, compared to their 4.0% of all residents. Yet after 1981, one can see how the share of immigrants from each period of immigration is less than 4.0% (and similarly for the Hamilton CMA). In short, Hamilton received a smaller share of immigration after 1981, given its overall size in relation to the province.

Table 2: Hamilton area share of Ontario population by immigration status, 2016

	HAMILTON CMA	CITY OF HAMILTON
TOTAL POPULATION	**5.5%**	**4.0%**
Canadian-born	6.0%	4.3%
Immigrants	4.6%	3.4%
Before 1981	6.5%	4.7%
1981 to 1990	4.3%	3.2%
1991 to 2000	3.7%	2.8%
2001 to 2010	3.8%	2.8%
2011 to 2016	3.7%	2.8%

Table 1 and 2 provide the overall numbers for immigration and include children, adults and seniors. The rest of this report will focus on the labour market, either those aged 15 and older or, where the data is available, those of prime working age, from 25 to 64 years old. The reason for a narrower focus on those aged 25 to 64 years old is to exclude youth, many of whom may still be attending school, as well as those aged over 65 years old, many of whom may be retired. While clearly there are exceptions, with

youth and persons aged over 65 years old who are employed, the intention is to concentrate on the core working age population.

Table 3 presents data on Hamilton residents aged between 25 and 64 years old by immigration admission category. Immigrants come to Canada through various programs and it is helpful to recognize that these different admission categories have different labour market outcomes. Appendix A to this report provides a detailed explanation for these admission categories, but for our current purposes, two categories need proper explanation:

- "Admission category – not applicable" refers to those who do not fit into one of the enumerate categories; this includes not only people born in Canada as well as non-permanent residents, but also immigrants who arrived before 1980, when certain of these categories were not present;
- "Economic immigrants" includes both "principal applicants" and "secondary applicants," so that in a later table we can show the different labour market outcomes for these two categories.

Table 3: Residents by admission category, total population aged 25 to 64 years of age, Hamilton, 2016

TOTAL POPULATION	Admission category – not applicable	Economic immigrants	Principal applicants	Secondary applicants	Immigrants sponsored by family	Refugees	Other immigrants
285,660	225,670	22,280	10,150	12,135	19,280	17,590	830
100.0%	79.0%	7.8%	3.6%	4.2%	6.7%	6.2%	0.3%

Table 4 focuses only on immigrants and their admission categories and how these have changed over three periods of immigration.

Table 4: Immigrants by admission category, aged 25 to 64 years old, Hamilton, 2016

Period of immigration	TOTAL	Economic immigrants	Principal applicants	Secondary applicants	Immigrants sponsored by family	Refugees	Other immigrants
NUMBER							
1991-2000	**19,170**	6,690	2,750	3,945	6,160	6,250	70
2001-2010	**17,950**	7,415	3,760	3,655	5,795	4,250	495
2011-2016	**7,755**	2,920	1,750	1,175	2,660	1,920	255
PERCENT							
1991-2000	**100%**	34.9%	14.3%	20.6%	32.1%	32.6%	0.4%
2001-2010	**100%**	41.3%	20.9%	20.4%	32.3%	23.7%	2.8%
2011-2016	**100%**	37.7%	22.6%	15.2%	34.3%	24.8%	3.3%

The proportion of economic immigrants rose between 1991-2000 and 2001-2010, only to fall back somewhat in 2011-2016. Immigrants sponsored by family rose slightly, whereas refugees as a percentage of all immigrants fell from almost one-third (32.6%) for 1991-2000 to slightly below one quarter for the two subsequent periods.

Levels of educational attainment

Table 5 presents the distribution of Hamilton residents by their level of educational attainment and by their period of immigration. This data includes all those 15 years of age and older who are in the labour force (that is, either working or actively looking for work). It does not include those attending school, who have retired or who have dropped out of the labour force.

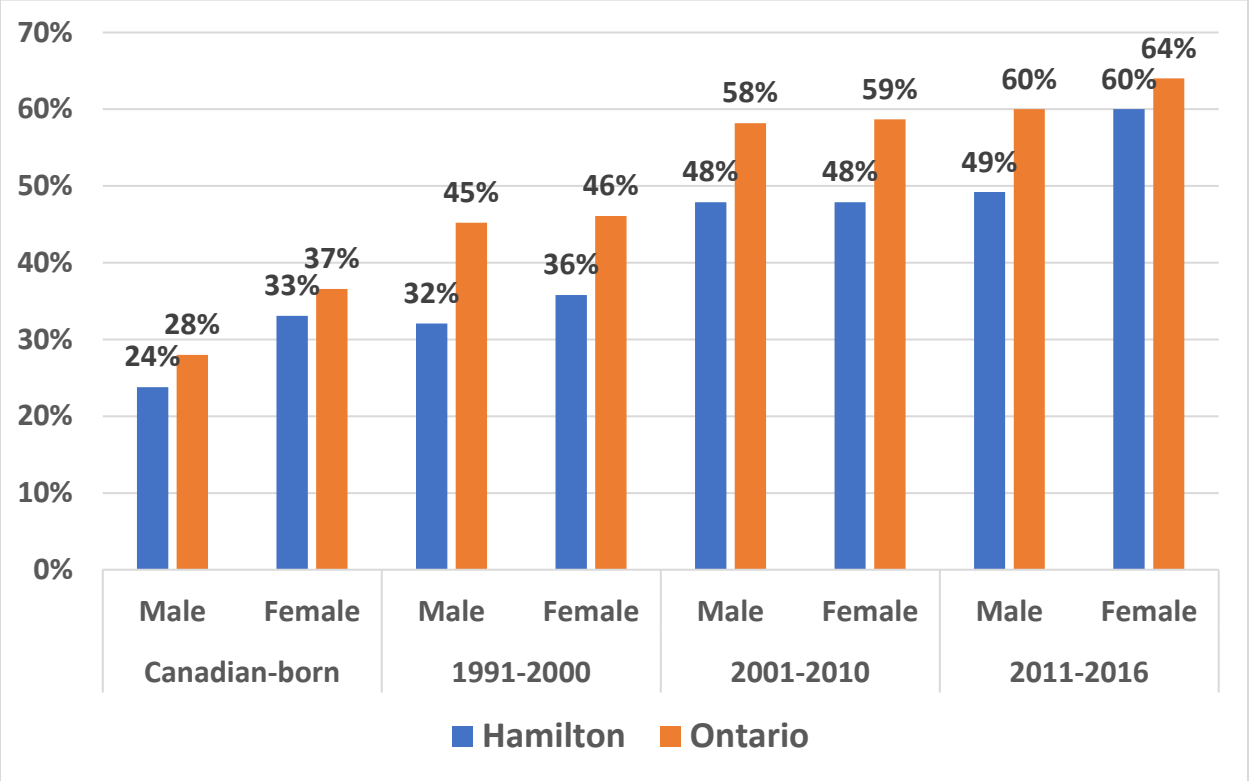
Table 5: Distribution of educational attainment by period of immigration, Hamilton residents aged 15 years and older, in the labour force, 2016

	No certificate	High school	Apprenticeship	College	University
TOTAL POPULATION	**11%**	**28%**	**7%**	**27%**	**27%**
Canadian-born	11%	30%	6%	28%	25%
Immigrants	11%	24%	8%	24%	33%
Before 1981	13%	26%	11%	27%	23%
1981 to 1990	16%	23%	10%	30%	22%
1991 to 2000	9%	24%	8%	25%	33%
2001 to 2010	9%	22%	6%	20%	43%
2011 to 2016	11%	22%	5%	14%	49%

Overall, the educational attainment levels of immigrants who arrived in Canada before 1990 is largely similar to that of Canadian-born residents living in Hamilton. But starting with the 1991-2000 cohort, one sees a noticeable difference, where the proportion of those with a university degree is larger and grows through the subsequent two cohorts.

However, compared to immigrants living in other parts of the province, immigrants resident in Hamilton consistently have had somewhat lower levels of educational attainment. Chart 1 illustrates this point by contrasting the proportion of Hamilton employed residents holding a university degree, both male and female, and by select periods of immigration, to the Ontario average. There has almost always been around a 10% gap when comparing the proportion of immigrant university degree holders between Hamilton and Ontario residents. The one exception is among immigrant females arriving between 2011 and 2016 (newcomers). In that comparison, the gap has almost entirely been closed (60% versus 64%).

Chart 1: Percentage of employed residents with a university degree, by gender and by period of immigration, Hamilton and Ontario, 2016



Post-secondary certificate and STEM/BHASE

The educational attainment data can be further dissected according to the type of post-secondary certificate and by broad field of study.

The four levels of post-secondary educational attainment profiled will be:

- An apprenticeship or trades certificate
- A college diploma
- A university bachelor degree
- A university degree above a bachelor (this will be designated as Bachelor+)

Two broad fields of study will be highlighted:

- STEM studies (Science, Technology, Engineering, Mathematics)
- BHASE (this is all fields other than STEM, for which Statistics Canada has proposed an acronym representing Business and Administration, Health Care, Arts and Humanities, Social and Behavioural Sciences, and Education and Teaching, but which also includes Legal Professions and Studies, as well as Trades, Services, Natural Resources and Conservation)

Table 6 illustrates the distribution of Hamilton CMA residents for each of the four post-secondary levels, as well as for each broad field of study, for males and females, comparing Canadian-born residents (regardless of IN which country they obtained their degree), and immigrants, divided by those who obtained their degree in Canada and those who obtained their degree outside Canada. The population

represented by these figures are all those with recent labour force participation prior to the 2016 census (specifically, had worked at some point between January 2015 and May 2016).

It bears noting that for those immigrants who obtained a degree in Canada, some may have gained a Canadian education by way of a study visa, some may have decided to enrol in school in Canada soon after arrival, in order to enhance their labour market prospects, and some may have arrived in Canada as children or youth and who acquired a Canadian post-secondary education as the normal progression in their education.

Table 6: Distribution of Hamilton CMA residents aged 15 years and older, with a post-secondary education, by STEM and BHASE field of study, by Canadian-born and immigrant, by gender, and by location of immigrant's degree, 2016

	CANADIAN-BORN DEGREE FROM ANYWHERE		IMMIGRANTS			
			DEGREE FROM CANADA		DEGREE NOT FROM CANADA	
	MALE	FEMALE	MALE	FEMALE	MALE	FEMALE
ALL POST-SEC	**36%**	**39%**	**7%**	**8%**	**6%**	**5%**
TRADES STEM	59%	6%	17%	2%	13%	3%
TRADES BHASE	55%	17%	12%	8%	6%	3%
COLLEGE STEM	58%	15%	15%	4%	6%	1%
COLLEGE BHASE	31%	49%	5%	10%	2%	3%
BACHELOR STEM	39%	25%	10%	5%	14%	7%
BACHELOR BHASE	32%	48%	4%	6%	4%	7%
BACHELOR+ STEM	25%	19%	13%	7%	26%	10%
BACHELOR+ BHASE	29%	40%	6%	7%	8%	9%

Overall, as is the case with the broad split in the entire population, around three-quarters (36% + 39% = 75%) of these post-secondary degree holders are Canadian-born. Among the immigrants, around 15% have a post-secondary degree from Canada and another 11% hold a degree from outside Canada (the total adds up to 101% because of rounding).

These proportions vary by degree and by field of study. Among the trades, there are more immigrants because of male immigrants who acquired trades certification in Canada. Among College BHASE and Bachelor BHASE degrees, there is a significantly higher proportion of Canadian-born females, who represent half (49% and 48%) of all degree holders in these categories.

Among University STEM degree holders, the balance shifts considerably towards immigrants. Among Bachelor STEM degree holders, 15% are immigrants who obtained their degree in Canada, and a further 21% who obtained their degree outside Canada, for a total of 41%.

Among STEM degrees higher than a Bachelor, more than half (56%) are immigrants, more than double their share of all post-secondary degree holders. More than a third (36%) of the total obtained these degrees outside of Canada. Indeed, there are more immigrant males who hold a STEM degree higher than a bachelor (26%) than there are Canadian-born males who have this designation (25%).

Participation rates and unemployment rates by admission categories

Turning to labour market outcomes, we will rely on two indicators, the participation rate and the unemployment rate. The entire population aged 15 years and older is considered the labour force.

- ***The participation rate*** is the percentage of the entire labour force who is either working or actively looking for work; they are considered to be in the labour force;
- ***The unemployment rate*** is the percentage of those in the labour force who are unemployed.

Table 7 provides the participation rate for Hamilton residents aged 25 to 64 years of age by admission category and by period of immigration.[2]

Table 7: Participation rate for Hamilton residents aged 25-64 years old, by Canadian-born and immigrants, by period of immigration and by admission category, 2016

Period of immigration	Canadian-born	Principal applicants	Secondary applicants	Immigrants sponsored by family	Refugees
1991-2000	79.9%	81.2%	75.6%	68.6%	70.1%
2001-2010		89.8%	66.3%	64.3%	55.8%
2011-2016		87.8%	60.1%	57.7%	37.0%

Principal applicants have high levels of labour force participation, for all cohorts higher than the figures for Canadian-born residents. Secondary applicants have lower participation rates in the period of their immediate arrival – for example, 60.1% for secondary applicants who arrived in 2011-2016. This is because this category includes dependents who are finishing their education or domestic partners (most often, the female partner) who are managing the household and their children while the principal applicant seeks employment. But over time, these dependents graduate and enter the labour market and the domestic partner may also seek out employment, so that the participant rate for secondary applicants who arrived in 1991-2000 is much closer to that of the principal applicant (75.6% compared to 81.2%).

Immigrants sponsored by family have lower participation rates, in part because they may not have the same qualifications for employment which principal applicants have, or because some may be at the older end of this age range, as grandparents, and not considering employment.

Refugees clearly have greater challenges joining the labour market, most likely because they are not required to meet minimum skill requirements when being admitted to Canada for humanitarian reasons. It may also be that during their resettlement, they are initially focused on addressing trauma and other personal challenges. However, even among this group, the trend over time tends towards higher levels of labour force participation.

[2] It bears emphasizing that the value of profiling the participation rate and unemployment rate figures from 2016 is not to suggest that the same values apply in 2020, but rather that the relative position of the various groups to each other are likely to have stayed the same.

Other immigrants have not been included as part of the participation rate and unemployment rate analysis because they represent a relatively smaller population group.

Table 8 highlights the unemployment rate for Hamilton residents aged 25 to 64 years of age by admission category and by period of immigration.

Table 8: Unemployment rate for Hamilton residents aged 25-64 years old, by Canadian-born and immigrants, by period of immigration and by admission category, 2016

Period of immigration	Canadian-born	Principal applicants	Secondary applicants	Immigrants sponsored by family	Refugees
1991-2000	5.0%	3.7%	6.9%	6.3%	7.9%
2001-2010		6.1%	13.5%	7.0%	12.4%
2011-2016		8.5%	18.7%	12.0%	22.7%

Two points stand out: firstly, the pattern for the unemployment rate very much follows that for the participation rate, so that more recent newcomers have worse outcomes and that over time, their unemployment rate drops. Nevertheless, it is striking that even for those with low participation rates (for example, refugees arriving during 2011-2016), among those who do try to participate in the labour market, they have very high levels of unemployment.

The second point is that for all cells but one, the unemployment rate is higher than that for Canadian-born residents, including for those who arrived between 1991 and 2000. The one exception are principal applicants who arrived between 1991-2000, whose unemployment rate of 3.7% is below the 5.0% rate for Canadian-born. However, the unemployment rate for principal applicants during the period they arrived is higher, at 8.5% for those who arrived between 2011-2016, and is still higher than that for Canadian-born for principal applicants who arrived between 2001-2010, standing at 6.1%.

Participation rates and unemployment rates by period of immigration and by visible minority status

Consideration of visible minority status[3] provides further insight into the labour market outcomes of immigrants and newcomers in Hamilton is to make comparisons on the basis on visible minority status. Charts 2 and 3 illustrate the data for the participation rate, distinguishing between Canadian-born residents and immigrants by period of immigration, and by visible minority status (VIS-MIN = Visible Minority; NON-VIS-MIN = Non-Visible Minority), with Chart 2 providing the data for males and Chart 3 profiling females.

Comparing Charts 2 and 3, one can see that males have higher participation rates in each category than females. For the 1981-2000 and 2001-2016 cohorts profiled, in all instances the visible minority

[3] Statistics Canada defines visible minorities as persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour. This data is collected as part of federal employment equity policy, whose goal is to promote equal opportunity for everyone.

population has a lower participation rate than that of the non-visible minority group, especially in the case of female visible minorities who arrived between 2011-2016, whose participation rate is 63%. Participation rates for pre-1981 immigrants are an anomaly as in this population, visible minorities have a considerably higher participation rate. The reason is that among the pre-1981 immigrants who are aged 25-64 years old, 62% of the non-visible minority group are aged 55-64 years old, compared to 46% among the visible minority group, and so are already less likely to be participating in the labour force.

Chart 2: Participation rate for male Hamilton residents aged 25-64 years old, by Canadian-born and immigrants, by period of immigration and by visible minority status, 2016

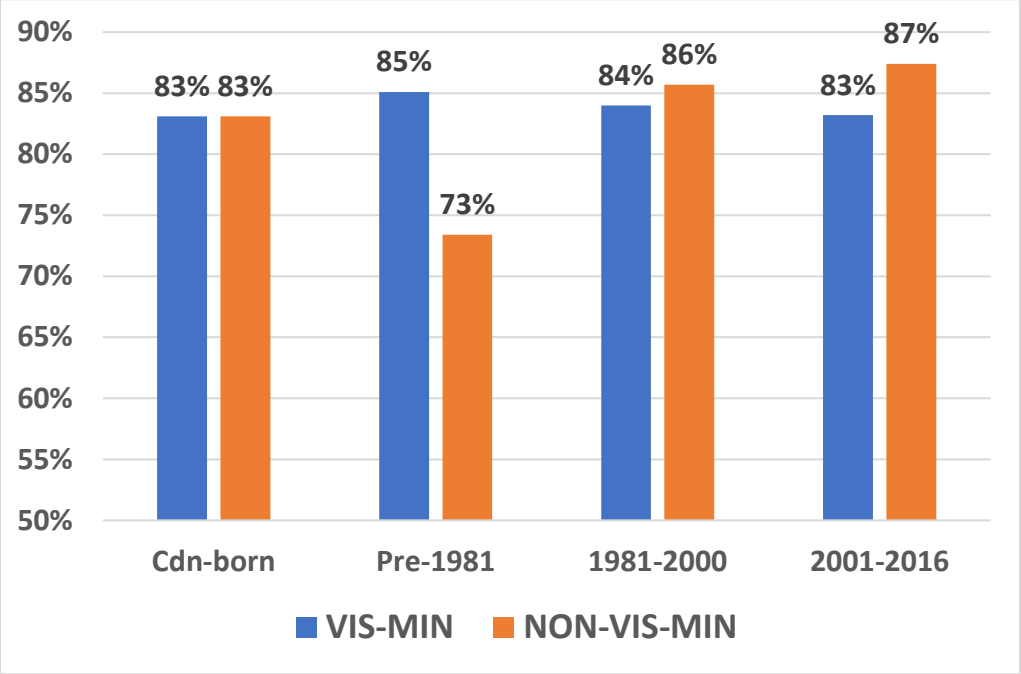
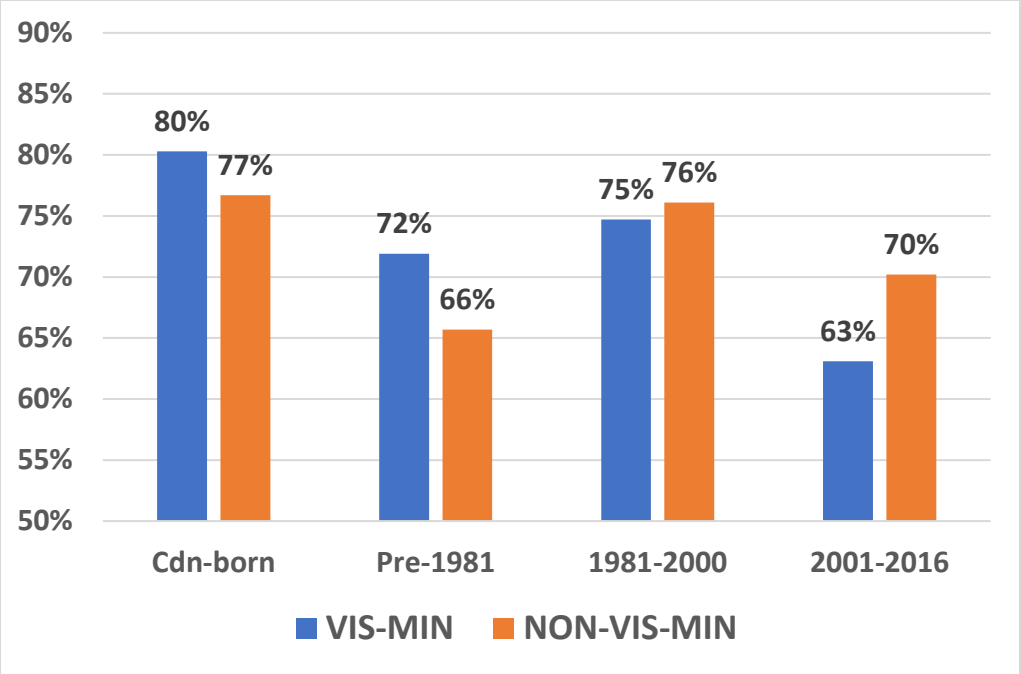


Chart 3: Participation rate for female Hamilton residents aged 25-64 years old, by Canadian-born and immigrants, by period of immigration and by visible minority status, 2016



Charts 4 and 5 present the data for unemployment rates for these same population comparisons, with Chart 4 presenting the data for males and Chart 5 showing the figures for females.

Chart 4: Unemployment rate for male Hamilton residents aged 25-64 years old, by Canadian-born and immigrants, by period of immigration and by visible minority status, 2016

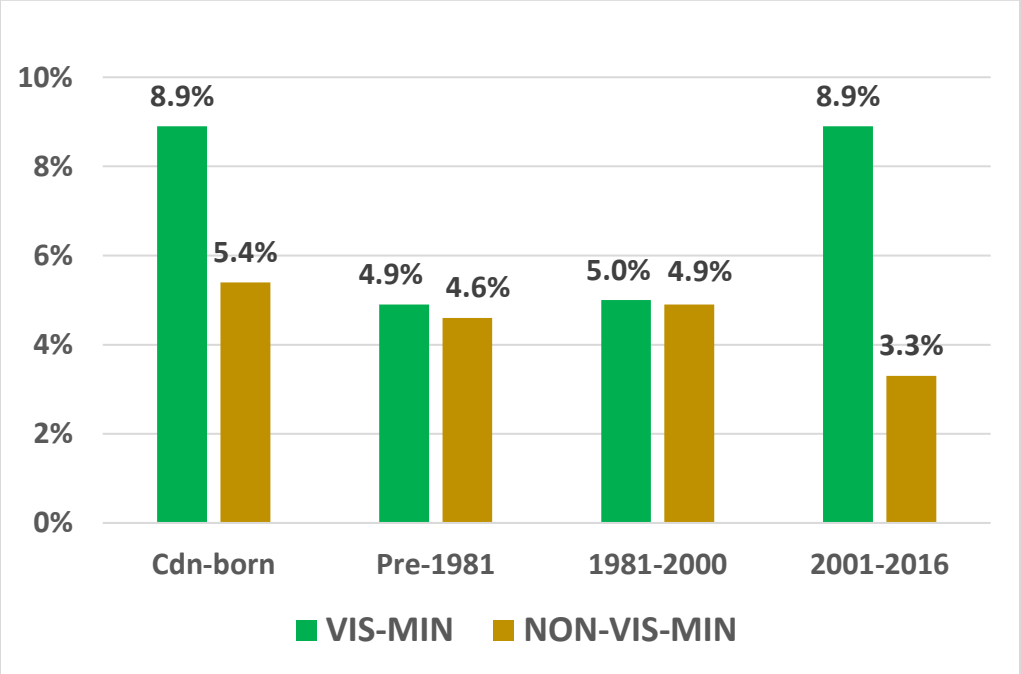
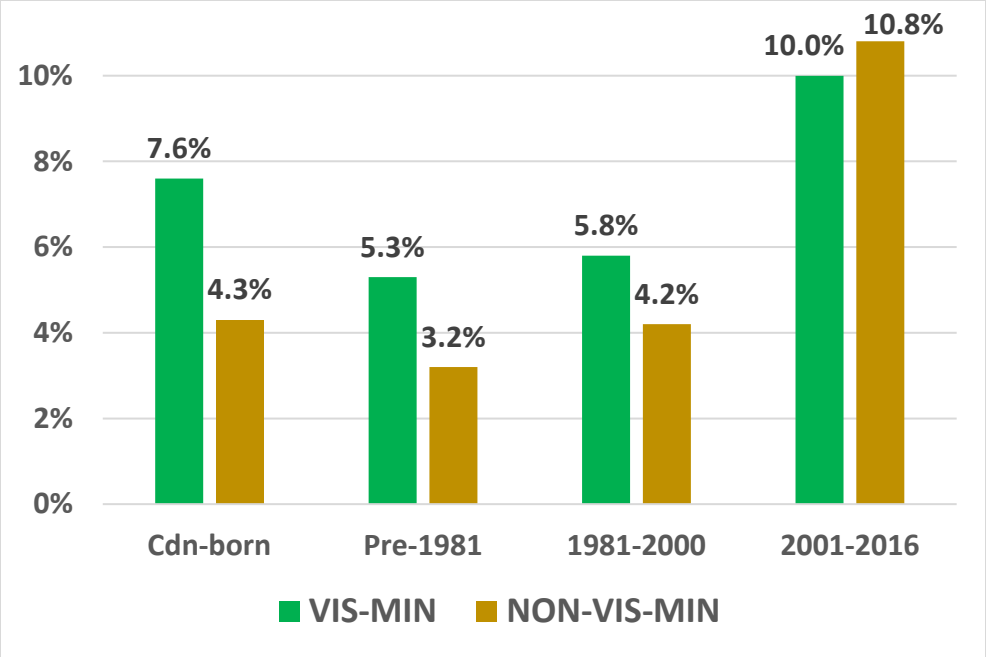


Chart 5: Unemployment rate for female Hamilton residents aged 25-64 years old, by Canadian-born and immigrants, by period of immigration and by visible minority status, 2016



Among Hamilton males, there is a significant difference in the unemployment rates between visible and non-visible minority groups for Canadian-born and for immigrants who arrived during 2001-2016, yet there is almost no difference by minority status in the unemployment rate for immigrant males who arrived before 1981 or during 1981-2000.

Among Hamilton females, there is a persistent difference in the unemployment rates, with visible minority females having higher unemployment rates compared to non-visible minority females in Hamilton, except in the case of immigrants who arrived during 2001-2016. Upon closer examination, one finds that newcomer females (2011-2016), both visible minority and non-visible minority, have roughly the same unemployment rate (around 15%). The difference is found among female immigrants who arrived during 2001-2010. Visible minority females had an unemployment rate of 8.1%, while non-visible minority females had an unemployment rate of 9.2%.

Education and outcomes by occupational skill levels

Occupations have a large number of distinct categories, but one way to sort them is by the skill level typically required to qualify an individual for that occupation, designated by the level of education expected for that job. One can then compare this distribution of occupations by the education levels required of those jobs with the educational attainment levels of employed residents.

The legend for the charts is as follows:

	NO CERTIFICATE
	HIGH SCHOOL
	COLLEGE OR TRADES
	UNIVERSITY

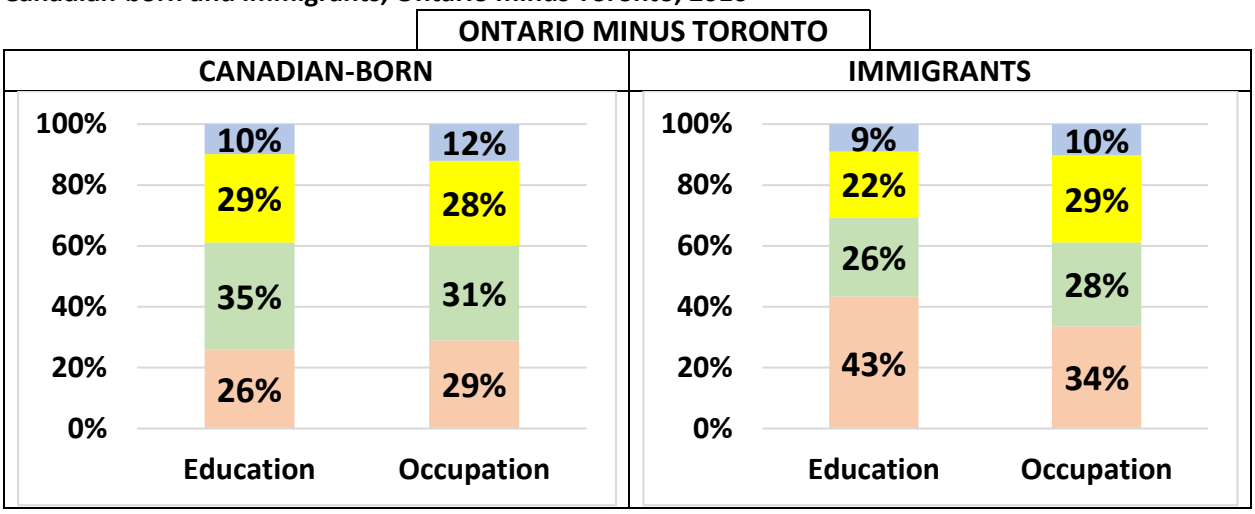
To set a context, Chart 6 compares the educational attainment levels and the skill levels of residents of Ontario minus Toronto, comparing Canadian-born and immigrant employed residents. The Toronto

figures have been excluded because Toronto is a unique case, with a high proportion of residents with a university degree and a high proportion of jobs requiring a university degree (this will be profiled in Chart 7).

Looking first at the chart for the Canadian-born, one can see there is a rough equivalence between the education level of residents and the skill level of the occupations they are employed in. There are considerably more residents with a college diploma or trades certificate (35%) than a university degree (26%), although in comparison slightly fewer Canadian-born are employed in a job requiring a college diploma or trades certificate and slightly more are employed in an occupation requiring a university degree.

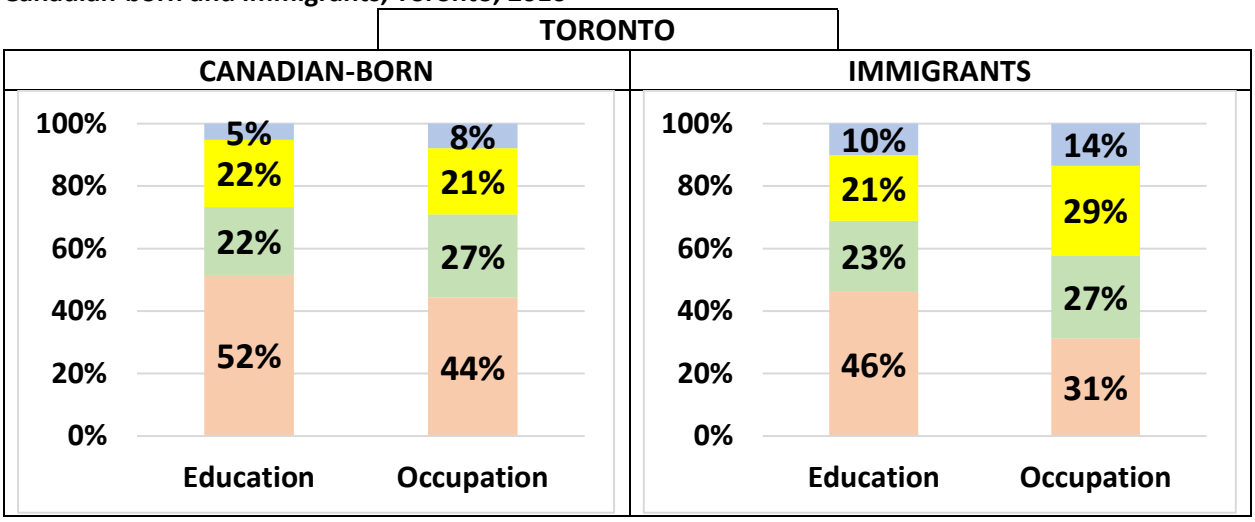
In the case of immigrant residents in Ontario minus Toronto, considerably more possess a university degree (43%), yet compared to Canadian-born, they are employed in jobs requiring a university degree only somewhat more, not nearly commensurate to how many have a university degree. On the other hand, while only 31% of immigrants have a high school diploma or less (22% + 9%), 39% of them (29% + 10%) work in occupations that require only a high school diploma or less.

Chart 6: Comparison between education levels and occupation skill level, employed residents, Canadian-born and immigrants, Ontario minus Toronto, 2016



Toronto has a much higher proportion of its employed Canadian-born residents holding a university degree (52%) couple with far more of them working in jobs which require a university degree (44%). The proportion who are not working in such a job spills over into the other skill level job categories.

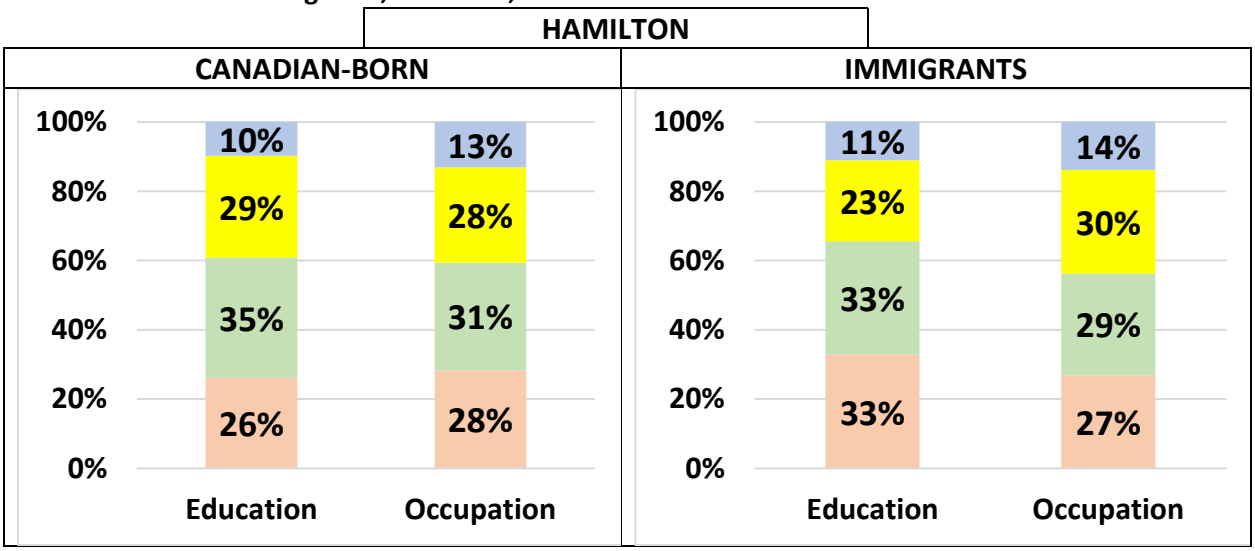
Chart 7: Comparison between education levels and occupation skill level, employed residents, Canadian-born and immigrants, Toronto, 2016



Among Toronto immigrants, while they have a slightly higher proportion of university-degree holders than what is found among immigrants in the rest of the province (46% compared to 43%), they are employed in slightly smaller proportions in university-level occupations (31%) compared to their peers in the rest of Ontario (34%). In addition, a considerably higher proportion work in jobs that only require a high school diploma or less (43% = 29% + 14%).

In the case of Hamilton (Chart 8), the education and occupation figures for Canadian-born Hamilton residents is almost exactly the same as that for Canadian-born living in Ontario minus Toronto. Yet the comparison between Hamilton immigrants and those in Ontario minus Toronto shows a considerable difference, with a significantly lower level of university education attainment among employed Hamilton residents. They also have a higher rate of employment among jobs which only require a high school diploma or less (44% = 30% + 14%).

Chart 8: Comparison between education levels and occupation skill level, employed residents, Canadian-born and immigrants, Hamilton, 2016



Holders of a STEM degree higher than a Bachelor and occupational skill level outcomes

As Table 6 illustrated, among Hamilton CMA residents who have a university STEM degree higher than a Bachelor, over half of them are immigrants and over a third obtained these degrees outside Canada. Table 9 profiles the labour market outcomes for these Bachelor Plus degree holders, by immigration status, location of study and gender. Unlike the earlier four skill-level categories, the university category is divided into two sub-categories: managers (any manager position is designated by Statistics Canada as an occupation typically requiring a university degree) and professionals. The population measured in this calculation are all residents with recent labour force participation prior to the 2016 census (specifically, had worked at some point between January 2015 and May 2016). For the Canadian-born, no distinction was made regarding where the degree was obtained (only around 7% earned their degree outside Canada), whereas for immigrants, the location of where the degree was obtained is separated.

The results show that among males, there is hardly any difference between the outcomes for Canadian-born compared to immigrants who obtained Canadian degrees. For immigrant males who obtained their degrees outside Canada, while the proportion who were employed in Manager occupations was the same, there were considerably fewer who worked in Professional occupations (57% as opposed to 73%), ending up in jobs that either required a High School diploma or a College or Trades certificate.

For females, there were distinct patterns: Canadian-born females were slightly more likely to be employed as Managers, whereas immigrants who held a Canadian degree were more likely to be employed in Professional occupations. Females who earned their degree outside Canada were less likely to be employed as Managers and considerably less likely to be employed as Professionals. Like their male counterparts, there were more likely to be found in jobs that either required a High School diploma or a College or Trades certificate.

Table 9: Occupation skill level outcome, all residents with a STEM degree higher than a Bachelor, males and females, by immigration status and by location of study, with recent labour market participation, Hamilton CMA, 2016

	UNIVERISTY MANAGERS	UNIVERSITY PROFESSIONALS	COLLEGE OR TRADES	HIGH SCHOOL	NO CERTIFICATE
MALES					
Canadian-born	13%	73%	10%	4%	1%
Immigrant – Canadian degree	13%	73%	9%	4%	2%
Immigrant – non-Canadian degree	14%	57%	16%	11%	3%
FEMALES					
Canadian-born	12%	67%	12%	7%	1%
Immigrant – Canadian degree	8%	77%	9%	3%	2%
Immigrant – non-Canadian degree	7%	55%	18%	16%	4%

Occupational clusters

There are many ways to describe a labour force; one can illustrate a labour force by the occupations workers are employed in or by the industries they work in. But these classifications both have the same shortcoming: if one drills down to a detailed level, there are hundreds of categories and it becomes hard to see the big picture. Using the broadest categories lumps together all workers regardless of their skill level, leaving one unable to examine the labour market outcomes of workers with different levels of education and at different pay scales.

For example, workers in the broad *occupational* category of Business, Finance and Administration Occupations include professionals such as investment analysts and business management consultants, together with receptionists, couriers and shippers and receivers. Similarly, the Health Care *industry* would include surgeons and nurses, as well as personal support workers and cleaners. It is important to distinguish between the different outcomes experienced by entry-level, mid-skill level and highly skilled workers, to see how distinct groups of workers have been affected by changes in our labour market.

In order to make more insightful comparisons, 14 occupational clusters are proposed, each of which categorizes workers both by broad industry function as well as by skill level.[4] We begin with three skill levels:

- Occupations which typically require a university degree
- Occupations which typically require a college diploma or a trades certificate
- Occupations which typically require a high school diploma or no certificate[5]

Then, for each skill level, we propose the following clusters:

USUALLY REQUIRE A UNIVERSITY DEGREE	USUALLY REQUIRE A COLLEGE DIPLOMA OR A TRADES CERTIFICATE	USUALLY REQUIRE A HIGH SCHOOL DIPLOMA OR NO CERTIFICATE
Rulemakers	Technician Rulemakers	Blue collar
Sustainers	Technician Sustainers	Pink collar
Calculators	Technician Calculators	Servers
Artists	Technician Artists	Sales
	Protectors	
	Makers	

[4] These occupational clusters were developed to carry out a labour market analysis of York Region on behalf of the Workforce Planning Board of York Region. They are a variation of occupational categories used in two previous reports issued by the Toronto Workforce Innovation Group: Tom Zizys, *An economy out of shape: Changing the hourglass* (2010); and Tom Zizys, *Sifting through the sand: Unpacking the hourglass* (2011).

[5] These categories correspond to the skill levels used by the National Occupational Classification. The NOC code assigns to each occupation both a skill type (the occupational category) and a skill level. The first digit of the NOC code identifies the skill type (for example, the first digit "9" represents Manufacturing Occupations). The second digit identifies the skill level of the occupation by way of the following designations:

"0" or "1" = Usually requires a university education;
"2" or "3" = Usually requires a college education or apprenticeship training;
"4" or "5" = Usually requires secondary school and/or occupation-specific training;
"6" or "7" = On-the-job training is usually provided.

These occupational clusters can be described as follows:

Rulemakers: The higher echelons of organizations (senior executives and specialized mid-level managers) and the related professional occupations (lawyers, financial analysts, accountants, HR professionals, management consultants, marketing and PR professionals)

Sustainers: Professionals in health (physicians, nurses, pharmacists, therapy professionals) and education (professors, college instructors, high school and elementary school teachers), as well as social and community service professionals (psychologists, social workers, counsellors)

Calculators: Professional STEM occupations such as scientists, engineers, architects, urban planners and mathematicians, as well as IT professionals (information systems analysts, computer programmers, web designers) and policy and program researchers

Artists: Librarians, archivists, editors, journalists, writers, producers, directors, actors, conductors, musicians, dancers, singers

Technician Rulemakers: Mid-level supporting roles to Rulemakers, including middle management in wholesale and retail trade, customer services, skilled trades, production and transportation, as well as administrative occupations, technical sales specialists, and salespersons in real estate, insurance and financial services

Technician Sustainers: Mid-level supporting roles to Sustainers, including medical technologists and technicians and paraprofessionals in legal, social, community and education services (paralegals, social and community service workers, early childhood educators)

Technician Calculators: Mid-level supporting roles in STEM, including science and engineering technologists and technicians, transportation officers (airline pilots, air traffic controllers, marine deck officers), and computer network and user support technicians

Technician Artists: Mid-level supporting roles to Artists, including library and museum technicians, photographers, camera operators, recording technicians, announcers, graphic artists, illustrators, interior decorators, fashion designers, artisans, coaches, athletes, and recreation and fitness instructors

Protectors: Front-line public protection services (police, firefighters, non-commissioned military staff) and protection support occupations (sheriffs, bailiffs and correctional service officers)

Makers: Skilled trades contractors, supervisors and tradespersons; supervisors and technical occupations in primary, manufacturing and utilities industries

Blue-collars: Entry-level, lower skilled or lower-paid manual labour (heavy equipment operators, transport truck drivers, installers, repairers, machine operators and assemblers, and labourers in primary sector, construction and manufacturing)

Pink-collars: Entry-level, lower skilled or lower-paid office labour (general office workers and clerks, receptionists, payroll administrators, survey interviewers)

Servers: Entry-level, lower skilled or lower paid service occupations (personal support workers, food service supervisors, cooks, hairstylists, food and beverage servers, cashiers, cleaners, food counter attendants, shelf stockers)

Sales: Retail sales supervisors and salespersons

With such broad categories, there will inevitably be a few occupations which do not quite fit the cluster to which they are assigned. For the sake of simplicity and ease of calculation, it is better to forgive the odd misplacement rather than seek perfect classifications.

Table 10 shows how employed Hamilton residents are distributed across these occupational clusters, distinguishing between Canadian-born and immigrants, and comparing these proportions to both residents of Toronto and of Ontario minus Toronto, to provide a context.

Table 10: Employed residents by occupational clusters and by immigration status, Hamilton, Ontario minus Toronto and Toronto, 2016

	HAMILTON		ONTARIO MINUS TORONTO		TORONTO	
	Immigrants	Cdn-born	Immigrants	Cdn-born	Immigrants	Cdn-born
Rulemakers	6.3%	7.5%	10.0%	8.6%	10.6%	18.1%
Sustainers	9.0%	10.2%	7.3%	8.5%	6.5%	9.8%
Calculators	4.9%	3.6%	9.2%	4.5%	8.3%	7.8%
Artists	0.8%	1.0%	0.7%	0.9%	1.3%	3.5%
T-Rulemakers	12.9%	15.1%	15.4%	15.8%	13.1%	15.9%
T-Sustainers	4.1%	4.4%	3.6%	4.3%	3.9%	3.3%
T-Calculators	3.2%	2.9%	3.2%	2.8%	2.7%	2.2%
T-Artists	1.1%	2.0%	1.2%	1.9%	1.8%	4.3%
Protectors	0.4%	1.2%	0.4%	1.5%	0.2%	0.5%
Makers	9.8%	9.3%	7.0%	9.3%	5.8%	3.9%
Blue-collar	17.7%	14.1%	15.9%	14.0%	14.6%	6.5%
Pink-collar	3.0%	4.0%	4.0%	4.2%	4.0%	3.8%
Servers	23.5%	20.0%	18.5%	19.5%	24.1%	16.3%
Sales	3.1%	4.7%	3.3%	4.4%	3.3%	4.1%

The two largest occupational clusters for Hamilton immigrants are Servers (23.5%) and Blue-collar (17.7%). These are clusters which typically have higher proportions of immigrants. In the case of Servers, the Hamilton proportion is notably larger than the proportion of immigrants employed in this cluster in Ontario minus Toronto.

The third largest Hamilton immigrant cluster is Technician Rulemakers (12.9%), however, compared to Ontario minus Toronto, this proportion is a couple of percentage points lower.

Makers (9.8%) and Sustainers (9.0%) come in fourth and fifth largest, and in both cases these clusters employer higher proportions of Hamilton immigrants than is the case elsewhere.

On the other hand, the sixth and seventh largest clusters, Rulemakers (6.3%) and Calculators (4.9%) both represent significantly smaller proportions of Hamilton immigrants compared to what one finds in Toronto or the rest of Ontario.

In short, Hamilton immigrants appear somewhat over-represented among:

- Servers
- Blue-collar
- Makers
- Sustainers

Hamilton immigrants appear somewhat under-represented among:

- Technician Rulemakers
- Rulemakers
- Calculators

OPPORTUNITIES FOR LABOUR MARKET INTERVENTIONS TARGETING HAMILTON NEWCOMERS

This section aims to identify labour market opportunities which could help improve the outcomes for newcomers settling in Hamilton. The analysis will proceed as follows:

- Profiling the fields of study of Hamilton CMA newcomers and identifying select categories for further analysis
- Profiling the labour market outcomes of Hamilton CMA newcomers by select fields of study, to identify categories warranting special assistance;
- Assessing these labour market outcomes and suggestions for targeted interventions for specific categories of newcomers.

Profiling Hamilton CMA newcomers by field of study

One way to understand what skills newcomers may be bringing to the Hamilton CMA labour market is by profiling both their level of educational attainment cross-tabulated by their field of study (this section is only looking at newcomers with a post-secondary certificate). Tables 11 and 12 illustrate the distribution of newcomers by these categories, for each of males and females (in terms of numbers: 2,540 males and 2,280 females). The colour-coded cells signify the following:

- Green-shaded cells represent a category where for that table, at least 5% of that gender is found in the field of study with that level of education; for example, 10% of male newcomers have a Bachelor's degree in Engineering and Engineering Technology;
- Orange-shaded cells represent a category where at least 5% of each gender are found in that cell; for example, 7% of male newcomers have a degree higher than a Bachelor's in Business and Administration (Table 11) and 6% of female newcomers also have a degree higher than a Bachelor's in Business and Administration (Table 12):
- Yellow-shaded cells represent a category where in that table, less than 5% of that gender are found in that category, but in the table for the other gender, at least 5% of that gender are in that category; for example, 3% of male newcomers have a Bachelor's degree in Health Care (Table 11) whereas 10% of female newcomers have a Bachelor's degree in Health Care (Table 12).

The first observation is that significant proportions of both male and female newcomers fall into three categories:

- Bachelor's degree holders in Business and Administration
- Above Bachelor's degree holders in Business and Administration
- Above Bachelor's degree holders in Health Care

There are also two categories where there is a significant proportion of one gender and a medium-level proportion of the other gender:

- 10% of male newcomers hold a Bachelor's degree in Engineering and Engineering Technology and 4% of female newcomers hold the same degree;
- 10% of female newcomers hold a Bachelor's degree in Health Care and 3% of male newcomers hold the same degree.

Finally, there are also clusters where one or the other gender have on their own a higher proportion:

- 13% of male newcomers have either a trades (6%) or college (7%) certificate in Trades, Services, Natural Resources and Conservation (the full title);[6]
- 10% of female newcomers have either a Bachelor's (5%) or Above Bachelor's (5%) degree in Social and Behavioural Sciences.

Table 11: Distribution of male newcomers by level of educational attainment and by field of study, Hamilton CMA, 2016 (Total number: 2,540)

	TOTAL	Trades	College	Below Bachelor	Bachelor	Above Bachelor
TOTAL	**100%**	**7%**	**18%**	**5%**	**36%**	**34%**
STEM	**38%**	**1%**	**5%**	**2%**	**16%**	**15%**
Science and science technology	**7%**	0%	0%	0%	2%	5%
Engineering and engineering technology	**22%**	1%	4%	1%	10%	7%
Mathematics and IT	**9%**	0%	1%	1%	4%	3%
BHASE (non-STEM)	**62%**	**6%**	**13%**	**3%**	**21%**	**20%**
Business and administration	**19%**	0%	2%	1%	8%	7%
Arts and humanities	**9%**	0%	2%	0%	4%	2%
Social and behavioural sciences	**5%**	0%	0%	0%	3%	2%
Legal professions and studies	**1%**	0%	0%	0%	0%	1%
Health care	**10%**	0%	1%	1%	3%	6%
Education and teaching	**3%**	0%	0%	0%	1%	1%
Trades, services, natural resources	**15%**	6%	7%	0%	1%	1%
Mechanics, architecture, construction	**8%**	5%	3%	0%	0%	0%
Other Trades, services	**7%**	1%	4%	0%	1%	1%

Mathematics and IT = Mathematics and computer and information science
Trades, services, natural resources = Trades, services, natural resources and conservation
Mechanics, architecture, construction = Mechanics and repair, architecture, construction and precision production
Other trades, services = Other Trades, services, natural resources and conservation

[6] This category includes the following sub-fields: Agriculture and natural resources operations and management; Mechanics and repair, architecture, construction and precision production; Personal security and transport services; Social work and related programs; Non-credit programs; and BHASE programs not elsewhere classified. In broad respects, these generally fall into the Maker and Blue-collar occupational clusters.

Table 12: Distribution of female newcomers by level of educational attainment and by field of study, Hamilton CMA, 2016 (Total number: 2,280)

	TOTAL	Trades	College	Below Bachelor	Bachelor	Above Bachelor
TOTAL	**100%**	**2%**	**13%**	**8%**	**44%**	**32%**
STEM	**19%**	**0%**	**0%**	**1%**	**10%**	**7%**
Science and science technology	**8%**	0%	0%	0%	3%	4%
Engineering and engineering technology	**6%**	0%	0%	1%	4%	2%
Mathematics and IT	**5%**	0%	0%	0%	3%	1%
BHASE (non-STEM)	**81%**	**3%**	**13%**	**7%**	**34%**	**25%**
Business and administration	**23%**	1%	4%	2%	10%	6%
Arts and humanities	**12%**	0%	2%	1%	5%	4%
Social and behavioural sciences	**11%**	0%	1%	0%	5%	5%
Legal professions and studies	**2%**	0%	0%	0%	2%	1%
Health care	**25%**	1%	4%	2%	10%	8%
Education and teaching	**6%**	0%	1%	0%	2%	2%
Trades, services, natural resources	**3%**	1%	1%	0%	0%	0%
Mechanics, architecture, construction	**1%**	0%	0%	0%	0%	0%
Other Trades, services	**2%**	1%	1%	0%	0%	0%

Mathematics and IT = Mathematics and computer and information science
Trades, services, natural resources = Trades, services, natural resources and conservation
Mechanics, architecture, construction = Mechanics and repair, architecture, construction and precision production
Other trades, services = Other Trades, services, natural resources and conservation

These concentrations suggest the priority areas for further investigation. The next section explores the labour market outcomes for newcomers with either a Bachelor's or Above Bachelor's degree in:

- Engineering and engineering technology
- Business and administration
- Health care

Labour market outcomes for Hamilton CMA newcomers in select fields of studies with degrees earned outside Canada

The tables in this section illustrate the skill level of the occupations in which Hamilton CMA newcomers are employed, for these select degrees and fields of study with higher concentrations of newcomers. The focus is only on those newcomers who earned their degrees outside Canada, as they in particular have worse outcomes. The actual numbers are listed in Tables 13 and 16, to provide a sense of scale, and the percentages are profiled in Tables 14 and 17, to offer a sense of proportions. The figures represent all newcomers, both males and females, so that there is a sufficiently large sample which can dissected by degree and by field of study.

Table 13: Occupation skill level outcome, all newcomers with a Bachelor's degree earned outside Canada, number by select fields of study, Hamilton CMA, 2016

	TOTAL	UNIVERISTY MANAGERS	UNIVERSITY PROFESSIONALS	COLLEGE OR TRADES	HIGH SCHOOL	NO CERTIFICATE
TOTAL	**1925**	**165**	**470**	**470**	**595**	**225**
STEM	**630**	**70**	**205**	**125**	**165**	**70**
Engineering and engineering technology	**325**	40	95	75	75	45
BHASE (non-STEM)	**1290**	**95**	**260**	**350**	**430**	**155**
Business and administration	**430**	55	85	105	145	40
Health care	**310**	0	90	85	100	30

Table 14: Occupation skill level outcome, all newcomers with a Bachelor's degree earned outside Canada, percentage by select fields of study, Hamilton CMA, 2016

	UNIVERISTY MANAGERS	UNIVERSITY PROFESSIONALS	COLLEGE OR TRADES	HIGH SCHOOL	NO CERTIFICATE
TOTAL	**9%**	**24%**	**24%**	**31%**	**12%**
STEM	**11%**	**33%**	**20%**	**26%**	**11%**
Engineering and engineering technology	12%	29%	23%	23%	14%
BHASE (non-STEM)	**7%**	**20%**	**27%**	**33%**	**12%**
Business and administration	13%	20%	24%	34%	9%
Health care	0%	29%	27%	32%	10%

Roughly a third of Hamilton CMA newcomers holding a bachelor's degree earned outside Canada were employed in a job that required a university degree (9% + 24%), while 43% (31% + 12%) were employed in a job which only required a high school diploma or less. Holders of a STEM degree did better than the average. It is worth comparing how these proportions differ from the same population sample who arrived between 2001-2010, which can be a rough indicator of what change has occurred after gaining some experience in the Canadian labour market. Table 15 shows the differences in the distribution percentages between 2011-2016 and 2001-2010.

Table 15: Net percentage difference in occupation skill level outcome, all newcomers with a Bachelor's degree earned outside Canada, by select fields of study, Hamilton CMA, comparing 2001-2010 and 2011-2016

	UNIVERISTY MANAGERS	UNIVERSITY PROFESSIONALS	COLLEGE OR TRADES	HIGH SCHOOL	NO CERTIFICATE
TOTAL	4%	1%	3%	-5%	-2%
STEM	2%	-4%	11%	-8%	-2%
Engineering and engineering technology	2%	2%	8%	-9%	-6%
BHASE (non-STEM)	4%	3%	-2%	-2%	-2%
Business and administration	2%	1%	-3%	-1%	2%
Health care	3%	15%	-5%	-3%	-7%

In terms of the overall population (TOTAL), as well as in most specific categories (each row), one can see some movement out of those occupations requiring only a high school diploma or less. However, it is also noteworthy where that movement ends up. Among those with a STEM Bachelor's degree, the movement is primarily into jobs which require a College or Trades certificate. In the Health Care field, there is considerable movement into University Professional occupations and some also into Manager occupations. Meanwhile, among those with Business and Administration Bachelor's degrees, there is little movement at all.

Tables 16 to 18 offer the same data relating to newcomers with a degree higher than a Bachelor's earned outside Canada.

Table 16: Occupation skill level outcome, all newcomers with a degree above a Bachelor's earned outside Canada, number by select fields of study, Hamilton CMA, 2016

	TOTAL	UNIVERISTY MANAGERS	UNIVERSITY PROFESSIONALS	COLLEGE OR TRADES	HIGH SCHOOL	NO CERTIFICATE
TOTAL	**1605**	**145**	**765**	**275**	**320**	**115**
STEM	**540**	**35**	**335**	**75**	**70**	**30**
Engineering and engineering technology	**220**	20	130	35	20	20
BHASE (non-STEM)	**1065**	**110**	**425**	**200**	**255**	**85**
Business and administration	**310**	55	70	80	80	30
Health care	**310**	15	145	55	75	20

Table 17: Occupation skill level outcome, all newcomers with a degree above a Bachelor's earned outside Canada, percentage by select fields of study, Hamilton CMA, 2016

	UNIVERISTY MANAGERS	UNIVERSITY PROFESSIONALS	COLLEGE OR TRADES	HIGH SCHOOL	NO CERTIFICATE
TOTAL	**9%**	**48%**	**17%**	**20%**	**7%**
STEM	**7%**	**62%**	**14%**	**13%**	**6%**
Engineering and engineering technology	9%	59%	16%	9%	9%
BHASE (non-STEM)	**10%**	**40%**	**19%**	**24%**	**8%**
Business and administration	18%	23%	26%	26%	10%
Health care	5%	47%	18%	24%	7%

Newcomers with degrees higher than a Bachelor's earned outside Canada have considerably better outcomes than their counterparts with a Bachelor's, and those with STEM degrees once more do substantially better, with 69% in a job requiring a University degree and only 19% in a job requiring a high school diploma or less. On the other hand, there is a high proportion of individuals with jobs only requiring a high school diploma or less among those who had studies Business and Administration (36%) or Health Care (31%).

Table 18 suggests what movement in terms of occupational advancement takes place by comparing results between 2001-2010 and 2011-2016.

Table 18: Net percentage difference in occupation skill level outcome, all newcomers with a degree above a Bachelor's earned outside Canada, by select fields of study, Hamilton CMA, comparing 2001-2010 and 2011-2016

	UNIVERISTY MANAGERS	UNIVERSITY PROFESSIONALS	COLLEGE OR TRADES	HIGH SCHOOL	NO CERTIFICATE
TOTAL	4%	0%	3%	-5%	-2%
STEM	7%	-6%	2%	-2%	-3%
Engineering and engineering technology	8%	-8%	2%	3%	-7%
BHASE (non-STEM)	3%	2%	3%	-7%	-2%
Business and administration	5%	11%	-6%	-9%	-2%
Health care	0%	14%	6%	-15%	-5%

The first thing to note is that, as in the case of those with a Bachelor's degree, there is some movement out of jobs which require only a high school degree or less. In the case of individuals with STEM degrees, while there is movement into University Manager jobs, there is a decline among University Professional jobs. One possible explanation is that individuals have been promoted into manager positions from professional occupations, while there is little net change among those in university occupations. Otherwise, as in the case of those with STEM Bachelor's degree, what movement takes place out of entry-level jobs is into jobs which require a college or trades certificate.

Among those with a degree higher than a Bachelor's in the fields of Business and Administration as well as Health Care, there is considerable movement from lower-skilled jobs into University Professional jobs.

Finally, one further observation: despite the fact that the figures for Business and Administration, together with Health Care, show such improvement, the summary figures for all BHASE fields of study reflect more modest gains. This means that mobility results for all other BHASE graduates with a degree higher than a Bachelor's actually have poorer outcomes.[7]

Summing up what the labour market data reveals

What is the upshot of all this data and analysis? Here are a few observations regarding different categories of Hamilton newcomers:

High school diploma or less. A detailed analysis was not undertaken of newcomers with low levels of educational attainment because one can largely assume poor outcomes, including lower levels of labour force participation, higher levels of unemployment, and job outcomes primarily in occupations which require a high school diploma or less.

Prescription: These individuals are best served by intensive settlement and employment services, which assess their needs, provide ESL services, and support attachment to the labour force through employment preparation, work experience placement, job search assistance and job placement.

STEM degree holders (either Bachelor's or above Bachelor's). On average, this category has better outcomes than other newcomers with post-secondary degrees. For this reason, this group as a whole would not stand out for priority intervention. However, among this large group, it appears that there are two outcomes, those who land university-education level jobs and those who don't. Whatever mobility this latter group experiences is primarily into college or trades-level occupations. There may be value in exploring this dynamic further.

Prescription: There may be an alternative career path for some of these newcomers into specialized technologists, technicians and skilled trades occupations. (This will be elaborated on further, below).

[7] These individuals represent around a third of BHASE degree holders and represent the following fields of study: Arts and Humanities; Social and Behavioural Sciences; Legal Professions and Studies; Education and Teaching; and Trades, Services, Natural Resources and Conservation

Business and Administration Bachelor's degree holders. This group had relatively poorer labour market outcomes, with limited mobility after five years. This is a category with a significant number of males and females and would be a good candidate for a priority focus.

Prescription: This may be an opportunity for a Bridging program which assists individuals to familiarize themselves with the Technician Rulemaker occupations and support their transition into occupations and career pathways in this field. (This will be elaborated on further, below).

Business and Administration Above Bachelor's degree holders. This group had poorer labour market outcomes compared to other post-graduate degree holders, although their advancement after five years was rather strong.

Prescription: It may be that what this group requires is less an emphasis on any technical skills development, and more of an opportunity for work experience placements, mentoring and networking opportunities, so as to make themselves known to more employers sooner.

Health Care degree holders (either Bachelor's or above Bachelor's). This category has average-level outcomes and fairly strong advancement. On this basis, this group would not rank at the front, in terms of priority actions, compared to other groups.

Prescription: Largely support whatever is happening, including ensuring that individuals with these educational credentials get steered towards employment related to health or to the bridging programs in Hamilton focusing on Health Care careers.

BHASE neither Business and Administration nor Health Care (either Bachelor's or above Bachelor's). There are five sub-categories in this grouping, each too small for further detailed analysis, however, as was inferred above, it appears they experience limited career advancement.

Prescription: This is a group which warrants further tracking and study. Perhaps special note should be made of this group at in-take, to learn more about their experiences and their capabilities.

Trades, services, natural resources and conservation (Trades or College certificate). A separate analysis was not done of this group, which includes skilled tradespersons. This group accounts for 13% of male Hamilton newcomers. Almost half (47%) become employed in occupations which require only a high school diploma or less.

Prescription: Given the increase emphasis being placed in skilled trades by the provincial government, this group may represent an opportunity for recruiting newcomers into skilled trades, either by preparing then for certification examinations or by facilitating their entry into apprenticeship programs, possible through a specialized pre-apprenticeship program or some other bridging-style program.

Elaboration of two potential initiatives

In addition to the general prescriptions provided in the preceding sub-section, strategies to improve the labour market outcomes of two categories of newcomers will be discussed in greater detail in this sub-section:

- Business and Administration Bachelor's degree holders
- STEM degree holders (either Bachelor's or above Bachelor's)

Business and Administration Bachelor's degree holders. This group of newcomers was singled out because they had poorer initial labour market outcomes and less labour market advancement after five to ten years in Canada.

In order to identify which occupations would be suitable for these newcomers, we can examine which occupations holders of a bachelor's degree in business and administration typically become employed in. Because of the granularity of this data, these figures are only available at the provincial level. Table 19 lists the most prominent occupations employing this category of degree holders.

Table 19: Distribution of holders of a bachelor's degree in business and administration by largest occupations, Ontario, 2016

Occupation	Percent
0 Management occupations	21%
111 Auditors, accountants and investment professionals	18%
12 Administrative and financial supervisors and administrative occupations	7%
14 Office support occupations	6%
112 Human resources and business service professionals	5%
64 Sales representatives and salespersons - wholesale and retail trade	4%
623 Insurance, real estate and financial sales occupations	4%
217 Computer and information systems professionals	3%
13 Finance, insurance and related business administrative occupations	2%
6551 Customer services representatives - financial institutions	1%
Total of select occupations	71%

One can see by the NOC code that these occupations represent different levels of aggregation.[8] What that means is that these categories represent different size groupings. Management occupations represent all management positions, regardless of industry. Office support occupations are all general office clerks. Customer services representatives - financial institutions, however, are a more narrowly defined function, which in the past was called a "bank teller."

[8] That is, a single digit, such as the "0" for Management Occupations, means an entire occupational category is included, that is, all management occupations. A two-digit NOC, such as "14" for Office Support Occupations, represents a major group within an occupation, in this instance, all general office and clerk occupations. A three-digit NOC, such as "111" for Auditors, Accountants and Investment Professionals, represents a minor group that is part of a major group (the major group being Professional Occupations in Business and Finance). A four-digit NOC, such as "6551" denoting Customer Services Representatives - Financial Institutions, is what is called a unit group, which most often represents a single occupation (although it often may have several titles that describe that function).

How might one assess the suitability of these occupations as landing spots for newcomers seeking employment? A few notes of caution regarding several of these categories:

- Management occupations: these more likely may be occupations which newcomers can aspire to after some experience in the Canadian labour market, unless they have considerable extended experience as successful managers before coming to Canada;
- Several of these occupations not only require a university but also additional certification and/or licensure (Auditors, Accountants and Investment Professionals; Human Resources and Business Service Professionals; Insurance, Real Estate and Financial Sales Occupations).

These occupations could be viewed as medium-term goals for a career advancement path. But for those newcomers who are having an initial difficulty finding employment commensurate with their Bachelor's degree in Business and Administration, a more accessible entry-point may be occupations in the following categories:

- 12 Administrative and financial supervisors and administrative occupations
- 13 Finance, insurance and related business administrative occupations
- 14 Office support occupations
- 6551 Customer services representatives - financial institutions

In 2016, approximately 26,000 Hamilton residents were employed in these occupations, representing 10% of all Hamilton resident employment. Almost 60% of these jobs are concentrated in the following industries (all of which have large administrative workforce):

- Health care and social assistance (17% of all of these jobs)
- Finance and insurance (14%)
- Public administration (9%)
- Professional, scientific and technical services (11%)
- Educational services (8%)

What could be proposed is a Bridging program focused on a transition into these identified occupations. Such a program could consist of the characteristics:

- *Shorter duration* (perhaps 4-6 weeks), involving classroom instruction, one-on-one counselling and work experience placements or internships;
- *Content* that included an overview of the broad labour market regarding these occupations (what functions are performed, which are the prominent industries employing these occupations, who are some of the specific Hamilton employers;
- Emphasis on *Canadian workplace culture and communications*;
- Specific review of *essential vocational skills* required for these occupations;
- Support with *job search skills* and job development;
- *Networking events* with relevant Hamilton employers;
- *Post-employment support*, through job coaching, job retention and job advancement support.

The over-riding outcome is employment in a job commensurate with the newcomer's field of study, with a goal to supporting career advancement to higher-level occupations. Such a program would greatly benefit from an employer advisory committee, which could help: shape the course curriculum; provide mentoring, networking and work experience placements; and develop connections for job placement.

STEM degree holders (either Bachelor's or above Bachelor's). As noted, there may be an alternative career path for some of these newcomers into specialized technologists, technicians and skilled trades occupations. While a considerable proportion of newcomers in this category do find employment in jobs which require a university degree, around 37% of those with a Bachelor's degree and 19% of those with a degree above a Bachelor's end up being employed in a job requiring a high school diploma or less, and only a portion of them advance after some time in the labour market, usually to a job which requires a college or trades certificate. There may be an opportunity to support a larger proportion of these individuals to advance to such occupations. These occupations would consist of the following (the numerical designation is the NOC code):

- 2232 Mechanical engineering technologists and technicians
- 2233 Industrial engineering and manufacturing technologists and technicians
- 2241 Electrical and electronics engineering technologists and technicians
- 2242 Electronic service technicians (household and business equipment)
- 2243 Industrial instrument technicians and mechanics
- 7242 Industrial electricians
- 7311 Construction millwrights and industrial mechanics

Many of these technicians are typically involved in the design, installation and maintenance of industrial machinery, equipment and controlling instrumentation, or of production methods, systems and plants, with significant proportions employed in the manufacturing sector. Electrical service technicians are more involved in servicing household and business electronic equipment and are distributed across many industries, including: construction; wholesale trade; retail trade; professional, scientific and technical services; and other services.

Table 20 provides a sense of the size of the labour market in Hamilton for these occupations, listing the number of Hamilton residents who are employed in each of these occupations (in 2016) as well as the percentage of those workers who were older than 55 years of age (in 2016).

This collection of occupations represents close to 5,000 employed Hamilton residents, slightly under 2% of the workforce. Almost 30% of this workforce was over 55 years of age in 2016, higher than the Hamilton average of 22%, although it varies by each of these occupations.

The typical qualifications for each of these occupations varies, usually either a two- or three-year college program or a skilled trade through a four to five year apprenticeship program (the advantage of an apprenticeship is that one can earn an income while learning the trade).

There would be much still to explore in pursuing an initiative in this area, including the willingness of these newcomers to explore this career option, the interest of employers for these occupations to receive graduates of such a program, and the availability of the necessary training infrastructure. The labour market data suggests that this is a worthwhile avenue to investigate further.

Table 20: Number and percent over 55 years old, select occupations, Hamilton, 2016

	NUMBER		PERCENT
	Total	Over 55 years old	Over 55 years old
Mechanical engineering technologists/technicians	435	100	23%
Industrial engineering technologists/technicians	375	90	24%
Electrical & electronics technologists/technicians	760	150	20%
Electronic service technicians	785	170	22%
Industrial instrument technicians and mechanics	80	40	50%
Industrial electricians	630	195	31%
Construction millwrights and industrial mechanics	1530	530	35%
TOTAL	4595	1275	28%

CONCLUSION

In order to improve the labour market outcomes of Hamilton newcomers, it is necessary to make clear what their outcomes have been and how these outcomes compare to other groups, such as Canadian-born Hamilton residents or newcomers in other parts of Ontario. It is also important to identify the varying labour market outcomes of different categories of newcomers, based on such characteristics as gender, visible minority status, level of educational attainment, field of study and location where the post-secondary degree was obtained. Carrying out this kind of analysis helps to identify those categories of newcomers most at risk of poorer labour market outcomes and to infer possible interventions which may improve their chances of success.

This conclusion summarizes the report as follows:

- General observations from the data
- Further insights from data analysis
- Ideas regarding labour market interventions targeting newcomers

General observations from the data:

- Whereas Hamilton has a share of pre-1981 immigrants which is slightly larger than its share of the Ontario population, its share of each successive wave of immigrants (1981-1990, 1991-2000, 2001-2010 and 2011-2016) has been less than its share of the provincial population;
- Among Hamilton immigrants who arrived to Canada between 1991-2000, the distribution by admission category was roughly one-third economic immigrants, one-third immigrants sponsored by family and one-third refugees; by 2011-2016, there has been a decline in the proportion of refugees (down to a quarter) and an increase in the proportion of economic immigrants (and slight increases in family class and other immigrants);
- Principal applicants living in Hamilton have higher participation rates than Canadian-born residents, however their unemployment levels are higher for those who arrived after 2001; other admission categories reflect poorer labour market outcomes, especially refugees who arrived after 2001;
- Starting from arrival after 1981, Hamilton immigrants are increasingly more likely to possess a university degree, compared to Canadian-born or pre-1981 immigrants; however, compared to immigrants settling in other parts of Ontario, Hamilton immigrants have had slightly lower levels of university education, although that gap has narrowed among women;
- Compared to immigrants in other parts of the province, Hamilton immigrants are less likely to be employed in a job that typically requires a university degree; indeed, whereas 34% of employed Hamilton immigrants have a high school diploma or less, 44% are employed in an occupation which typically requires a high school diploma or less;
- There are considerable differences in the location of study by the level of educational attainment; among Hamilton CMA residents, more immigrants earned their apprenticeship certificate or college diploma inside Canada as opposed to outside Canada (this also more likely reflects a longer period of time in Canada); among those holding a Bachelor's or higher than a Bachelor's degree, more completed their education outside Canada, especially in the case of STEM degree;
- Among Hamilton CMA residents with a STEM degree higher than a Bachelor's, male immigrants with a degree from Canada have the same outcomes as Canadian-born male residents, when comparing the skill level of the occupations they are employed in; male immigrants with a degree from outside Canada are less likely to be employed in a professional occupation

requiring a university degree, while female immigrants with a degree earned from outside Canada have the worst outcomes;
- Visible minority Hamilton immigrant males who arrived since 2001 have considerably higher unemployment rates (as do their Canadian-born counterparts), but that is not the case for visible minority male immigrants who arrived before 2000; for visible minority female immigrants, the reverse appears to be the case, with higher unemployment rates for visible minority female immigrants who arrived before 2000, but similar rates for all female immigrants after 2001.

Further insights from data analysis:
- Hamilton immigrants are employed in higher proportions in entry-level blue-collar occupations (general labourers, material handlers, transport truck drivers) and in entry-level server occupations (food counter attendants, cashiers, light duty cleaners, personal support workers);
- Compared to immigrants in the rest of the province, Hamilton immigrants are less likely to be employed in senior management and business professional occupations, supportive administrative occupations in business and finance, or in STEM-related occupations;
- Among Hamilton newcomers, there are high proportions of both males and females with the following qualifications:
  - Bachelor's degree holders in Business and Administration;
  - Above Bachelor's degree holders in Business and Administration;
  - Above Bachelor's degree holders in Health Care;
- In addition, there are a high proportion of males with a Bachelor's degree in Engineering and Engineering Technology as well as a high proportion with either a trades or college certificate in Trades, Services, Natural Resources and Conservation; in the case of females, there is a high proportion with a Bachelor's degree in Health Care as well as a high proportion with either a Bachelor's or Above Bachelor's degree in Social and Behavioural Sciences;
- In terms of labour market outcomes for newcomers who earned their degree outside of Canada, those with a Bachelor's degree in Business and Administration had somewhat weaker outcomes, and while those with a STEM degree had better outcomes, there was a sub-group who either stayed in a job that required only low qualifications or their career mobility resulted in jobs requiring a college or trades certificate.

Proposed labour market interventions:
- The body of the report proposes strategies for various categories of newcomer degree holders and fields of study, however, there are two specific interventions which could form the basis of targeted projects:
  - A bridging program for Business and Administration Bachelor's degree holders to assist them to access administrative and office support occupations;
  - A program targeting STEM degree holders (either Bachelor's or above Bachelor's) who have been unsuccessful finding employment in a professional-level STEM occupation, assisting them to access specialized technologists, technicians and skilled trades occupations, primarily in the manufacturing sector.

Both of these possible projects would require further study, both to define the demand side (which occupations, what skills required and the responsiveness of employers) as well as to assess the supply side (the interest of these newcomers in the projects proposed and an assessment of their baseline skills).

APPENDIX A: ADMISSION CATEGORIES

The following table provides the Statistic Canada description for the admission categories used in Tables 3 and 4 of this report.

Admission category – not applicable	Includes immigrants who landed before 1980, non-immigrants and non-permanent residents
Economic immigrants	Includes immigrants who have been selected for their ability to contribute to Canada's economy through their ability to meet labour market needs, to own and manage or to build a business, to make a substantial investment, to create their own employment or to meet specific provincial or territorial labour market needs
Principal applicants	Includes immigrants who were identified as the principal applicant on the application for permanent residence
Secondary applicants	Includes immigrants who were identified as the married spouse, the common-law or conjugal partner or the dependant of the principal applicant on the application for permanent residence
Immigrants sponsored by family	Includes immigrants who were sponsored by a Canadian citizen or permanent resident and were granted permanent resident status on the basis of their relationship either as the spouse, partner, parent, grand-parent, child or other relative of this sponsor. The terms 'family class' or 'family reunification' are sometimes used to refer to this category
Refugees	Includes immigrants who were granted permanent resident status on the basis of a well-founded fear of returning to their home country. This category includes persons who had a well-founded fear of persecution for reasons of race, religion, nationality, membership in particular social group or for political opinion (Geneva Convention refugees) as well as persons who had been seriously and personally affected by civil war or armed conflict, or have suffered a massive violation of human rights. Some refugees were in Canada when they applied for refugee protection for themselves and their family members (either with them in Canada or abroad). Others were abroad and were referred for resettlement to Canada by the United Nations Refugee Agency, another designated referral organization or private sponsors
Other immigrants	Includes public policy or humanitarian and compassionate cases and other immigrants, n.i.e. *("n.i.e." = not included elsewhere)* 'Public policy or humanitarian and compassionate cases' includes immigrants who may not have qualified in any program but have been granted, on an exceptional basis, permanent resident status based on humanitarian and compassionate considerations or for public policy reasons. Data for this category are only available for immigrants who have landed since 2002 'Other immigrants, n.i.e.' includes immigrants who have been granted permanent resident status under a program not classified in any other category

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