

IMDB ANALYSIS OF IMMIGRANT SETTLEMENT GEOGRAPHY AND RETENTION RATES FOR CMAS AND CAS IN ONTARIO, 2002-2016

FOR THE PROJECT “BEYOND THE BIG CITY: HOW SMALL
COMMUNITIES ACROSS CANADA CAN ATTRACT AND RETAIN
NEWCOMERS”

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MARCH, 2019



**PATHWAYS TO
PROSPERITY**
Promoting Welcoming Communities in Canada



**VOIES VERS LA
PROSPÉRITÉ**
Promouvoir des communautés accueillantes au Canada

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EXECUTIVE SUMMARY

The goal of this study was to conduct an IMDB data analysis to estimate cumulative 5-year cohort retention rates at 5 years after landing for immigrants landed within the 2002-2006 and 2007-2011 time periods. The geographic scope of the study included census metropolitan areas (CMAs) and census agglomerations (CAs) in Ontario. We applied an adjustment for non-mobility related factors (death, becoming non-resident in Canada in a tax year, stopping tax filing) to the retention rate formula to estimate the proportion of stayers. This adjustment allowed us to estimate retention outcomes related only to mobility that can be influenced by policy interventions.

Three key immigrant groups of interest were identified for this study. Group 1 included those who were destined to and resided in Ontario in year i or year $i+1$. Group 2 included those who were destined elsewhere in year i but filed taxes in the province in that year (i) or a year later ($i+1$). Group 3 included those who were destined to Ontario but resided elsewhere in year i or year $i+1$.

Considering that intended location at landing and location of actual residence can differ, the report examined residence-to-destination ratios, defined as the proportion of immigrants who reside at the place of intended destination. CMAs receiving high immigration volumes also enjoy high residence-to-destination ratios. For immigrants destined to a CMA, if they chose to reside elsewhere, it is likely to be another CMA. The overall picture for Large (L), Medium (M), and Small (S) CAs is less straightforward, and it truly depends on a community. Large CAs are most likely to lose their destined residents to CMAs. Overall, compared to CMAs, all groups of CAs are more involved in the geographic destination-to-residence exchange with other CAs, not just with CMAs. There is an overall trend of immigrants destined to smaller communities not residing in those intended destinations.

Redistribution of immigrants between destinations in Ontario can compensate for a loss of destined immigrants in a community by an inflow from another destination. Over time, Toronto has strengthened its position as a destination in the intra-Ontario destination-to-new-residence exchange. For Medium and Small CAs, there is a persistent issue of either zero or negative net results for many communities. For such communities, their migration effectiveness rates mean they are not compensated for losses by an inflow from other areas, and as a group they are losing.

Ontario also receives immigrants destined to other provinces as new residents (Group 2) and loses some of its destined immigrants to other parts of Canada (Group 3). At a community level, a loss experienced by an outflow from a destination can be compensated by a positive gain from an immigrant exchange with other provinces. In Ontario, many communities benefit in the Group 2-to-Group 3 exchange. Toronto, while 'donating' immigrants to other communities in Ontario, has a positive gain from other provinces. However, a number of communities lose to other communities in the province and to other parts of Canada. There are 9 communities that are in a troubling position: Centre Wellington (M), Cobourg (S), Hawkesbury (ON part) (S),

Kenora (S), Midland (M), Norfolk (L), Pembroke (M), Port Hope (S), and Timmins (M). These communities had a negative balance in intra-Ontario destination-to-residence mobility, and their losses were not compensated by the exchange with other regions of Canada. They are losing their destined immigrants to other locations in Ontario and to other provinces. There are also several communities that are doing well in this regard, such as Brockville (M), Sault Ste. Marie (L), Sarnia (L), Leamington (L), Owen Sound (M), Stratford (M), and Cornwall (L).

If communities lose some of their destined immigrants at the time of landing and gain others, do they retain the ones who do reside there? The retention outcomes for Group 1 and Group 2, both unadjusted and Non-mobility factors (NMF)-adjusted, point to the fact that the largest communities have higher retention rates. Retention rates are dependent on urban area 'magnetism'. This is confirmed with the fact that most Group 1 immigrants who leave their communities within 5 years chose to reside in a CMA. Capacity to retain is related to capacity to attract, with NMF-adjusted retention rates varying from over 90% for Toronto – the biggest CMA in the province – to just over 30% for Hawkesbury – one of the small communities (Group 1, 2002-2011 cumulative cohort). With a close to linear relationship between 'immigration stock' and retention rates, a number of Medium and Small CAs (e.g., Ingersoll, Petawawa) are in double jeopardy: ranked lower on 'immigrant stock', these communities also do not retain immigrants well. However, there are also some Medium and Small communities that are low in resident immigrant counts but do better in retention rates (e.g., Kenora, Centre Wellington).

Group 2 immigrants (destined elsewhere in Canada but live in Ontario at landing) tend to have lower retention rates compared to Group 1 immigrants (destined to Ontario and live in Ontario at landing). Originally arriving to reside in Ontario from intended destinations outside of the province, this group tends to stay in the chosen community at a lesser rate and is more likely to move to another province again by the i+5-year timepoint than immigrants in Group 1.

Identification of immigrant Group 3 (destined to Ontario but live elsewhere at landing), and examination of its outcomes in terms of living in Ontario in later years, was to answer the question: if immigrants destined to Ontario do not choose to reside in Ontario upon landing, do they return to the communities of destination in later years? We determined 'return rates' for this group of immigrants, which indicated that the majority of immigrants destined to Ontario communities who do not live there upon landing but instead reside in another province do not return to their original destinations. While at 5 years after landing Toronto and Ottawa received back 10.0% and 7.6% of these immigrants, respectively, the remaining communities in Ontario saw only 4.3% returning (for the 2007-2011 landing cohort). Immigrants can come back to the province, but not to their original location of destination; in returning back to Ontario, the direction 'to Toronto' overshadows the 'return to original destination'.

1. INTRODUCTION

After immigrant landing data became linked with tax filing data through the Longitudinal Immigration Database (IMDB), the question of immigrant mobility and retention rates became prominent as a focus of research. A report by Lu and Hou (2015) examined cumulative retention rates for international students. Later, Huystee (2016) reported findings on immigrant interprovincial mobility. IRCC's (2017) PNP evaluation report also included estimates of provincial retention rates. Most recently, in the beginning of this year, Statistics Canada (2019) released two tables on mobility and income of immigrant taxfilers, with estimates of retention rates by economic regions, provinces, and Census Metropolitan Areas (CMAs). All these research products are valuable sources of analytical data and methodological guidance. However, the present study offers certain insights and improvements in terms of its methodological approach and geographical scope of inquiry.

What distinguishes the current report from the previous works is that the aforementioned reports were conducted by Statistics Canada or IRCC researchers and, thus, in the absence of direct access to the IMDB data, did not allow for any methodological modifications of a retention estimates formula, or timeframe and/or geography of analysis. Today, with IMDB data available through the RDC network, researchers have gained the benefit of developing new ways of estimating immigrant retention rates. Further, the previous works engaged with provinces and territories as the units of analysis. The most recent release by Statistics Canada (2019) allowed readers to gain insight into retention rates for CMAs, - but with this, CMAs remain the most detailed publicly available geographic level of analysis. The present study offers a new level of detail, geographically and methodologically. Unless otherwise indicated, all data presented here are based on analyses conducted by the analyst for the current report.

This report presents the findings on immigrant retention outcomes for communities in the province of Ontario that are based on a retention rate formula that distinguishes between mobility within the country and other life event factors, such as death, lack of taxfiling activity, and becoming non-resident of Canada.

1.1. RESEARCH GOAL

The goal of this study was to conduct an IMDB data analysis to determine cumulative 5-year cohort retention rates at a census level representing smaller communities in Ontario. With the focus on smaller communities, the findings extend beyond CMAs to Census Agglomerations (CAs). Retention rates for CMAs (bigger communities) were also estimated as a comparison against the findings on retention rates in CAs (smaller communities).

Along with estimating retention rates, the study aimed to use the IMDB data to analyze:

- The overall dynamic of immigration and its geographic distribution across provinces, and across CMAs and CAs within the province of Ontario;
- The geographic ‘discrepancy’ between communities of landing and communities of actual residence/taxfiling upon landing. In other words, how many immigrants who were destined to land in a community filed taxes in that community and how many reside in another community in Ontario or in another province?;
- And, as an extension of this question, how many immigrants intending to land elsewhere in Canada resided in Ontario upon landing?;
- The geography of out-migration paths at the 5-years after landing time-point. If immigrants left a community of initial taxfiling, have they left for another community in Ontario or left for another province/territory?;
- Further, we distinguish between ‘residents at destination’ (reside at the intended community of destination in Ontario) and ‘residents at non-destination’ (intended destination was elsewhere in Canada, but reside in a community in Ontario). Do retention rates differ between the two groups of immigrants? Does the group of ‘residents at non-destination’ exhibit more mobile behaviour later on?;
- In addition, we examine return rates for the group of immigrants who were destined to Ontario and chose to reside elsewhere upon landing. If immigrants do not choose to reside in Ontario, do they return to the communities of destination?

1.2. GEOGRAPHIC SCOPE AND BACKGROUND

The list of smaller communities in Ontario includes 29 CAs, as defined by the 2016 Census, plus one former CA of Temiskaming Shores, which due to population decline had lost its CA status by 2016. In addition, 16 Census Metropolitan Areas, representing bigger ‘immigration magnets’ that can draw immigrants out of smaller communities, are included in the study. This brings the total number of units of analysis to 46. [Table 1](#) presents the 2016 Census population counts data for these population centres. Three of these communities, Carleton Place, Wasaga Beach and Arnprior, became designated CAs only at the time of the 2016 Census. Therefore, these three communities are not distinguished within the IMDB data for the years and key cohorts of interest (see [Methodology](#)), and retention rate estimation for these communities is not currently possible.

The 30 CA communities were grouped into 3 groups based on population size: Large – 50-100 thousand people, Medium – 20-50 thousand people, and Small – under 20 thousand people. The thresholds are not exact, as Leamington’s population is under 50,000, but the community is closer to the Large CAs group than to the Medium CAs group.

Table 1, along with the 2016 Census input data, contains additional estimates based on these data. These include: the share of Ontario's total population living in the community, the shares of Ontario's non-immigrant and immigrant populations living in the community, and a population disparity index, which can be treated as a community attractivity index. The shares show the distribution of the respective populations within Ontario, where the provincial total is the denominator. For the province of Ontario, the national total is used as the denominator. The population disparity index shows the disparity between the proportions of immigrant and non-immigrant sub-populations residing in the community. Index values closer to 1 indicate that a community has an equal share in the provincial total for both sub-populations. The introduced index is supplementary to the proportion of immigrants in the total population and is highly collinear with this indicator.

The geography of population distribution in Ontario is highly uneven, with a severe skew towards Toronto. Toronto concentrates 44% of Ontario's population and it is the absolute leader in terms of the number and the share of immigrants living in the province. As home to roughly 33% of Ontario's non-immigrant population, the Toronto CMA contains 70% of all immigrants living in the province, bringing the value of the attractivity index to over 2.

Together with Toronto, the top 8 CMAs, forming the Windsor - Ottawa corridor, concentrate 73% of the Ontario population within their boundaries. These centres are also characterized by a higher concentration of immigrants, close to or above 20%, within their populations. The top 8 CMAs are home to 91.5% of immigrants, compared to about 65% of the Canada-born population living in the province. For most of these CMAs, the population disparity index/community attractivity index varies between 0.5-0.7, indicating that their 'pull' in the immigrant population is approximating their 'pull' in the non-immigrant population.

Table 1: Population and immigration distribution, CMAs and CAs in Ontario

Group	CMA/CA code	Name	Type	Total Pop., 2016	% of ON Tot. Pop	% Pop. change 2016-2011	Imm in Tot. Pop., %	% of ON Non-Imm Pop.	% of ON Imm Pop.	Pop. Disparity Index
		Canada		35,151,728		5.0	21.9			
		Ontario		13,448,494	*38.26	4.6	29.1	*34.79	*51.08	1.47
	35535	Toronto	CMA	5,928,040	44.08	6.2	46.1	32.87	70.23	2.14
	35505	Ottawa - Gatineau (Ontario part)	CMA	991,726	7.37	5.9	22.6	8.04	5.70	0.71
	35537	Hamilton	CMA	747,545	5.56	3.7	24.1	5.99	4.60	0.77
CMA (16)	35541	Kitchener - Cambridge - Waterloo	CMA	523,894	3.90	5.5	23.0	4.22	3.08	0.73
	35555	London	CMA	494,069	3.67	4.1	19.5	4.18	2.46	0.59
	35539	St. Catharines - Niagara	CMA	406,074	3.02	3.5	16.9	3.54	1.74	0.49
	35532	Oshawa	CMA	379,848	2.82	6.6	18.0	3.33	1.75	0.53
	35559	Windsor	CMA	329,144	2.45	3.1	22.9	2.68	1.93	0.72

	35568	Barrie	CMA	197,059	1.47	5.4	13.4	1.82	0.68	0.37
	35580	Greater Sudbury	CMA	164,689	1.22	1.0	5.8	1.65	0.24	0.15
	35521	Kingston	CMA	161,175	1.20	1.0	11.8	1.48	0.48	0.32
	35550	Guelph	CMA	151,984	1.13	7.7	20.6	1.28	0.80	0.63
	35543	Brantford	CMA	134,203	1.00	-1.0	12.5	1.25	0.43	0.34
	35529	Peterborough	CMA	121,721	0.91	2.3	8.5	1.18	0.26	0.22
	35595	Thunder Bay	CMA	121,621	0.90	0.0	8.8	1.17	0.27	0.23
	35522	Belleville	CMA	103,472	0.77	1.8	7.3	1.02	0.19	0.19
Large CA (8)	35556	Chatham-Kent	CA	102,042	0.76	-2.0	8.6	0.99	0.22	0.23
	35562	Sarnia	CA	96,151	0.71	-1.0	11.0	0.91	0.27	0.30
	35590	Sault Ste. Marie	CA	78,159	0.58	-2.1	8.5	0.76	0.17	0.22
	35530	Kawartha Lakes	CA	75,423	0.56	3.0	7.9	0.73	0.15	0.20
	35575	North Bay	CA	70,378	0.52	-2.6	5.0	0.71	0.09	0.12
	35547	Norfolk	CA	64,044	0.48	1.4	11.0	0.60	0.18	0.30
	35501	Cornwall	CA	59,699	0.44	1.3	6.7	0.59	0.10	0.17
	35557	Leamington	CA	49,147	0.37	-1.2	20.7	0.39	0.25	0.63
Medium CA (12)	35586	Timmins	CA	41,788	0.31	-3.2	3.4	0.43	0.04	0.08
	35544	Woodstock	CA	40,902	0.30	8.3	11.1	0.38	0.12	0.30
	35512	Brockville	CA	38,553	0.29	-1.2	7.8	0.38	0.08	0.20
	35571	Midland	CA	35,859	0.27	1.2	7.8	0.35	0.07	0.20
	35566	Owen Sound	CA	31,820	0.24	-0.8	7.1	0.31	0.06	0.18
	35553	Stratford	CA	31,465	0.23	1.8	11.3	0.29	0.09	0.31
	35509	Carleton Place	CA	31,451	0.23	7.8	6.8	0.31	0.05	0.18
	35569	Orillia	CA	31,166	0.23	1.9	9.1	0.30	0.07	0.24
	35531	Centre Wellington	CA	28,191	0.21	5.6	10.2	0.27	0.07	0.27
	35515	Pembroke	CA	23,269	0.17	-3.1	4.8	0.23	0.03	0.12
	35567	Collingwood	CA	21,793	0.16	13.3	11.9	0.20	0.07	0.32
	35565	Wasaga Beach	CA	20,675	0.15	17.9	17.6	0.18	0.09	0.51
Small CA (10)	35527	Cobourg	CA	19,440	0.14	5.0	13.2	0.18	0.06	0.36
	35516	Petawawa	CA	17,187	0.13	7.5	5.5	0.17	0.02	0.14
	35528	Port Hope	CA	16,753	0.12	3.3	10.7	0.16	0.05	0.29
	35507	Arnprior	CA	15,973	0.12	3.2	4.8	0.16	0.02	0.12
	35546	Tillsonburg	CA	15,872	0.12	3.7	12.0	0.15	0.05	0.33
	35598	Kenora	CA	15,096	0.11	-1.6	5.3	0.15	0.02	0.13
	35533	Ingersoll	CA	12,757	0.09	5.0	6.4	0.13	0.02	0.16
	35582	Elliot Lake	CA	10,741	0.08	-5.3	10.4	0.10	0.03	0.28
	35502	Hawkesbury (Ontario part)	CA	10,263	0.08	-2.7	3.4	0.10	0.01	0.08
	35584	Temiskaming Shores	**	9,920	0.07	-4.6	2.9	0.10	0.01	0.07

Note: *For Ontario, the denominator is Canada. **Temiskaming Shores is a former CA. Source of input data: Statistics Canada 2016 Census Profiles¹.

¹ <https://www12.statcan.gc.ca/census-recensement/2016/dp-pd/prof/search-recherche/lst/results-resultats.cfm?Lang=E&TABID=1&G=1&Geo1=&Code1=&Geo2=&Code2=&GEOCODE=35>

The listed CAs, including Temiskaming Shores, concentrate 8.3% of the total population of Ontario. These communities show significant variability in the concentration of immigrants and in the attractivity index. In addition, the population change between 2011 and 2016 Census, while being positive for the province as a whole and for the 8 largest CMAs, varies greatly across smaller CMAs and across CAs. CMAs, except for Thunder Bay with zero growth and Brantford with 1% decline, have experienced a population growth between the two censuses. In contrast, many of the CAs have experienced a population decline.

Table 2 shows summary statistics for the groups of population centres introduced in *Table 1*. These groups' statistics show that cumulatively Large CAs have experienced a population decline, whereas Medium and Small communities have experienced a population gain between 2011 and 2016.

Larger urban centres have been traditional 'magnets' of immigration. It is no surprise, then, that for CMAs, the correlation coefficient between non-immigrant and immigrant population counts (and proportions in Ontario's population total) is practically perfect with the value of $r=0.986$ (if Toronto is excluded, $r=0.948$), whereas for CAs, while a positive strong correlation remains, its value is lower and equals 0.814. This indicates that within the non-CMA space, the relationship between non-immigrant /Canadian-born population size and immigrant population size is less straightforward.

Table 2: Population and immigration distribution at community grouping level

Group	Total Pop., 2016	Share of ON Tot. Pop.,%	% Pop. change, 2016-2011	Imm.in Tot. Pop., %	Share of ON Non-Imm Pop., %	Share of ON Imm Pop., %	Pop. Disparity Index
Ontario	13,448,494	*38.26	4.6	29.1	*34.79	*51.08	1.47
CMAs and CAs	12,072,241	89.77	4.85	31.6	86.4	97.4	1.13
CMAs	10,956,264	81.47	5.26	33.8	75.7	94.9	1.25
CAs	1,115,977	8.30	0.97	9.0	10.7	2.5	0.24
Large CAs	595,043	4.42	-0.55	9.5	5.7	1.4	0.25
Medium CAs	376,932	2.80	3.10	7.9	3.6	0.8	0.23
Small CAs	144,002	1.07	1.91	9.4	1.4	0.3	0.20
The rest of ON	1,376,253	10.23	2.84	7.4	13.57	2.60	0.19

Overall, CAs' share in the provincial immigrant population total is substantially below their share in the non-immigrant population.

2. METHODOLOGY

2.1. TIMEFRAME OF INTEREST

The most recent release of IMDB data contains information on immigrant landings up to year 2017 and tax information up to year 2016 (Evra and Prokopenko, 2018, p. 14). Taxfiling data availability has put the upper limit for the timeframe of this study at year 2016. The research goal and the research questions on investigating retention rates for different groups of immigrants across communities in Ontario at the 5-years after landing time-point identified the lower limit at year 2002.

As we explain in more detail in the following sections, we adopt a longitudinal approach to this study of retention rates and estimate cumulative retention rates for 5-year period after landing in the manner illustrated below:

	Landing year (i)	Matching tax year at cohort (i or i+1)	Matching tax year in 5 years (i+5)
Cohort 3: 2012-2016	2016	2016	2021
	2015	2015 or 2016	2020
	2014	2014 or 2015	2019
	2013	2013 or 2014	2018
	2012	2012 or 2013	2017
Cohort 2: 2007-2011	2011	2011 or 2012	2016
	2010	2010 or 2011	2015
	2009	2009 or 2010	2014
	2008	2008 or 2009	2013
	2007	2007 or 2008	2012
Cohort 1: 2002-2006	2006	2006 or 2007	2011
	2005	2005 or 2006	2010
	2004	2004 or 2005	2009
	2003	2003 or 2004	2008
	2002	2002 or 2003	2007

Note: For Cohort 3 records for i+5 years are not yet available.

We estimate cumulative retention rates for immigrants landed within 2002-2006 and 2007-2011 time periods. We apply the cumulative retention rate approach, utilized by Lu and Hou (2015), to account for low immigrant counts in smaller communities that otherwise would impede or make the resulting findings release impossible.

2.2. COHORTS OF INTEREST

Generally, the analysis will follow the Statistics Canada suggested methodology on calculating retention rates and mobility of immigrants:

One alternative is a purely longitudinal approach, where a single landing cohort is selected (according to the province of intended destination, the province of initial tax filing, or both), and the retention rate is calculated as the proportion of this cohort that is still filing taxes in the province. Given that a portion of each annual cohort do not file taxes for their year of landing, it may be necessary to increase the population size for a region by defining the landing cohort as anyone who first filed taxes in the region within two years of landing (i.e., $\text{first_tax_year} = \text{landing_year}$ or $\text{landing_year}+1$).

(Evra and Prokopenko, 2018, p.55-56).

We identify annual cohorts based on a landing year (i) and the two taxfiling years (i or $i+1$). In other words, adopting the approach described above, within this study we treat the transition to landed immigrant status as the starting point. First tax year is the same as the landing year (i), though this does not imply that immigrants could not file their taxes before that, while being an international student or a temporary worker. Obtaining permanent residency becomes the marker of a new, immigrant in Canada, life phase. Considering that not all immigrants file taxes in the year of landing, each annual cohort also includes immigrants who landed in year i but filed taxes in year $i+1$.

For example, for immigrants landed in 2002, the cohort included those who also filed taxes that year (2002) and those who landed in 2002 but filed taxes in 2003. The annual cohort for the landing year 2002, became cohort 2002-03 and this is how it is referred to in the tables and graphs throughout [Parts II-IV](#) of this report.

[Part I](#) tables, which also include non-taxfilers, do not incorporate year of taxfiling and the distinctions between years are made based on the year of landing only.

Data presented in [Parts II and III](#), exploring mobility between communities of destination and communities of residence, provide information for annual cohorts (when possible) and cumulative 5-year cohorts: 2002-2006, 2007-2011, and 2012-2016. Retention outcomes are calculated at the cumulative cohort level and for the first two cohorts only.

2.3. IMMIGRANT GROUPS OF INTEREST

Based on the stated research goal and research questions, there are three groups of interest for this study. Group 1 is the main group of interest and includes those who were destined to and resided in Ontario in year i or year $i+1$. Further, we distinguish Group 2, which includes those who were destined elsewhere in year i but filed taxes in the province in that year (i) or year later ($i+1$). Group 3 includes those who were destined to Ontario but resided elsewhere in year i or year $i+1$. The contributions of these three groups to each annual cohort and their dynamics across the timeframe of this study are elaborated in greater detail in [Part II, Section 4.3](#) of the report.

2.4. RETENTION RATES ESTIMATION

We adopt a longitudinal approach to our yearly cohorts, with retention outcomes then aggregated into two cumulative cohorts, 2002-2006 and 2007-2011, to accommodate for low counts in smaller communities.

Evra and Prokopenko (2018) noted that retention rate estimates differ depending on how the initial cohort is defined: whether this is done “according to the province of intended destination, the province of initial tax filing, or both)” (p.56). Statistics Canada (2019) retention rates for CMAs released through IMDB-based CANSIM tables are based exclusively on location of destination. Our approach differs as we incorporate both groups described by Evra and Prokopenko at the provincial level. We use province of destination and province of initial taxfiling, which have to be the same to differentiate our Group 1 of interest, and also to be able to differentiate between this group and Group 2 and Group 3. Then, we focus on the actual locations of immigrants at initial past-landing taxfiling (at i or $i+1$) and estimate retention rates at $i+5$ timepoint for the resident immigrant population.

Further, we explore differences between locations of destination and locations of residence, or mobility at cohort (year i or $i+1$), through residence-to-destination ratios and migration effectiveness rates at the provincial level (*Part II*) and at the CMA/CA level (*Part III*). After that, we define the initial location of immigrants as a CMA/CA of residence or taxfiling at timepoint A, which is year i or year $i+1$, where i is the year of landing. In other words, we treat a location at taxfiling as the location of factual residence. Then, we explore mobility and non-mobility related outcomes at timepoint B, which is 5 years after landing, or $i+5$.

The chronological understanding of timepoints can be expressed as the following:

Landing year (i)→Tax filing/Factual Residence (i or $i+1$)→ Outcomes at $i+5$

Non-mobility related outcomes include death and not filing taxes. We also treat becoming a non-resident in Canada for tax purposes as a fact not related to mobility within the country. The number of immigrants who become non-residents for tax purposes defined by CRA is low. Though moving out of the country is an act of mobility, due to low counts this factor often had to be aggregated with the other non-mobility factors, since location within Canada for such persons is unknown. We had attempted to trace immigrants’ physical presence in the country and calculate periods of absence. However, the quality of records on people’s exits and entries to Canada is low and unreliable because such information comes from self-reporting in tax filling forms. In many cases there could be records of exits in two consecutive records without any record of entry in between. We had to abandon this attempt and rely on CRA non-resident status for year $i+5$ instead as the evidence of physical absence from the country.

Mobility related factors include moving to another community within Ontario or moving to another province. We attempted to distinguish between individual CMAs and CAs at timepoint B ($i+5$), but due to low counts

of immigrants moving to certain communities, we had to comply with the grouping of communities introduced in [Table 1](#) and distinguish between CMAs, Large, Medium and Small CAs only.

With differentiation between mobility and non-mobility factors, it is possible to estimate retention rates in two ways. First, using the traditional approach, retention rates can be calculated based on the number of people who still file taxes at a location at timepoint B (i+5), where “decline [in immigrant population counts] is due to immigrants who stop filing, out-migration and death” (Evra and Prokopenko, 2018, p.57). With this traditional approach, differentiation between those factors is avoided. With the differentiation, we can finetune the retention rates formula and adjust the base number in the denominator by incorporating the non-mobility factors. Since we do not have control over the non-mobility factors, removing the counts lost due to death or lack of taxfiling allows us to estimate retention rates that focus on the losses due to out-migration, which potentially can be influenced by policies. Our formula for retention thus can be expressed as the following:

$$RR_{i+5} = \frac{R_{i+5}}{(TR_{i \text{ or } i+1} - NMF)}$$

Where RR is retention rate at i+5, R is the number immigrants resident in a location in i+5, TR is total number of immigrants resident in a location in i or i+1, and NMF is the number of immigrants lost due to non-mobility factors. This formula is applicable to the key Immigrant Groups 1 and 2.

2.5. RETURN RATES ESTIMATION

For immigrant Group 3 we suggest estimating a return rate that can be expressed as the proportion of immigrants returning to their location of destination in Ontario in year i+5 after residing elsewhere upon landing, accounting for non-mobility factors.

2.6. KEY METHODOLOGICAL PROCEDURES

The work on the IMDB data analysis commenced with data manipulation procedures that included data selection, data reduction, data clean-up, data merging, and creation of the cohorts of interest. After these steps were completed, we explored the destination to residence geography for the three key immigrant groups and calculated retention outcomes for the two cumulative cohorts of interest.

The work on data preparation started with the Integrated Permanent and Non-permanent Resident File (PNRF). This file contains landing information on immigrant taxfilers. First, the records with landing year = 2002 or later were selected. Then the records were checked for presence of errors, using, among others, the following common-sense assumptions: First tax year should be greater than Year of birth, Landing Year should be greater than Year of birth, Death year should be greater than Landing year. A majority, 67%, of

erroneous records revealed the issue of filing taxes before being born. Erroneous records were flagged to be removed later.

Individual years Family Tax files (TIFF) were reduced in size by removing variables not relevant to the research goal of this study. Each tax file contained hundreds of variables, with the most recent years' files being multiple gigabytes in size. File size would affect the processing/syntax running time.

After tax files size reduction, they were merged with the 2002-2017 landing records from PNR file. The 2016 IMDB data also contain hundreds of duplicate records within each annual tax file. These duplicates were removed after file merging. Erroneous records were removed from the main merged file. The resulting merged file contained 3 million plus records on immigrants landed from 2002 to 2017, out of the total of 6 million plus records on immigrant taxfilers in the IMDB. Annual cohort files were created from the merged file first using landing year (i) and then taxfiling years (i or i+1) as the selection criteria.

Further, persons who died at cohort, timepoint A, year i or i+1, were identified based on the PNR Year of Death variable and supplementary information. In cases in which a person was flagged as deceased, but the exact year of death was unknown, the last tax year was used as an indication for the date of death. After creating a new variable, 'Death at cohort', with three possible outcomes (alive, died, or presumed dead), this variable in combination with Destination Province and Province of Residence at cohort was used to create Key Immigrant Groups of Interest (described earlier, and discussed in greater detail in [Part II](#)).

After that, a location at CMA/CA level variable was created as a combination of locations depending on location of initial tax filing. IMDB records on CMA/CA location are derived based on postal code at the time of tax filing. This means that CMA/CA location at tax filing can be treated as the physical location of immigrants. The new combined variable was created using individual location for year i if taxes were filed for the first time after landing at year i; if taxes were filed for the first time in i+1 year then location in i+1 was imputed. If individual location was unknown, but the taxes were filed for that year, family CMA/CA location was used for each year accordingly. If CMA/CA location was not known, then the province of residence on December 31st of the tax year (i or i+1, respectively) was imputed using the PRCO variable.

Finally, the outcome variable at year i+5 was created as a combination of unique, mutually-exclusive outcomes. If a person was alive by i+5 and CMA/CA did not change between i or i+1 and i+5, then he/she was considered a stayer. If a person has died between i+2 and i+5 or presumed dead (if the exact year of death is unknown but identified as deceased in IMDB and the last filed tax year was between i+2 and i+5), then such person would be considered deceased. If a person is alive but location has changed from i / i+1, then the new location in i+5 was imputed. If the person was alive, but did not file taxes in i+5, then such person was considered a non-filer. If a person became a CRA non-resident in i+5, such person was considered a non-resident in Canada.

After these procedures, the resulting tables were aggregated in order to be releasable from the RDC environment. The minimum base count for a cell has to be 5, and all numbers for release have to be rounded to the nearest 5. This created additional challenges and resulted in some loss of geographic and other detail. Rounding counts inevitably created some discrepancies between sub-parts and totals within the tables presented in this report, particularly noticeable in the data for smaller communities.

After counts release, cross-tabulations were produced to estimate the resulting retention rates for immigrant Groups 1 and 2 and return rates for Group 3 (*Part IV*), using the locational information for year i and $i+1$ and the outcomes information for $i+5$.

2.7. ESTIMATES UNCERTAINTY

The data vetting rules for IMDB counts demand that the smallest base number of counts in a table cell has to be at least 5, and that all the numbers have to be rounded to the nearest 5. These conditions inevitably create uncertainty in counts and in estimates. This is a serious concern with smaller counts.

With the rounding to the nearest 5, the uncertainty in counts is ± 2.5 and it has different effects on different counts. For instance, if the count of immigrants in a community is 100, then uncertainty is 100 ± 2.5 , or 2.5%, but if the number is 50, then 50 ± 2.5 produces uncertainty of 5%.

Most importantly, for estimates involving either addition or subtraction or/and multiplication or division, uncertainties of each measure combine, either in absolute terms or in relative (%) terms. For instance, 50 destined elsewhere immigrants moved to a community with 100 immigrants. Then, the total becomes $(100+50) \pm (2.5+2.5) = 150 \pm 5$, converting this into relative uncertainty of $5/150 \times 100 = 3.33\%$; that is, the community now has the total count of immigrants = $150 \pm 3.33\%$.

If 5 years later only 75 immigrants stayed (the count still affected by ± 2.5 uncertainty due to rounding), then the retention rate's uncertainty is the sum of relative uncertainties of two numbers, 75 and 150. Relative uncertainty for 75 is $2.5/75 \times 100 = 3.33\%$. The resulting retention rate becomes $75/100 \pm$ (added uncertainties of $3.33+3.33$) or $50\% \pm 6.66\%$ of immigrants.

Considering the problem of uncertainty, the estimates provided in this report are by no means precise. Uncertainties are negligible for counts and estimates for larger communities with thousands and hundreds of immigrants. However, when reading estimates for smaller communities, we recommend exercising some caution in interpretation. For example, with rounding to the nearest 5, the following is possible for two communities, A and B, with roughly even cohort sizes, 19 and 18. For both, the rounded community size number is 20. Five years later, 14 immigrants stayed in community A and 16 in community B, resulting in retention rates of 73.7% and 88.9%, respectively. However, the two retained immigrant counts would be rounded to 15 and the base counts to 20, both communities will have the same retention rate of 75%.

3. PART I. GEOGRAPHY OF LANDINGS: TAXFILERS AND NON-TAXFILERS

The IMDB contains information on immigrants who filed taxes at least once since 1982. However, tax-filers, while a substantial component, are a part of the total immigration. The share of taxfilers in the total immigration increases, naturally, with time; as the time of residing in Canada progresses, the probability of tax-filing increases. Conversely, those who immigrated recently are less likely to file taxes, particularly within the same year of landing (see Evra & Prokopenko, 2018, 51). For that reason, in order to evaluate any temporal or geographical shifts in immigration, it is important to examine both tax filers and non-tax filers.

This section examines the geography of immigrant landings for the two, taxfiling and non- taxfiling, components of immigration at the provincial and CMA level (within the province of Ontario) over the 2002 – 2017 period.

3.1. ANNUAL DYNAMICS AND GEOGRAPHIC DISTRIBUTION OF IMMIGRATION, CANADA AND PROVINCES

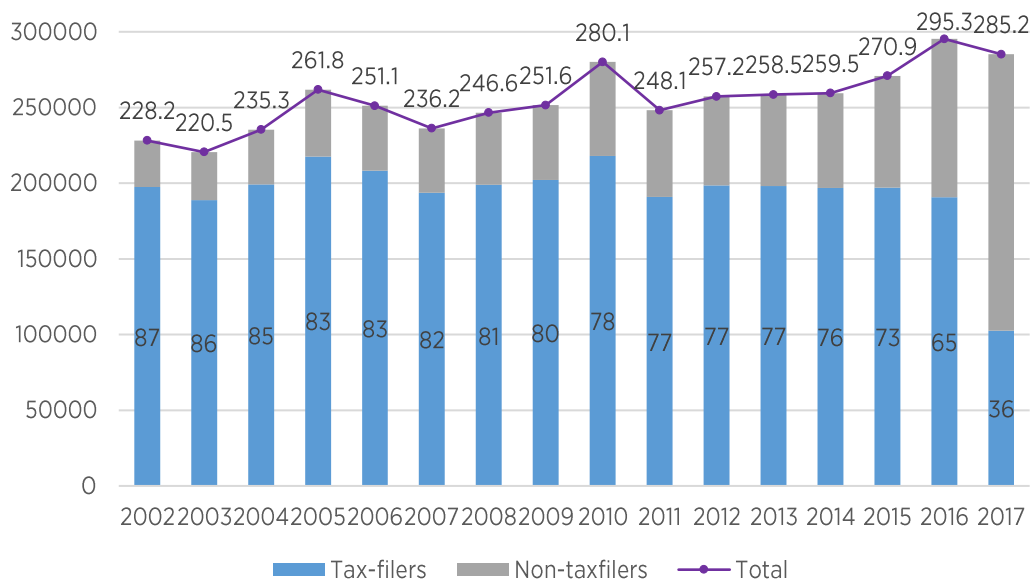


Figure 1. Total immigration to Canada, 2002-2017, and proportion of taxfilers, %.

Figure 1 confirms the IMDB Technical Report observation regarding the tax-filing progression with time. The proportion of taxfilers in the total immigration is substantially lower in recent years. This is particularly important not only for immigration volumes evaluation, but for any analysis relying on IMDB data. A substantial part of this analysis encompasses data on taxfilers’ mobility patterns and retention, and while its

estimates and conclusions are based on this prevalent group, they are not a 100% representation of all immigrants.

Dynamics of the total immigration for the last 15 years was positive, with a growth peaking roughly every five years (2005, 2010, 2016). Overall, the annual migration inflow has increased from being over 220 thousand in the early 2000s to reaching close to 300 thousand towards the end of the current decade. To estimate the role of Ontario, the total immigration data in [Figure 1](#) was broken down by provinces and territories for each of the contributing components: taxfilers and non-taxfilers. These data are shown in absolute numbers and as a relative (%) provincial contribution in [Tables 3-5](#) below, with [Table 5](#) showing geographic distribution for the total immigration.

The distribution of immigration by landing year and destination province/territory depicted in [Tables 3 to 5](#) points to one noticeable geographic shift progressively developing over the last 15 years: the declining role of Ontario as the leading destination province with a concurrent increase in the destination geographic diversity. This pattern is observed for taxfiling and non-taxfiling immigrant sub-populations.

Ontario, previously attracting about 60% of immigrants in the early 2000s, is now a destination for about 40%. British Columbia has also declined in percentage of total immigrants, particularly in the 2010s. The reconfiguration in the destination geography was due to the growing attraction of the Prairies, led by Alberta in the West, and, in the East, due to a substantial growth in the immigration inflow directed to Nova Scotia, New Brunswick, and Prince Edward Island.

Table 3: Geographic distribution of immigrants by destination province and landing year, 2002-2017: Taxfilers (absolute numbers and %)

Absolute numbers

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total 2002-2017
NL	355	290	490	420	415	435	530	510	590	560	600	640	690	775	750	535	8585
PEI	100	125	270	280	485	835	1210	1450	2065	1345	850	745	1075	730	1270	585	13415
NS	1155	1165	1440	1575	2120	2015	2095	1840	1835	1660	1815	1955	1960	2280	3180	1610	29715
NB	600	570	645	905	1370	1375	1535	1500	1680	1530	1610	1480	1920	1685	2390	765	21560
QC	32930	34170	37860	36545	37475	37210	36270	38795	41260	39090	41410	38745	36415	34515	33920	14455	571055
ON	114285	101325	104425	115680	103415	90535	88745	85550	91560	76150	76630	78825	73225	74975	70250	41855	1387425
MB	4085	5775	6410	6865	8380	8955	8965	10660	12150	12050	10035	9640	11560	10375	10330	2935	139170
SK	1440	1430	1680	1805	2310	2925	3940	5485	5935	6810	8445	8370	9005	9095	9025	3975	81670
AB	13085	13870	14330	16625	17555	17320	19855	22025	25820	23735	27790	28135	32710	34845	32830	17800	358330
BC	29385	29980	31380	36805	34680	31875	35495	34150	34670	27615	28925	29115	27985	27435	26455	17750	483690
YK, NT, NU	110	140	135	140	160	165	255	255	440	300	390	380	400	405	320	295	4300
Total	197535	188835	199065	217655	208355	193655	198900	202210	218000	190835	198500	198030	196940	197120	190720	102560	3098910

Percent

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total 2002-2017
NL	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.3
PEI	0.1	0.1	0.1	0.1	0.2	0.4	0.6	0.7	0.9	0.7	0.4	0.4	0.5	0.4	0.7	0.6	0.4
NS	0.6	0.6	0.7	0.7	1.0	1.0	1.1	0.9	0.8	0.9	0.9	1.0	1.0	1.2	1.7	1.6	1.0
NB	0.3	0.3	0.3	0.4	0.7	0.7	0.8	0.7	0.8	0.8	0.8	0.7	1.0	0.9	1.3	0.7	0.7
QC	16.7	18.1	19.0	16.8	18.0	19.2	18.2	19.2	18.9	20.5	20.9	19.6	18.5	17.5	17.8	14.1	18.4
ON	57.9	53.7	52.5	53.1	49.6	46.8	44.6	42.3	42.0	39.9	38.6	39.8	37.2	38.0	36.8	40.8	44.8
MB	2.1	3.1	3.2	3.2	4.0	4.6	4.5	5.3	5.6	6.3	5.1	4.9	5.9	5.3	5.4	2.9	4.5
SK	0.7	0.8	0.8	0.8	1.1	1.5	2.0	2.7	2.7	3.6	4.3	4.2	4.6	4.6	4.7	3.9	2.6
AB	6.6	7.3	7.2	7.6	8.4	8.9	10.0	10.9	11.8	12.4	14.0	14.2	16.6	17.7	17.2	17.4	11.6
BC	14.9	15.9	15.8	16.9	16.6	16.5	17.8	16.9	15.9	14.5	14.6	14.7	14.2	13.9	13.9	17.3	15.6
YK, NT, NU	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.1
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 4: Geographic distribution of immigrants by destination province and landing year, 2002-2017: Non-Taxfilers (absolute numbers and %)

Absolute numbers

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total 2002-2017
NL	50	70	85	75	90	110	95	100	120	125	135	195	210	345	440	635	2880
PEI	10	30	40	55	80	155	235	300	520	390	260	255	560	450	1035	1755	6140
NS	255	295	320	345	465	495	550	540	560	470	520	575	695	1115	2290	2885	12370
NB	110	95	150	185	275	265	330	410	445	445	600	540	915	885	2275	2870	10800
QC	4580	5275	6325	6700	7160	7910	8870	10625	12635	12560	13540	13175	13715	14345	19220	37815	194445
ON	18705	17925	20395	24610	22180	20455	21805	20645	26200	22980	22190	24435	22155	28230	39250	69395	421555
MB	525	715	1000	1225	1670	1985	2240	2850	3650	3905	3275	3470	4665	4510	6470	11750	53910
SK	225	250	265	315	430	640	950	1400	1685	2155	2745	2325	2815	3415	5815	10685	36110
AB	1640	1880	2105	2750	3105	3485	4295	4945	6775	7180	8250	8470	9710	12280	16285	24210	117370
BC	4560	5125	5565	7840	7285	6990	8315	7520	9405	7020	7140	6940	7010	8095	11405	20425	130640
YK, NT, NU	10	25	20	15	15	20	25	35	65	50	70	95	90	105	110	210	960
Total	30670	31690	36270	44125	42745	42515	47705	49365	62060	57280	58735	60465	62540	73785	104590	182635	987185

Percent

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total 2002-2017
NL	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.5	0.4	0.3	0.3
PEI	0.0	0.1	0.1	0.1	0.2	0.4	0.5	0.6	0.8	0.7	0.4	0.4	0.9	0.6	1.0	1.0	0.6
NS	0.8	0.9	0.9	0.8	1.1	1.2	1.2	1.1	0.9	0.8	0.9	1.0	1.1	1.5	2.2	1.6	1.3
NB	0.4	0.3	0.4	0.4	0.6	0.6	0.7	0.8	0.7	0.8	1.0	0.9	1.5	1.2	2.2	1.6	1.1
QC	14.9	16.6	17.4	15.2	16.8	18.6	18.6	21.5	20.4	21.9	23.1	21.8	21.9	19.4	18.4	20.7	19.7
ON	61.0	56.6	56.2	55.8	51.9	48.1	45.7	41.8	42.2	40.1	37.8	40.4	35.4	38.3	37.5	38.0	42.7
MB	1.7	2.3	2.8	2.8	3.9	4.7	4.7	5.8	5.9	6.8	5.6	5.7	7.5	6.1	6.2	6.4	5.5
SK	0.7	0.8	0.7	0.7	1.0	1.5	2.0	2.8	2.7	3.8	4.7	3.8	4.5	4.6	5.6	5.9	3.7
AB	5.3	5.9	5.8	6.2	7.3	8.2	9.0	10.0	10.9	12.5	14.0	14.0	15.5	16.6	15.6	13.3	11.9
BC	14.9	16.2	15.3	17.8	17.0	16.4	17.4	15.2	15.2	12.3	12.2	11.5	11.2	11.0	10.9	11.2	13.2
YK, NT, NU	0.0	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Table 5: Geographic distribution of immigrants by destination province and landing year, 2002-2017: Total Immigration (absolute numbers and %)

Absolute numbers

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total 2002-2017
NL	405	360	575	495	505	545	625	605	710	685	735	835	900	1120	1185	1170	11465
PEI	110	155	310	335	565	990	1445	1750	2590	1735	1110	1000	1635	1185	2305	2340	19555
NS	1415	1465	1760	1920	2585	2510	2645	2380	2395	2125	2340	2530	2655	3395	5470	4500	42085
NB	710	665	795	1095	1640	1640	1865	1910	2125	1975	2215	2020	2835	2570	4665	3635	32360
QC	37510	39445	44185	43245	44630	45120	45140	49420	53895	51650	54955	51920	50125	48860	53140	52265	765505
ON	132990	119250	124820	140290	125590	110990	110545	106195	117760	99130	98820	103260	95380	103205	109500	111250	1808980
MB	4605	6490	7410	8095	10045	10945	11205	13510	15795	15955	13310	13110	16225	14890	16805	14685	193080
SK	1665	1680	1945	2120	2740	3565	4885	6885	7620	8965	11190	10695	11820	12510	14840	14660	117780
AB	14730	15750	16435	19375	20660	20810	24150	26970	32595	30915	36040	36605	42420	47125	49115	42010	475700
BC	33945	35105	36940	44650	41960	38865	43810	41670	44075	34635	36065	36055	34995	35530	37855	38175	614335
YK, NT, NU	120	165	160	160	175	190	285	290	505	345	460	475	490	515	430	500	5260
Total	228205	220525	235340	261780	251105	236170	246605	251580	280060	248115	257235	258500	259475	270905	295315	285195	4086095

Percent

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total 2002-2017
NL	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3
PEI	0.0	0.1	0.1	0.1	0.2	0.4	0.6	0.7	0.9	0.7	0.4	0.4	0.6	0.4	0.8	0.8	0.5
NS	0.6	0.7	0.7	0.7	1.0	1.1	1.1	0.9	0.9	0.9	0.9	1.0	1.0	1.3	1.9	1.6	1.0
NB	0.3	0.3	0.3	0.4	0.7	0.7	0.8	0.8	0.8	0.8	0.9	0.8	1.1	0.9	1.6	1.3	0.8
QC	16.4	17.9	18.8	16.5	17.8	19.1	18.3	19.6	19.2	20.8	21.4	20.1	19.3	18.0	18.0	18.3	18.7
ON	58.3	54.1	53.0	53.6	50.0	47.0	44.8	42.2	42.0	40.0	38.4	39.9	36.8	38.1	37.1	39.0	44.3
MB	2.0	2.9	3.1	3.1	4.0	4.6	4.5	5.4	5.6	6.4	5.2	5.1	6.3	5.5	5.7	5.1	4.7
SK	0.7	0.8	0.8	0.8	1.1	1.5	2.0	2.7	2.7	3.6	4.4	4.1	4.6	4.6	5.0	5.1	2.9
AB	6.5	7.1	7.0	7.4	8.2	8.8	9.8	10.7	11.6	12.5	14.0	14.2	16.3	17.4	16.6	14.7	11.6
BC	14.9	15.9	15.7	17.1	16.7	16.5	17.8	16.6	15.7	14.0	14.0	13.9	13.5	13.1	12.8	13.4	15.0
YK, NT, NU	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.1
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

3.2. TEMPORAL AND SPATIAL DYNAMICS OF IMMIGRATION TO ONTARIO, CMAS AND CAS, 5-YEAR PERIODS

Tables 6 to 10 show the distribution of immigrant destinations, taxfilers and non-taxfilers, for the four groups of population centres in Ontario: CMAs, Large CAs, Medium CAs, and Small CAs, and also for the outside of CMA/CA parts of the province. *Table 11* presents summary information for these groups. The groups were indicated in *Table 1*. For each CMA/CA group, the data are organized based on the population size ranking, i.e., in the order of the *Table 1* listing.

The preservation of the population size ranking helps to ease identification of ‘under-receiving’ communities. It is important to note that there are significant differences in population size within the groups, and the population size distances between communities are not stratified. For instance, within the CMAs group, there are the top 8 CMAs, concentrating 73% of the population in the province (see *Geographical Scope and Background* section). The ‘lower’ 8 CMAs are different from the top 8 CMAs in population size and, subsequently, in scale of immigration.

The tables below show counts in absolute numbers presented first, followed by the percent distribution of immigration within a community grouping, and then followed by percent (%) contributed by each community to the provincial total. Immigration counts are aggregated into 5-year periods: 2002-2006, 2007-2011, and 2012-2016. The total for the full 2002-2016 period is also provided. Aggregation by five years was dictated by the stated research goal and also by the scale of immigration outside of the CMAs. With substantially lower annual counts for other-than-CMA communities, under Statistics Canada vetting rules for IMDB release, these data had to be aggregated.

In several cases, the aggregation by year was not sufficient to solve the low counts issue. In such cases, information was aggregated across two communities, based on their geographic proximity. An example of this is the CA of Eliot Lake. Eliot Lake did not have a sufficient count for the Non-Taxfilers group; these counts had to be merged with the closest larger metropolitan area of Greater Sudbury. While each of the two communities had a releasable number of tax-filing immigrants, the Non-Taxfiling component of immigration had to be aggregated. Subsequently, this affected the way the data on total immigration are presented. The cases of merged counts for a pair of communities are indicated with an asterisk (*) across the tables below. Geographic proximity remained the guiding principle for cross-community aggregation in other similar cases.

Table 6: Geographic distribution of immigrants by intended destination in Ontario, CMAs, 5-year landing period, 2002-2016 (absolute numbers and %)

Absolute numbers

Destination CMA	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
Toronto	437165	338755	292550	1068475	82715	86860	104615	274190	519880	425620	397165	1342665
Ottawa - Gatineau (Ontario part)	26375	24710	22390	73480	5700	7200	8975	21875	32075	31915	31365	95355
Hamilton	16370	14635	12540	43545	2825	3660	5015	11500	19195	18295	17555	55045
Kitchener - Cambridge - Waterloo	11430	11580	10140	33150	2180	2915	3740	8835	13615	14495	13880	41985
London	10395	9750	7670	27815	1910	2700	3495	8105	12305	12450	11170	35920
St. Catharines - Niagara	5625	4960	3665	14250	1005	1190	1160	3350	6625	6150	4825	17600
Oshawa	2820	3060	2655	8535	650	855	1035	2540	3470	3915	3690	11075
Windsor	10740	7360	5985	24085	3040	2455	2685	8175	13775	9815	8670	32260
Barrie	1375	1480	1355	4210	250	355	410	1010	1625	1835	1760	5220
Greater Sudbury	430	550	745	1725		n/a				n/a		
*Incl. Eliot Lake CA	450	580	760	1790	105	125	235	465	560	705	995	2255
Kingston	1580	1610	1360	4550	365	350	495	1215	1950	1960	1855	5765
Guelph	3100	2630	2420	8145	610	605	780	1995	3710	3235	3195	10140
Brantford	940	790	650	2375	180	250	180	610	1120	1035	825	2985
Peterborough	600	630	665	1895	145	175	245	565	745	805	910	2460
Thunder Bay	560	565	540	1670	110	110	205	420	670	670	745	2090
Belleville	425	425	395	1245	75	100	115	290	500	525	510	1535
CMAs Total	529950	423520	365740	1319215	101865	109905	133385	345140	631820	533425	499115	1664355
Ontario Total	539130	432535	373900	1345570	103815	112085	136260	352160	642945	544620	510165	1697725

Table 6 cont.

Percent of the CMAs total

Destination CMA	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
Toronto	82.49	79.99	79.99	80.99	81.20	79.03	78.43	79.44	82.28	79.79	79.57	80.67
Ottawa - Gatineau (Ontario part)	4.98	5.83	6.12	5.57	5.60	6.55	6.73	6.34	5.08	5.98	6.28	5.73
Hamilton	3.09	3.46	3.43	3.30	2.77	3.33	3.76	3.33	3.04	3.43	3.52	3.31
Kitchener - Cambridge - Waterloo	2.16	2.73	2.77	2.51	2.14	2.65	2.80	2.56	2.15	2.72	2.78	2.52
London	1.96	2.30	2.10	2.11	1.88	2.46	2.62	2.35	1.95	2.33	2.24	2.16
St. Catharines - Niagara	1.06	1.17	1.00	1.08	0.99	1.08	0.87	0.97	1.05	1.15	0.97	1.06
Oshawa	0.53	0.72	0.73	0.65	0.64	0.78	0.78	0.74	0.55	0.73	0.74	0.67
Windsor	2.03	1.74	1.64	1.83	2.98	2.23	2.01	2.37	2.18	1.84	1.74	1.94
Barrie	0.26	0.35	0.37	0.32	0.25	0.32	0.31	0.29	0.26	0.34	0.35	0.31
Greater Sudbury	0.08	0.13	0.20	0.13		n/a				n/a		
*Incl. Eliot Lake CA	0.08	0.14	0.21	0.14	0.10	0.11	0.18	0.13	0.09	0.13	0.20	0.14
Kingston	0.30	0.38	0.37	0.34	0.36	0.32	0.37	0.35	0.31	0.37	0.37	0.35
Guelph	0.58	0.62	0.66	0.62	0.60	0.55	0.58	0.58	0.59	0.61	0.64	0.61
Brantford	0.18	0.19	0.18	0.18	0.18	0.23	0.13	0.18	0.18	0.19	0.17	0.18
Peterborough	0.11	0.15	0.18	0.14	0.14	0.16	0.18	0.16	0.12	0.15	0.18	0.15
Thunder Bay	0.11	0.13	0.15	0.13	0.11	0.10	0.15	0.12	0.11	0.13	0.15	0.13
Belleville	0.08	0.10	0.11	0.09	0.07	0.09	0.09	0.08	0.08	0.10	0.10	0.09
CMAs Total	100	100	100	100	100	100	100	100	100	100	100	100

Table 6 cont.

Percent of the Ontario total

Destination CMA	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
Toronto	81.09	78.32	78.24	79.41	79.68	77.49	76.78	77.86	80.86	78.15	77.85	79.09
Ottawa - Gatineau (Ontario part)	4.89	5.71	5.99	5.46	5.49	6.42	6.59	6.21	4.99	5.86	6.15	5.62
Hamilton	3.04	3.38	3.35	3.24	2.72	3.27	3.68	3.27	2.99	3.36	3.44	3.24
Kitchener - Cambridge - Waterloo	2.12	2.68	2.71	2.46	2.10	2.60	2.74	2.51	2.12	2.66	2.72	2.47
London	1.93	2.25	2.05	2.07	1.84	2.41	2.56	2.30	1.91	2.29	2.19	2.12
St. Catharines - Niagara	1.04	1.15	0.98	1.06	0.97	1.06	0.85	0.95	1.03	1.13	0.95	1.04
Oshawa	0.52	0.71	0.71	0.63	0.63	0.76	0.76	0.72	0.54	0.72	0.72	0.65
Windsor	1.99	1.70	1.60	1.79	2.93	2.19	1.97	2.32	2.14	1.80	1.70	1.90
Barrie	0.26	0.34	0.36	0.31	0.24	0.32	0.30	0.29	0.25	0.34	0.34	0.31
Greater Sudbury	0.08	0.13	0.20	0.13		n/a				n/a		
*Incl. Eliot Lake CA	0.08	0.13	0.20	0.13	0.10	0.11	0.17	0.13	0.09	0.13	0.20	0.13
Kingston	0.29	0.37	0.36	0.34	0.35	0.31	0.36	0.35	0.30	0.36	0.36	0.34
Guelph	0.58	0.61	0.65	0.61	0.59	0.54	0.57	0.57	0.58	0.59	0.63	0.60
Brantford	0.17	0.18	0.17	0.18	0.17	0.22	0.13	0.17	0.17	0.19	0.16	0.18
Peterborough	0.11	0.15	0.18	0.14	0.14	0.16	0.18	0.16	0.12	0.15	0.18	0.14
Thunder Bay	0.10	0.13	0.14	0.12	0.11	0.10	0.15	0.12	0.10	0.12	0.15	0.12
Belleville	0.08	0.10	0.11	0.09	0.07	0.09	0.08	0.08	0.08	0.10	0.10	0.09
CMA's Total	98.3	97.9	97.8	98.1	98.1	98.1	97.9	98.0	98.3	97.9	97.8	98.0
Ontario Total	100	100	100	100	100	100	100	100	100	100	100	100

Table 7: Geographic distribution of immigrants by intended destination in Ontario, Large CAs, 5-year landing period, 2002-2016 (absolute numbers and %)

Absolute numbers

Destination CA	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
Chatham-Kent	465	440	370	1275	105	75	175	350	570	510	545	1625
Sarnia	490	525	385	1405	170	145	130	445	660	670	520	1850
Sault Ste. Marie	190	270	270	735	35	65	115	215	230	335	385	950
Kawartha Lakes	150	135	130	410	45	40	45	130	195	175	175	545
North Bay	165	225	210	595	30	55	45	130	195	280	250	730
Norfolk	340	275	180	795	45	75	70	185	380	350	250	980
Cornwall	405	270	205	880	65	60	65	190	470	330	270	1070
Leamington	475	400	520	1395	65	105	260	430	540	505	780	1825
Large CAs Total	2680	2540	2270	7490	560	620	905	2075	3240	3155	3175	9575
Ontario Total	539130	432535	373900	1345570	103815	112085	136260	352160	642945	544620	510165	1697725

Percent of the Large CAs total

Destination CA	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
Chatham-Kent	17.35	17.32	16.30	17.02	18.75	12.10	19.34	16.87	17.59	16.16	17.17	16.97
Sarnia	18.28	20.67	16.96	18.76	30.36	23.39	14.36	21.45	20.37	21.24	16.38	19.32
Sault Ste. Marie	7.09	10.63	11.89	9.81	6.25	10.48	12.71	10.36	7.10	10.62	12.13	9.92
Kawartha Lakes	5.60	5.31	5.73	5.47	8.04	6.45	4.97	6.27	6.02	5.55	5.51	5.69
North Bay	6.16	8.86	9.25	7.94	5.36	8.87	4.97	6.27	6.02	8.87	7.87	7.62
Norfolk	12.69	10.83	7.93	10.61	8.04	12.10	7.73	8.92	11.73	11.09	7.87	10.23
Cornwall	15.11	10.63	9.03	11.75	11.61	9.68	7.18	9.16	14.51	10.46	8.50	11.17
Leamington	17.72	15.75	22.91	18.62	11.61	16.94	28.73	20.72	16.67	16.01	24.57	19.06
Large CAs Total	100	100	100	100	100	100	100	100	100	100	100	100

Table 7 cont.

Percent of the Ontario total

Destination CA	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
Chatham-Kent	0.09	0.10	0.10	0.09	0.10	0.07	0.13	0.10	0.09	0.09	0.11	0.10
Sarnia	0.09	0.12	0.10	0.10	0.16	0.13	0.10	0.13	0.10	0.12	0.10	0.11
Sault Ste. Marie	0.04	0.06	0.07	0.05	0.03	0.06	0.08	0.06	0.04	0.06	0.08	0.06
Kawartha Lakes	0.03	0.03	0.03	0.03	0.04	0.04	0.03	0.04	0.03	0.03	0.03	0.03
North Bay	0.03	0.05	0.06	0.04	0.03	0.05	0.03	0.04	0.03	0.05	0.05	0.04
Norfolk	0.06	0.06	0.05	0.06	0.04	0.07	0.05	0.05	0.06	0.06	0.05	0.06
Cornwall	0.08	0.06	0.05	0.07	0.06	0.05	0.05	0.05	0.07	0.06	0.05	0.06
Leamington	0.09	0.09	0.14	0.10	0.06	0.09	0.19	0.12	0.08	0.09	0.15	0.11
Large CAs Total	0.50	0.59	0.61	0.56	0.54	0.55	0.66	0.59	0.50	0.58	0.62	0.56
Ontario Total	100	100	100	100	100	100	100	100	100	100	100	100

Table 8: Geographic distribution of immigrants by intended destination in Ontario, Medium CAs, 5-year landing period, 2002-2016 (abs. numbers and %)

Absolute numbers

Destination CA	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
Timmins	100	95	155	350	n/a				n/a			
*Incl. Temiskaming Shores	115	120	180	415	25	25	35	85	140	145	215	500
Woodstock	230	210	160	600	60	50	55	165	290	260	215	765
Brockville	125	140	135	400	30	20	60	110	155	160	195	510
Midland	145	130	110	385	25	35	25	85	170	170	135	470
Owen Sound	75	110	85	270	10	20	55	85	85	125	140	355
Stratford	175	150	85	410	35	40	45	125	210	190	130	530
Carleton Place	0	0	15	15	0	0	5	5	0	0	20	20
Orillia	200	210	180	595	30	50	55	130	230	260	235	725
Centre Wellington	115	115	90	325	30	30	45	105	145	150	135	430
Pembroke	45	60	50	160	n/a				n/a			
*Incl. Petawawa	70	100	130	305	10	20	40	75	85	120	175	380
Collingwood	115	140	130	385	n/a				n/a			
*Incl. Wasaga Beach	115	140	140	395	25	30	40	95	140	175	180	490
Wasaga Beach	0	0	10	10	n/a				n/a			
Medium CAs Total	1365	1425	1310	4115	280	320	460	1065	1650	1755	1775	5175
Ontario Total	539130	432535	373900	1345570	103815	112085	136260	352160	642945	544620	510165	1697725

Table 8 cont.

Percent of the Medium CAs total

Destination CA	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
Timmins	7.33	6.67	11.83	8.51	n/a				n/a			
*Incl. Temiskaming Shores	8.42	8.42	13.74	10.09	8.93	7.81	7.61	7.98	8.48	8.26	12.11	9.66
Woodstock	16.85	14.74	12.21	14.58	21.43	15.63	11.96	15.49	17.58	14.81	12.11	14.78
Brockville	9.16	9.82	10.31	9.72	10.71	6.25	13.04	10.33	9.39	9.12	10.99	9.86
Midland	10.62	9.12	8.40	9.36	8.93	10.94	5.43	7.98	10.30	9.69	7.61	9.08
Owen Sound	5.49	7.72	6.49	6.56	3.57	6.25	11.96	7.98	5.15	7.12	7.89	6.86
Stratford	12.82	10.53	6.49	9.96	12.50	12.50	9.78	11.74	12.73	10.83	7.32	10.24
Carleton Place	0.00	0.00	1.15	0.36	0.00	0.00	1.09	0.47	0.00	0.00	1.13	0.39
Orillia	14.65	14.74	13.74	14.46	10.71	15.63	11.96	12.21	13.94	14.81	13.24	14.01
Centre Wellington	8.42	8.07	6.87	7.90	10.71	9.38	9.78	9.86	8.79	8.55	7.61	8.31
Pembroke	3.30	4.21	3.82	3.89	n/a				n/a			
*Incl. Petawawa	5.13	7.02	9.92	7.41	3.57	6.25	8.70	7.04	5.15	6.84	9.86	7.34
Collingwood	8.42	9.82	9.92	9.36	n/a				n/a			
*Incl. Wasaga Beach	8.42	9.82	10.69	9.60	8.93	9.38	8.70	8.92	8.48	9.97	10.14	9.47
Wasaga Beach	0.00	0.00	0.76	0.24	n/a				n/a			
Medium CAs Total	100	100	100	100	100	100	100	100	100	100	100	100

Table 8 cont.

Percent of the Ontario total

Destination CA	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
Timmins	0.02	0.02	0.04	0.03	n/a				n/a			
*Incl. Temiskaming Shores	0.02	0.03	0.05	0.03	0.02	0.02	0.03	0.02	0.02	0.03	0.04	0.03
Woodstock	0.04	0.05	0.04	0.04	0.06	0.04	0.04	0.05	0.05	0.05	0.04	0.05
Brockville	0.02	0.03	0.04	0.03	0.03	0.02	0.04	0.03	0.02	0.03	0.04	0.03
Midland	0.03	0.03	0.03	0.03	0.02	0.03	0.02	0.02	0.03	0.03	0.03	0.03
Owen Sound	0.01	0.03	0.02	0.02	0.01	0.02	0.04	0.02	0.01	0.02	0.03	0.02
Stratford	0.03	0.03	0.02	0.03	0.03	0.04	0.03	0.04	0.03	0.03	0.03	0.03
Carleton Place	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Orillia	0.04	0.05	0.05	0.04	0.03	0.04	0.04	0.04	0.04	0.05	0.05	0.04
Centre Wellington	0.02	0.03	0.02	0.02	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.03
Pembroke	0.01	0.01	0.01	0.01	n/a				n/a			
*Incl. Petawawa	0.01	0.02	0.03	0.02	0.01	0.02	0.03	0.02	0.01	0.02	0.03	0.02
Collingwood	0.02	0.03	0.03	0.03	n/a				n/a			
*Incl. Wasaga Beach	0.02	0.03	0.04	0.03	0.02	0.03	0.03	0.03	0.02	0.03	0.04	0.03
Wasaga Beach	0.00	0.00	0.00	0.00	n/a				n/a			
Medium CAs Total	0.25	0.33	0.35	0.31	0.27	0.29	0.34	0.30	0.26	0.32	0.35	0.30
Ontario Total	100	100	100	100	100	100	100	100	100	100	100	100

Table 9: Geographic distribution of immigrants by intended destination in Ontario, Small CAs, 5-year landing period, 2002-2016 (absolute numbers and %)

Absolute numbers

Destination CA	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
Cobourg	85	100	105	290	20	25	35	85	110	125	140	375
*Petawawa	25	40	80	145		n/a				n/a		
Port Hope	55	70	45	175	10	10	20	40	65	85	65	215
*Arnprior	0	0	5	5	0	0	0	0	0	0	5	5
Tillsonburg	100	85	60	245	15	20	25	65	115	105	85	305
Kenora	50	50	55	155	5	5	20	30	55	55	75	185
Ingersoll	25	40	30	100	10	10	15	30	35	50	45	130
*Elliot Lake	20	30	15	65		n/a				n/a		
Hawkesbury (Ontario part)	85	45	55	185	15	15	20	50	100	60	75	235
*Temiskaming Shores	15	25	25	65		n/a				n/a		
Small CAs Total	460	485	475	1430	75	85	135	300	535	570	610	1730
Ontario Total	539130	432535	373900	1345570	103815	112085	136260	352160	642945	544620	510165	1697725

Note: * For these communities, low Non-Taxfilers counts were merged with another geographically close community. Subsequently, the total immigration details are not available. The counts of taxfilers were added to the Small CAs total for the Total Immigration counts.

Table 9 cont.

Percent of the Small CAs total

Destination CA	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
Cobourg	18.48	20.62	22.11	20.28	26.67	29.41	25.93	28.33	20.56	21.93	22.95	21.68
*Petawawa	5.43	8.25	16.84	10.14		n/a				n/a		
Port Hope	11.96	14.43	9.47	12.24	13.33	11.76	14.81	13.33	12.15	14.91	10.66	12.43
*Arnprior	0.00	0.00	1.05	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.29
Tillsonburg	21.74	17.53	12.63	17.13	20.00	23.53	18.52	21.67	21.50	18.42	13.93	17.63
Kenora	10.87	10.31	11.58	10.84	6.67	5.88	14.81	10.00	10.28	9.65	12.30	10.69
Ingersoll	5.43	8.25	6.32	6.99	13.33	11.76	11.11	10.00	6.54	8.77	7.38	7.51
*Elliot Lake	4.35	6.19	3.16	4.55		n/a				n/a		
Hawkesbury (Ontario part)	18.48	9.28	11.58	12.94	20.00	17.65	14.81	16.67	18.69	10.53	12.30	13.58
*Temiskaming Shores	3.26	5.15	5.26	4.55		n/a				n/a		
Small CAs Total	100	100	100	100	100	100	100	100	89.72	84.21	80.33	83.82
Small CAs, % of ON Total	0.085	0.112	0.127	0.106	0.072	0.076	0.099	0.085	0.083	0.105	0.120	0.102

Note: Since the counts for Non-Taxfilers for the (*) marked communities are not available, the original 5-year totals were not available for release. The totals and the resulting percent distribution shown here are based on the sums of the available counts.

Table 10: Geographic distribution of immigrants by intended destination, Elsewhere in Ontario, 5-year landing period, 2002-2016 (absolute numbers and %)

Absolute numbers

Destination	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
Strong metropolitan influenced zone	1495	1760	1305	4560	340	460	485	1285	1830	2220	1790	5845
Moderate metropolitan influenced zone	1385	1770	1340	4490	270	425	530	1225	1655	2190	1870	5715
Weak metropolitan influenced zone	585	640	645	1870	100	145	175	425	690	785	820	2295
No metropolitan influenced zone	1260	495	930	2690	315	115	200	630	1575	610	1130	3320
Non-CMA/CA Total	4725	4665	4220	13610	1025	1145	1390	3565	5750	5805	5610	17175
Non-CMA/CA, % of ON Total	0.88	1.08	1.13	1.01	0.99	1.02	1.02	1.01	0.89	1.07	1.10	1.01
Ontario Total	539130	432535	373900	1345570	103815	112085	136260	352160	642945	544620	510165	1697725

Percent of the Non- CMA/CA total

Destination	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
Strong metropolitan influenced zone	31.6	37.7	30.9	33.5	33.2	40.2	34.9	36.0	31.8	38.2	31.9	34.0
Moderate metropolitan influenced zone	29.3	37.9	31.8	33.0	26.3	37.1	38.1	34.4	28.8	37.7	33.3	33.3
Weak metropolitan influenced zone	12.4	13.7	15.3	13.7	9.8	12.7	12.6	11.9	12.0	13.5	14.6	13.4
No metropolitan influenced zone	26.7	10.6	22.0	19.8	30.7	10.0	14.4	17.7	27.4	10.5	20.1	19.3
Non-CMA/CA Total	100	100	100	100	100	100	100	100	89.72	84.21	80.33	83.82
Non-CMA/CA, % of ON Total	0.876	1.079	1.129	1.011	0.987	1.022	1.020	1.012	0.894	1.066	1.100	1.012

Table 11: Geographic distribution of immigrants by intended destination in Ontario, CMA/CA groups, 5-year landing period, 2002-2016 (absolute numbers and %)

Absolute numbers

Destination	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
CMA	529950	423520	365740	1319215	101865	109905	133385	345140	631820	533425	499115	1664355
Large CAs	2680	2540	2270	7490	560	620	905	2075	3240	3155	3175	9575
Medium CAs	1365	1425	1310	4115	280	320	460	1065	1650	1755	1775	5175
Small CAs	460	485	475	1430	75	85	135	300	535	570	610	1730
Non-CMA/CA	4725	4665	4220	13610	1025	1145	1390	3565	5750	5805	5610	17175
Ontario Total	539130	432535	373900	1345570	103815	112085	136260	352160	642945	544620	510165	1697725

Percent of the Ontario total

Destination	Taxfilers				Non-Taxfilers				Total Immigration			
	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016	2002-2006	2007-2011	2012-2016	2002-2016
CMA	98.30	97.92	97.82	98.04	98.12	98.06	97.89	98.01	98.27	97.94	97.83	98.03
Large CAs	0.50	0.59	0.61	0.56	0.54	0.55	0.66	0.59	0.50	0.58	0.62	0.56
Medium CAs	0.25	0.33	0.35	0.31	0.27	0.29	0.34	0.30	0.26	0.32	0.35	0.30
Small CAs	0.09	0.11	0.13	0.11	0.07	0.08	0.10	0.09	0.08	0.10	0.12	0.10
Non-CMA/CA	0.88	1.08	1.13	1.01	0.99	1.02	1.02	1.01	0.89	1.07	1.10	1.01
Ontario Total	100	100	100	100	100	100	100	100	100	100	100	100

Based on the tables above, it is evident that it is hard to compete with the largest metropolitan area of Ontario – Toronto. The CMA of Toronto alone attracts 80% of the immigrants landing in the province. According to the IMDB data, the 8 largest CMAs within the Windsor-Ottawa corridor were destinations for 96.4% of immigrants in Ontario landed during the 2002-2016 period. Together, the 16 CMAs are destinations for 98% of immigrants in Ontario (*Tables 6 and 11*).

IMDB data presented in *Tables 6 to 11* indicate even a harsher reality than the *Table 2* summary of Canada Census data had shown, at least for the recent, 2002-2016, 15 years of immigration. *Table 2* data for total number of immigrants living in Ontario communities indicated that 95% are living in CMAs, and the remaining five percent are split between the CAs and the rest of the Ontario communities, at about 2.5% for each group. *Table 11* show that, with 98% taken by CMAs, there is only 1% of immigrants destined to CAs and 1% destined to other smaller communities in the province.

The observed differences between Census data (*Table 2*) and IMDB data (*Table 11*) on the geographic concentration of immigrants is due to the fact that information in *Tables 6 to 11* is based on destination locations at landing. Census data, on the other hand, is a snapshot of population counts at residence. Thus, the observed difference also points to the process of geographic re-distribution of immigrants either at landing or after landing. The question of geographic redistribution of immigrants between locations of destination and locations of actual residence/locations of taxfiling at landing is the focus of the next two parts of this report.

4. PART II. ANALYSIS OF MOBILITY UPON LANDING: TAXFILERS' PROVINCE OF RESIDENCE VERSUS PROVINCE OF DESTINATION

This part of the report examines residence-to-destination ratios at provincial and CMA/CA levels (for the province of Ontario) for the taxfiling component of immigration. In addition, this section provides an analysis of the inter-provincial immigrant exchange between places of destination and places of residence between Ontario and other provinces/territories.

4.1. RESIDENCE-TO-DESTINATION RATIO

The residence-to-destination ratio is defined as the proportion of immigrants who reside at the place of intended destination at landing. Each annual cohort represents immigrants who landed in year *i* and filed taxes either in year *i* or *i*+1. For example, the 2002-03 cohort consists of immigrants who became permanent residents in 2002 and filed taxes either in that year or the next year. Year 2016 cohort is an exception to this rule as, due to the current IMDB tax-filing data availability, it only contains those who landed in and filed taxes for 2016. *Figure 2* demonstrates the dynamics of the residence-to destination ratios across provinces for the 2002-2016 period.

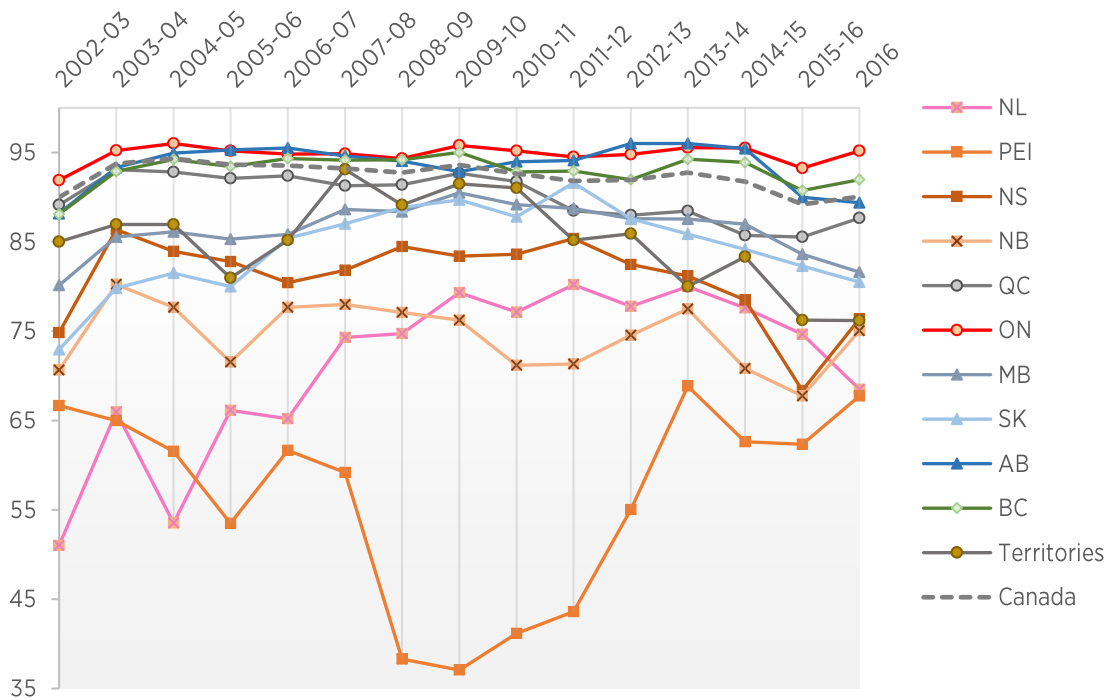


Figure 2. Residence-to-destination ratios, Canada and provinces/territories, 2002-2016

Table 12 provides more detailed information on annual and cumulative 5-year periods residence-to-destination ratios for each province and collectively for the three territories. Throughout the 2002-2016 period, the top three destination provinces - Ontario, Quebec, and British Columbia - continuously had the highest residence-to-destination ratios in the country, above 90%. Such high rates influenced the overall national ratio to remain above the 90% line. This indicates that an overwhelming majority of immigrants indicating these provinces as their destinations for permanent residency actually reside in these provinces upon landing. For Ontario, this indicator fluctuates around 94-95%.

Table 12. Residence-to-destination ratios, provinces/territories, 2002-2016

2002-2006						
Destination	2002-03	2003-04	2004-05	2005-06	2006-07	Cumulative for the period
NL	51.0	66.0	53.5	66.1	65.2	60.4
PEI	66.7	65.0	61.5	53.5	61.6	60.5
NS	74.9	86.4	83.9	82.8	80.4	81.7
NB	70.7	80.2	77.7	71.5	77.7	75.7
QC	89.1	93.1	92.8	92.1	92.4	92.0
ON	91.9	95.2	96.0	95.2	94.8	94.6
MB	80.1	85.5	86.1	85.3	85.8	85.0
SK	72.9	79.8	81.5	80.0	85.4	80.7
AB	88.2	93.3	94.9	95.3	95.5	93.7
BC	88.1	92.9	94.2	93.4	94.3	92.7
YU, NT, NU	85.0	87.0	87.0	81.0	85.2	85.1
Canada	90.0	93.8	94.3	93.7	93.5	93.1

2007-2011						
Destination	2007-08	2008-09	2009-10	2010-11	2011-12	Cumulative for the period
NL	74.3	74.7	79.3	77.1	80.2	77.3
PEI	59.2	38.3	37.1	41.2	43.6	42.3
NS	81.8	84.5	83.4	83.6	85.4	83.7
NB	78.0	77.1	76.2	71.2	71.3	74.5
QC	91.3	91.4	92.7	91.7	88.5	91.1
ON	94.9	94.3	95.8	95.2	94.5	94.9
MB	88.6	88.4	90.5	89.2	88.7	89.1
SK	87.0	88.9	89.7	87.8	91.6	89.4
AB	94.6	94.0	92.9	94.0	94.1	93.9
BC	94.1	94.2	95.0	92.8	92.9	93.8
YU, NT, NU	93.1	89.1	91.5	91.0	85.2	89.8
Canada	93.2	92.7	93.6	92.6	91.8	92.8

Table 12 cont.

2012-2016

Destination	2012-13	2013-14	2014-15	2015-16	2016	Cumulative for the period
NL	77.8	80.0	77.6	74.7	68.5	75.4
PEI	55.0	68.8	62.6	62.3	67.7	63.7
NS	82.5	81.2	78.5	68.4	76.4	76.8
NB	74.6	77.5	70.8	67.8	75.1	73.1
QC	88.0	88.4	85.7	85.5	87.7	87.1
ON	94.8	95.5	95.5	93.3	95.2	94.8
MB	87.6	87.6	87.0	83.6	81.6	85.4
SK	87.6	85.9	84.1	82.3	80.5	83.9
AB	96.0	96.0	95.4	90.0	89.4	93.1
BC	92.0	94.3	93.9	90.7	92.0	92.6
YU, NT, NU	85.9	80.0	83.3	76.3	76.2	80.4
Canada	91.9	92.8	91.7	89.2	90.1	91.1

In the Prairies, Alberta has enjoyed close to the national residence-to destination ratios, with Manitoba and Saskatchewan somewhat lagging behind. The lowest and the most unstable residence-to-destination ratios are observed in the four Atlantic provinces. While somewhat improved from the beginning of the observation period, the ratios declined for these provinces in the most recent years. PEI is the most unstable province; the proportion of immigrants actually residing in this intended destination varies greatly. Particularly low proportions, dropping close to 35%, were observed for the mid-2000s – mid-2010s period. This means that 65% of those destined to PEI were residing elsewhere in Canada upon landing.

Overall, except for PEI at the bottom and ON and BC at the top, the temporal dynamics of residence-to-destination ratios across provinces and territories exhibit a diverging parabola pattern. While generally increasing and approximating each other towards the end of the 2000s, the ratios became more divergent towards the end of the 2010s.

4.2. SCALE AND GEOGRAPHY OF INTER-PROVINCIAL EXCHANGE: ONTARIO AS A CHOSEN RESIDENCE VERSUS A DESTINATION LEFT BEHIND

After examining residence-to-destination ratios, it is clear that not all immigrants choose to reside in their province of intended destination; about 5% of the permanent residents destined for Ontario do not reside in the province after landing, but also some immigrants live in Ontario upon landing although they were destined elsewhere in Canada. This section examines this exchange between Ontario and other provinces. First, this section explores the geography of residence of those destined to Ontario who do not reside in

Ontario after landing and the geography of those destined elsewhere who reside in Ontario after landing. Then it proceeds with an analysis of balance in this interprovincial exchange.

4.2.1. Ontario as a Destination Left Behind

Figure 3 shows the geographical distribution of immigrants who indicated that they intended to land in Ontario in year *i* but filed taxes elsewhere in year *i* or year *i*+1. The level of geographical detail in Figure 3 was dictated by the RDC data vetting rules.

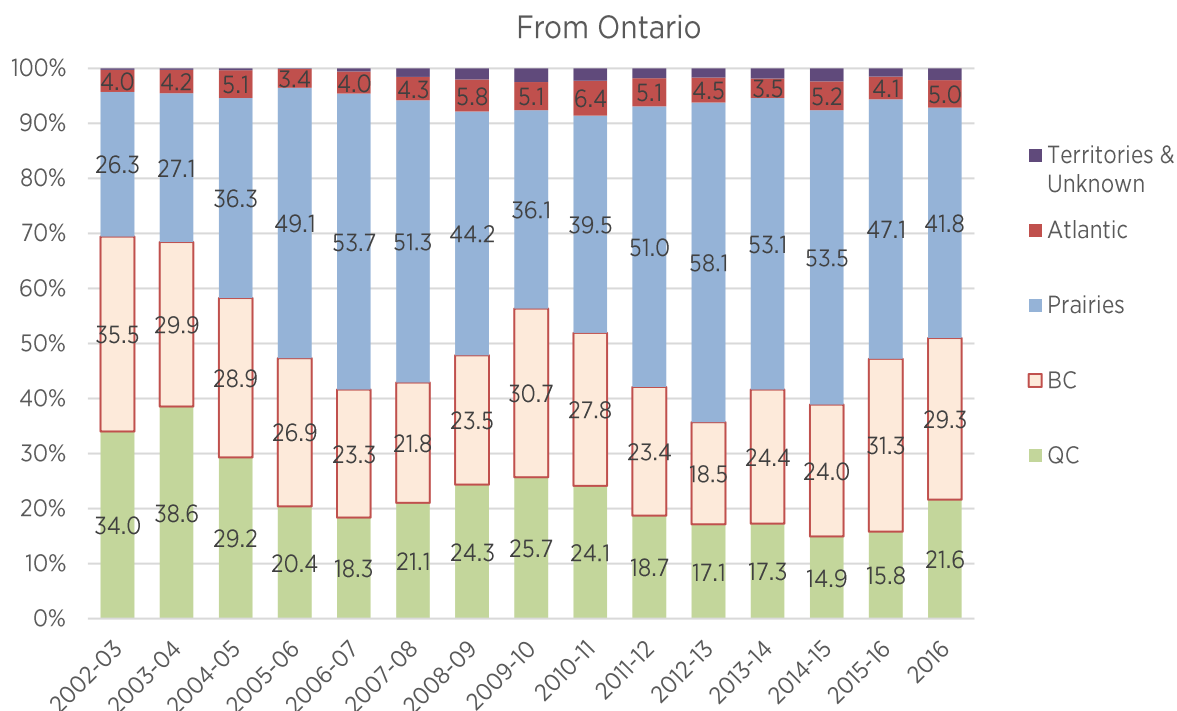


Figure 3. Geography of residence for ‘outgoing’ immigrants intending to land in Ontario but residing elsewhere, 2002-2016, % of cohort

There is a distinct trend in the geography of residence choices for immigrants intending to land in Ontario yet not doing so. In the beginning of the 2000s, the ‘outgoing’ immigrants were almost equally distributed between British Columbia, Quebec, and the Prairies. Comparing the 2010s to the 2000s, the most prominent change is an increasing role of the Prairies as the provinces for the choice of residence, particularly Alberta (though cannot be shown here). Immigrants who decide not to reside in Ontario upon landing are less attracted to Quebec in the later time period and increasingly pursue opportunities in the West, and to a greater extent than previously, in the Atlantic provinces.

4.2.2. Ontario as a Chosen Residence

Figure 4 demonstrates the intended destination geography for immigrants choosing to reside in Ontario who were destined elsewhere, with the numbers showing proportions taken from Quebec, British Columbia, and then for the top two rows - cumulatively from the Prairies and from the Atlantic region.

Quebec plays a very important role, being the most substantial source of 'incoming' residents to Ontario. Immigrants from British Columbia have contributed progressively less over time, whereas the Prairies have contributed progressively more.

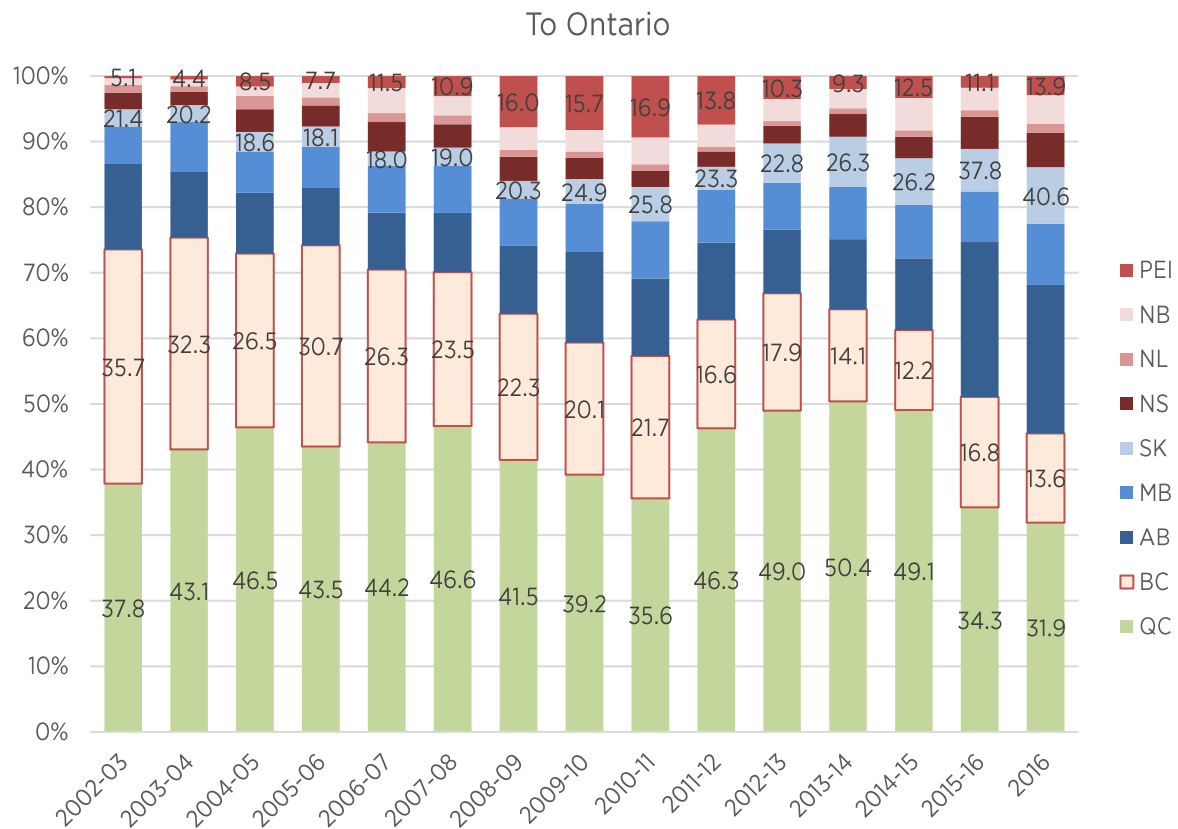


Figure 4. Geography of intended destination for 'incoming' immigrants choosing to reside in Ontario at landing instead, 2002-2016, % of cohort

Comparing Figure 3 with Figure 4, there are three points of observation:

- There is an overall intensification in the exchange between Ontario and the Prairies, particularly in the past two years;
- While British Columbia is still an attractive choice for 20-30% of immigrants intending to land in Ontario but residing elsewhere on landing, in the reverse direction British Columbia contributes less

and less to the 'incoming' stream;

- Of importance, the exchange between Quebec and Ontario is highly unbalanced. Quebec has been persistently a dominant source of 'incoming' residents (though less so for the last two years), but immigrants leaving Ontario are less interested in this province.

Figures 3 and 4 are helpful in exploring geographic changes within each group across the annual cohorts. However, in order to understand the scale and the balance in the destination-residence interprovincial exchange, it is important to examine net migration and migration effectiveness rates.

4.2.3. Net Migration and Migration Effectiveness Rates

Net migration is the difference between immigration to and emigration from an area. For our purposes, net migration is estimated as the difference between the number of immigrants destined to Ontario but resident elsewhere at landing (year *i*) and the number of immigrants destined elsewhere but resident in Ontario in year *i*/*i*+1 within each annual cohort.

Net migration rate is calculated by dividing the difference by the base population size of that area. Considering that our research focus is not necessarily on a gain received out of residence-destination movements relative to the population size of Ontario, but on a gain estimated relative to the overall migration turnover, then migration effectiveness rate (MER) is a more suitable measure than net migration rate.

Migration Effectiveness Rate or MER is defined as the difference between a migration stream (M_{ij}) and counter-stream (M_{ji}) between a pair of locations of origin (*i*) and destination (*j*) and can be estimated using the following formula (Stillwell et al., 2000, 19):

$$MER_{ij} = 100(M_{ij} - M_{ji}) / (M_{ij} + M_{ji})$$

In this case, the streams represent intended destination versus actual landing residence. MER essentially indicates a gain or a loss experienced by an area in a migration exchange relative to the size of the exchange. Multiplied by 100, MER is expressed as a percentage, varying between -100 and +100 depending on the direction in the net migration balance. If MER is close to zero, then the exchange between two areas is balanced, i.e. migration stream is being compensated by a counter-stream.

Table 13 illustrates the net migration balance and MERs between Ontario and regions and provinces in Canada. The level of geographical detail in this table is adjusted based on the data availability for *Figures 3 and 4*. If for one stream a number of provinces had to be aggregated into a region, for instance the Prairies in *Figure 3*, then for the counter-stream the contributing provinces had to be aggregated too for a meaningful estimate and comparison.

The net migration and MER dynamics show that the 2010s became a game-changing period in the exchange between destination and residence locational choices. If the 2000s were the period when there were more immigrants who were destined to Ontario but decided to live elsewhere, particularly in the West (the Prairies and British Columbia), the 2010s became the period of reduced losses in the net balance with these jurisdictions. In addition, in the 2010s Ontario had significantly improved its gains from the East, particularly from Quebec.

Within the observation period of 2002-2016, Ontario has been consistently enjoying very high residence-to-destination ratios (*Figure 2 and Table 12*) and has been receiving substantial gains in the destination-residence exchange with other provinces throughout the 2010s (*Table 13*). For the 2014-15 and 2015-16 annual cohorts the gain has been about 30%, meaning that in the exchange with destinations elsewhere in Canada, Ontario 'wins' 30% of the exchange participants turnover between the province and other jurisdictions. This can point to a growing attractiveness of Ontario, but simultaneously could be potentially linked to immigration policy differences and shortcomings across jurisdictions.

The year 2016 MER estimate of 47% should be treated with caution for this cohort includes only those who landed and filed taxes in 2016. This estimate is likely to change with the 2017 tax data release.

Table 13. Net migration and migration effectiveness rates, Ontario: destination vs. residence, 2002-2016

Net migration (In – Out) counts

	Atlantic	QC	Prairies	BC	Total ON
2002-03	-45	-630	-860	-835	-2370
2003-04	-30	-200	-435	-185	-850
2004-05	105	520	-595	-105	-75
2005-06	100	510	-1580	-190	-1160
2006-07	170	525	-1805	-225	-1335
2007-08	190	705	-1365	-80	-550
2008-09	350	520	-1110	-160	-400
2009-10	465	770	-110	-135	990
2010-11	620	900	-180	55	1395
2011-12	490	1580	-720	-40	1310
2012-13	380	1965	-870	280	1755
2013-14	310	1750	-515	-145	1400
2014-15	560	2375	-165	-50	2720
2015-16	795	2290	1045	-55	4075
2016	1080	2145	2255	255	5735

Migration Effectiveness Rate, %

	Atlantic	QC	Prairies	BC	Total ON
2002-03	-8.6	-15.0	-29.9	-19.8	-20.0
2003-04	-10.3	-7.4	-26.9	-8.9	-12.7
2004-05	24.1	21.4	-33.5	-5.9	-1.2
2005-06	25.0	22.1	-57.5	-8.7	-15.2
2006-07	32.7	24.7	-62.6	-12.5	-18.2
2007-08	36.5	30.2	-52.4	-5.0	-7.8
2008-09	41.7	20.2	-42.4	-8.8	-5.1
2009-10	60.0	33.0	-5.3	-7.8	14.3
2010-11	56.4	33.1	-6.4	2.6	15.9
2011-12	57.0	53.7	-24.1	-2.4	15.5
2012-13	54.3	61.7	-26.6	17.5	20.0
2013-14	57.4	61.0	-17.6	-10.1	18.0
2014-15	62.9	71.6	-5.1	-3.4	30.7
2015-16	66.0	59.2	18.2	-1.8	29.3
2016	76.6	60.2	45.1	11.7	47.1

4.3. KEY IMMIGRANT GROUPS

Part II of the report introduced three key groups of immigrants of interest. Group 1 includes those who were destined to and resided in Ontario year *i* or year *i*+1. Group 2 represents those who were destined elsewhere in year *i* of landing but filed taxes in Ontario in that year (*i*) or year later (*i*+1). Group 3 includes those who were destined to Ontario but left to reside elsewhere in year *i* or year *i*+1. In addition to these three groups, there are three others. Group 4 includes immigrants who were destined elsewhere and did not choose to reside in Ontario at landing. Group 5 identifies immigrants who died within the cohort defining years (*i* or year *i*+1) and thus are not of interest for this retention rates study. Lastly, Group 6 represents those with unknown destinations, which emerges in the data only in the last three years. The distribution of immigrants across these groups is shown in [Figure 5](#).

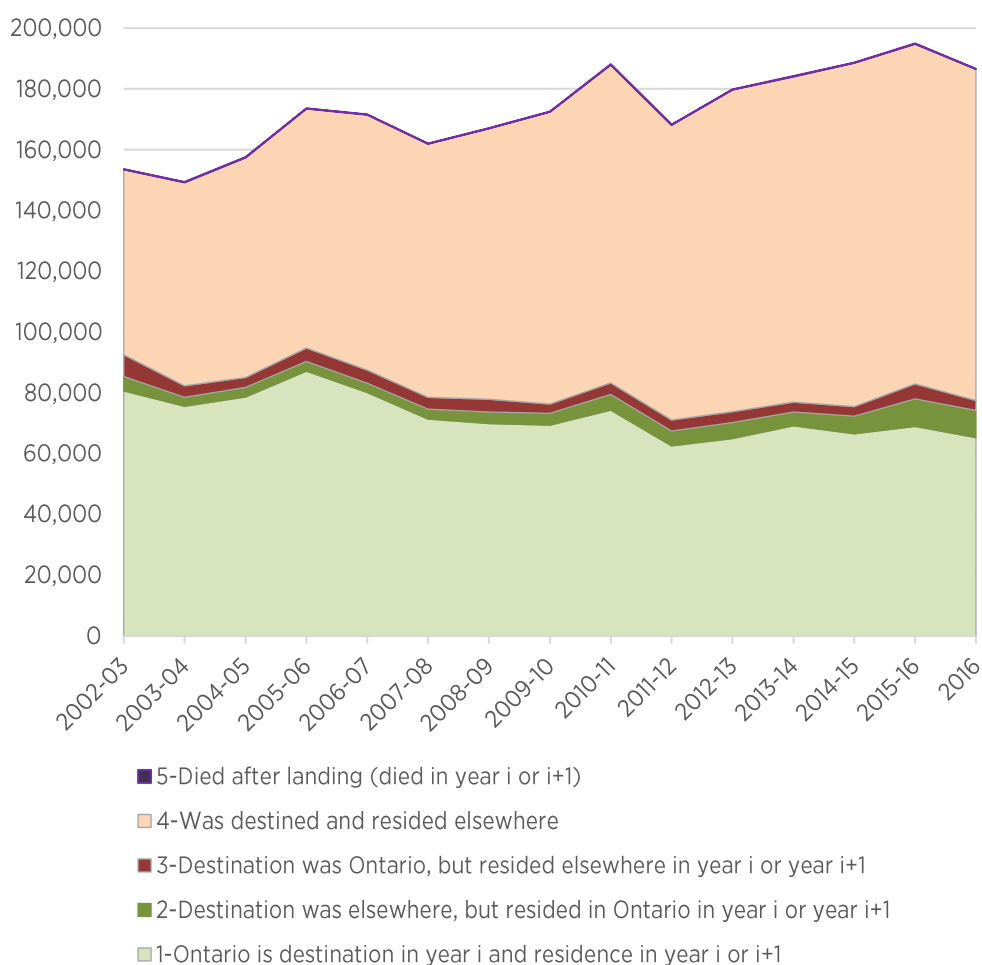


Figure 5. IMDB data distribution across key immigrant groups, 2002-2016

[Figure 5](#) aids visual evaluation of the contributions of each group. It shows the scale of the two groups (Groups 2 and 3) participating in the destination-residence exchange discussed in the previous sections. It further indicates a growing geographic diversity in destinations, as the proportion of Group 4, immigrants

never destined or resident to Ontario upon landing, has been progressively increasing. And, as an outcome of this increased diversity in destination choices, the role of Ontario as a province of destination and residence has declined (see also Group 1+2 collective share in [Table 14](#)).

[Table 14](#) details the data on the distribution of taxfiling immigrants across the identified groups, coded in the order they are described in this section and in [Figure 5](#).

Table 14. IMDB data distribution across key immigrant groups, 2002-2016 (absolute numbers and %)

2002-2011, Absolute numbers

Group	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
1	80670	75565	78590	87105	80130	71395	69915	69325	74350	62540
2	4725	2930	3180	3240	3005	3265	3735	3950	5085	4885
1+2	85395	78495	81770	90345	83135	74660	73650	73275	79435	67425
3	7120	3785	3265	4410	4360	3870	4215	3030	3775	3635
4	60960	66950	72405	78795	83970	83350	89140	96150	104775	97060
5	130	115	120	95	135	115	115	105	120	115
6	0	0	0	0	0	0	0	0	0	0
Canada	153610	149345	157560	173650	171600	161990	167120	172560	188100	168235

2002-2011, %

Group	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
1	52.5	50.6	49.9	50.2	46.7	44.1	41.8	40.2	39.5	37.2
2	3.1	2.0	2.0	1.9	1.8	2.0	2.2	2.3	2.7	2.9
1+2	55.6	52.6	51.9	52.0	48.4	46.1	44.1	42.5	42.2	40.1
3	4.6	2.5	2.1	2.5	2.5	2.4	2.5	1.8	2.0	2.2
4	39.7	44.8	46.0	45.4	48.9	51.5	53.3	55.7	55.7	57.7
5	0.08	0.08	0.08	0.05	0.08	0.07	0.07	0.06	0.06	0.07
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Canada	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 14 cont.

2012-2016, Absolute numbers

Group	2012-13	2013-14	2014-15	2015-16	2016
1	64930	69095	66515	68940	65235
2	5255	4600	5800	9015	8965
1+2	70185	73695	72315	77955	74200
3	3560	3240	3150	4990	3285
4	106005	107125	113090	111885	109045
5	130	200	130	160	60
6	0	0	20	65	40
Canada	179875	184260	188705	195055	186630

2012-2016, %

Group	2012-13	2013-14	2014-15	2015-16	2016
1	36.1	37.5	35.2	35.3	35.0
2	2.9	2.5	3.1	4.6	4.8
1+2	39.0	40.0	38.3	40.0	39.8
3	2.0	1.8	1.7	2.6	1.8
4	58.9	58.1	59.9	57.4	58.4
5	0.07	0.11	0.07	0.08	0.03
6	0.00	0.00	0.01	0.03	0.02
Canada	100.0	100.0	100.0	100.0	100.0

- 1- Ontario is destination in year i and residence in year i or i+1
- 2- Destination was elsewhere, but resided in Ontario in year i or year i+1
- 1+2 – Sum of Group 1 and Group 2 counts
- 3- Destination was Ontario, but resided elsewhere in year i or year i+1
- 4- Was destined and resided elsewhere
- 5- Died upon landing (died in year i or i+1)
- 6- Destination unknown/not specified

For estimation of retention rates, the top part of [Table 14](#), containing the counts for the years within the two 5-year cumulative cohorts (2002-2006 and 2007-2011) is of particular interest. This study aims to trace mobility and non-mobility related outcomes at the 5-years after landing time-point for both cohorts for Group 1 (destined and resident), Group 2 (non-destined but resident), and also Group 3 (destined but not resident).

Our interest in Group 3 outcomes is dictated by the fact that, while a majority of immigrant mobility and retention studies question whether and how many immigrants stay at the location of destination, they do not generally ask whether immigrants who do not reside in the destined location on landing eventually do so.

Before proceeding to [Part IV](#), presenting the results of retention and return rates analyses, [Part III](#) explores the destination-to-residence geography for the three groups of immigrants at the CMA/CA level.

5. PART III. ANALYSIS OF MOBILITY UPON LANDING: RESIDENCE VS DESTINATION AT CMA/CA LEVEL

This part of the report examines the geographical shifts between locations of destination and locations of residence at the CMA/CA level for the key immigrant groups identified in the previous section of the report.

5.1. IMMIGRANT GROUP 1: RESIDENCE-TO-DESTINATION RATIOS

Immigrant group 1 includes immigrants who were destined to Ontario in year i and resided in the province at year i or $i+1$ timepoint. Though they reside in Ontario, they may or may not reside in their intended destination CMA or CA. [Table 15](#) presents summaries for the groups of communities identified in [Table 1](#) for the each 5-year cohort. [Tables 16 to 18](#) elaborate on the cumulative 5-year cohort data for each community, which are listed based on the total number of immigrants destined there. In [Tables 16-18](#), the counts of destined immigrants who do not reside at the intended destination may be aggregated, depending on the original counts, across locations/CA groups (for example, across Small and Medium CAs). In some severe cases, the counts had to be aggregated to an 'Elsewhere in Ontario' column.

Toronto CMA, followed by Ottawa – Gatineau, persistently throughout the study period of 2002-2016 have the highest residence-to-destination (R-to-D) ratios, meaning that immigrants identifying the city as a destination actually choose to reside there to a higher degree than for elsewhere in Ontario. This, undoubtedly, affects the over 90% R-to-D ratios for Ontario as a whole ([Table 12](#)).

Table 15. Immigrant Group 1: Summary of residence-to-destination ratios, CMAs/CAs in Ontario

2002-2006

Cohort size: 402060	Total destined	Resides at intended destination	Does not reside at intended destination	Residence-to-Destination Ratio, %	Percentage not residing at intended destination, %
CMAs	395255	372245	23010	94.2	5.8
Large CAs	1965	1520	445	77.4	22.6
Medium CAs	1030	650	365	64.0	36.0
Small CAs	380	*205	*135	*60.3	*39.7
Other ON	3470	2190	1280	63.1	36.9

2007-2011

Cohort size: 347525	Total destined	Resides at intended destination	Does not reside at intended destination	Residence-to-Destination Ratio, %	Percentage not residing at intended destination, %
CMAs	340335	322320	18020	94.7	5.3
Large CAs	2020	1590	430	78.7	21.3
Medium CAs	1100	710	400	64.5	36.4
Small CAs	390	*220	*150	*59.5	*40.5
Other ON	3655	2555	1110	69.7	30.3

2012-2016

Cohort size: 334710	Total destined	Resides at intended destination	Does not reside at intended destination	Residence-to-Destination Ratio, %	Percentage not residing at intended destination, %
CMAs	327085	305950	21130	93.5	6.5
Large CAs	2040	1595	445	78.2	21.8
Medium CAs	1290	670	610	52.3	47.7
Small CAs	540	*205	*285	41.8	58.2
Other ON	3770	2265	1500	60.2	39.8

Note: * Only includes locations with available counts

Table 16. Residence-to-destination ratios, Immigrant Group 1, 2002-2006

2002-2006 Cohort size: 402060	Total destined	Resides at intended destination	Does not reside	Else here in ON	Small CAs	Medi m CAs	Large CAs	CMA's	R-to- D Ratio, %	% not residing at intended destination (ND)	% of NDs residing in a CMA
CMA's											
Toronto	327440	315585	11855	475	35	205	300	10840	96.4	3.6	91.4
Ottawa - Gatineau (ON)	18130	16030	2100	75	15		25	1980	88.4	11.6	94.3
Hamilton	12065	9830	2240	40	10		15	2175	81.5	18.6	97.1
Kitchener - Cambridge - W.	8790	7285	1505	65	0	10	15	1415	82.9	17.1	94.0
Windsor	8020	6770	1250	30	0	5	45	1165	84.4	15.6	93.2
London	7615	6530	1085	45	10	15	25	990	85.8	14.2	91.2
St. Catharines - Niagara	4210	3485	725	20		15		690	82.8	17.2	95.2
Guelph	2405	1885	515	30	0	10		475	78.4	21.4	92.2
Oshawa	2145	1500	645	20		5		615	69.9	30.1	95.3
Kingston	1180	935	245	10	5		0	230	79.2	20.8	93.9
Barrie	1035	750	285	30	0	10		240	72.5	27.5	84.2
Brantford	710	480	230	45	5		5	175	67.6	32.4	76.1
Peterborough	465	355	110	15				95	76.3	23.7	86.4
Thunder Bay	420	355	65	10				55	84.5	15.5	84.6
Belleville	315	230	85	15				70	73.0	27.0	82.4
Greater Sudbury	310	240	70	15				55	77.4	22.6	78.6
Large CAs											
Chatham-Kent	375	285	90	10	0	0	15	65	76.0	24.0	72.2
Leamington	370	305	65	10	0	10		45	82.4	17.6	69.2
Sarnia	370	290	80	10		5		65	78.4	21.6	81.3
Cornwall	245	195	50	5				45	79.6	20.4	90.0
Norfolk	230	160	70	20		0	10	40	69.6	30.4	57.1
Sault Ste. Marie	145	125	20						86.2	13.8	n/a
Kawartha Lakes	115	75	40	10				30	65.2	34.8	75.0
North Bay	115	85	30	10				15	73.9	26.1	50.0
Medium CAs											
Woodstock	170	125	40	15				25	73.5	23.5	62.5
Orillia	160	105	55	15				40	65.6	34.4	72.7
Stratford	140	90	45	5				40	64.3	32.1	88.9
Brockville	105	80	20						76.2	19.0	n/a
Midland	100	75	30	5	0	0	0	20	75.0	30.0	66.7
Collingwood	95	45	50	20				25	47.4	52.6	50.0
Centre Wellington	85	10	75	55				20	11.8	88.2	26.7
Timmins	75	55	20						73.3	26.7	n/a
Owen Sound	60	40	15						66.7	25.0	n/a
Pembroke	40	25	15						62.5	37.5	n/a
Small CAs											
Tillsonburg	80	65	15	5				10	81.3	18.8	66.7
Cobourg	65	40	25	5				20	61.5	38.5	80.0
Kenora	45	25	15						55.6	33.3	n/a
Hawkesbury	40	25	20	10	0	0	0	10	62.5	50.0	50.0
Port Hope	40	25	20	5				15	62.5	50.0	75.0
Ingersoll	25	0	25	10	5		0	5	0.0	100.0	20.0
Elliot Lake	20				n/a				n/a	n/a	n/a
Petawawa	15				n/a				n/a	n/a	n/a
Temiskaming Shores	10				n/a				n/a	n/a	n/a
Other ON - Metropolitan Influenced Zones											
Strong	1110	800	310		15	30	35	230	72.1	27.9	74.2
Moderate	970	710	260		5	20	10	220	73.2	26.8	84.6
No influence	935	300	635		20		90	525	32.1	67.9	82.7
Weak	455	380	75			5		70	83.5	16.5	93.3

Table 17. Residence-to-destination ratios, Immigrant Group 1, 2007-2011

2007-2011 Cohort size: 347525	Total destined	Resides at intended destination	Does not reside	Else here in ON	Small CAs	Mediu m CAs	Large CAs	CMAs	R-to-D Ratio, %	% not residing at intended destination (ND)	% of NDs residing in a CMA	
CMAs												
Toronto	273585	264810	8780	635	35	170	195	7745	96.8	3.2	88.2	
Ottawa - Gatineau (ON)	18520	17155	1370	105		15	15	1240	92.6	7.4	90.5	
Hamilton	11820	9900	1915	40	0	5	10	1860	83.8	16.2	97.1	
Kitchener - Cambridge -W.	9505	8135	1370	85		15	25	1245	85.6	14.4	90.9	
London	7670	6575	1095	65	5	10	35	980	85.7	14.3	89.5	
Windsor	5775	4985	790	25			50	720	86.3	13.7	91.1	
St. Catharines - Niagara	4070	3415	650	15		5		630	83.9	16.0	96.9	
Oshawa	2435	1760	680	20				660	72.3	27.9	97.1	
Guelph	2135	1730	405	30		10		365	81.0	19.0	90.1	
Kingston	1250	985	260	30				230	78.8	20.8	88.5	
Barrie	1200	935	270	25	0	10	0	235	77.9	22.5	87.0	
Brantford	655	525	130	5				125	80.2	19.8	96.2	
Peterborough	515	415	100	5		5		85	80.6	19.4	85.0	
Greater Sudbury	445	375	70	15				55	84.3	15.7	78.6	
Thunder Bay	420	370	50	10				40	88.1	11.9	80.0	
Belleville	335	250	85	10				75	74.6	25.4	88.2	
Large CAs												
Sarnia	420	345	75	10				70	82.1	17.9	93.3	
Chatham-Kent	350	270	80	10	0	15		55	77.1	22.9	68.8	
Leamington	340	290	50	5	0	0	15	30	85.3	14.7	60.0	
Sault Ste. Marie	225	190	35	5				25	84.4	15.6	71.4	
Norfolk	220	145	75	15		10		55	65.9	34.1	73.3	
Cornwall	185	145	40						78.4	21.6	n/a	
North Bay	175	140	35	5	0	0	0	30	80.0	20.0	85.7	
Kawartha Lakes	105	65	40	5	0	5		30	61.9	38.1	75.0	
Medium CAs												
Orillia	175	120	60	10	0	0	0	50	68.6	34.3	83.3	
Woodstock	170	110	60	10		5		45	64.7	35.3	75.0	
Brockville	115	85	30	10				20	73.9	26.1	66.7	
Midland	115	75	40	20				20	65.2	34.8	50.0	
Collingwood	110	75	35	15	0	0	0	15	68.2	31.8	42.9	
Stratford	105	75				30			71.4	28.6	n/a	
Centre Wellington	95	0	95	0	0	70	0	25	0.0	100.0	26.3	
Timmins	85	70				15			82.4	17.6	n/a	
Owen Sound	80	60	20	5	0	0	0	15	75.0	25.0	75.0	
Pembroke	50	40	15	5		0	0	5	80.0	30.0	33.3	
Small CAs												
Cobourg	80	45	35	15				20	56.3	43.8	57.1	
Tillsonburg	70	55	15						78.6	21.4	n/a	
Port Hope	60	30	30	10		0	0	20	50.0	50.0	66.7	
Kenora	40	25	15						62.5	37.5	n/a	
Ingersoll	35	0	35	0	25		10		0.0	100.0	n/a	
Petawawa	30	25	5						83.3	16.7	n/a	
Hawkesbury (ON part)	30	20	10						66.7	33.3	n/a	
Elliot Lake	25	20	5						80.0	20.0	n/a	
Temiskaming Shores	20								n/a	n/a	n/a	
Other ON - Metropolitan Influenced Zones												
Strong	1395	980	415	980	5	30	25	355	70.3	29.7	85.5	
Moderate	1360	945	420	945		25		15	380	69.5	30.9	90.5
Weak	525	460	65	460		0		5	55	87.6	12.4	84.6
No influence	375	170	210	170		15		30	165	45.3	55.7	78.6

Table 18. Residence-to-destination ratios, Immigrant Group 1, 2012-2016

2012-2016 Cohort size: 334710	Total destined	Resides Does not reside at intended destination	Else here in ON	Small CAs	Mediu m CAs	Large CAs	CMAs	R-to-D Ratio, %	% not residing at int.destina	% of NDs residing in a	
CMAs											
Toronto	262050	251100	10950	790	55	235	205	9660	95.8	4.2	88.2
Ottawa - Gatineau (ON)	19370	17600	1770	145	10	15	15	1585	90.9	9.1	89.5
Hamilton	11385	9045	2340	55		5	20	2255	79.4	20.6	96.4
Kitchener - Cambridge - W.	9210	7665	1545	65		25	10	1445	83.2	16.8	93.5
London	6910	5965	945	35	10	15	20	870	86.3	13.7	92.1
Windsor	5410	4675	730	35	0	5	70	625	86.4	13.5	85.6
St. Catharines - Niagara	3280	2720	560	15		10		530	82.9	17.1	94.6
Oshawa	2395	1730	670	15	10	5		635	72.2	28.0	94.8
Guelph	2220	1770	450	10	0	20	5	415	79.7	20.3	92.2
Kingston	1180	925	255	30	0	5		220	78.4	21.6	86.3
Barrie	1035	725	305	25	0	30	0	250	70.0	29.5	82.0
Peterborough	610	455	155	20		10		125	74.6	25.4	80.6
Brantford	605	475	130	5	0	10		115	78.5	21.5	88.5
Greater Sudbury	590	435	150	10	0	5	35	100	73.7	25.4	66.7
Thunder Bay	480	395	85	10				75	82.3	17.7	88.2
Belleville	355	270	90	20				65	76.1	25.4	72.2
Large CAs											
Leamington	485	425	60	10				50	87.6	12.4	83.3
Chatham-Kent	345	230	115	15			15	85	66.7	33.3	73.9
Sarnia	340	285	55						83.8	16.2	n/a
Sault Ste. Marie	250	220	30	10				20	88.0	12.0	66.7
Cornwall	170	135	35	15	0	0	0	25	79.4	20.6	71.4
Norfolk	165	110	55	20	10		0	25	66.7	33.3	45.5
North Bay	165	115	50	5	0	15		25	69.7	30.3	50.0
Kawartha Lakes	120	75	45	10				35	62.5	37.5	77.8
Medium CAs											
Orillia	365	85	275	20	0	10	0	245	23.3	75.3	89.1
Woodstock	150	110	40	5		5		30	73.3	26.7	75.0
Timmins	145	115	30	10	0	0	0	20	79.3	20.7	66.7
Brockville	125	95	30	5				25	76.0	24.0	83.3
Collingwood	110	60	50	10	0	15	0	25	54.5	45.5	50.0
Midland	100	50	45	10	0	15		20	50.0	45.0	44.4
Centre Wellington	85	0	85	0	0	60	0	25	0.0	100.0	29.4
Stratford	80	60	20	5	0	0	0	15	75.0	25.0	75.0
Owen Sound	70	45	25	10				15	64.3	35.7	60.0
Pembroke	45	35	10	5				5	77.8	22.2	50.0
Carleton Place	15	15	0	0	0	0	0	0	100.0	0.0	0.0
Small CAs											
Elliot Lake	125	5	120	5				115	4.0	96.0	95.8
Cobourg	95	55	40	10				30	57.9	42.1	75.0
Petawawa	70	55	15						78.6	21.4	n/a
Tillsonburg	60	35	20	10				10	58.3	33.3	50.0
Kenora	45				n/a				n/a	n/a	n/a
Hawkesbury (ON part)	45	20	25	15	0	0	0	5	44.4	55.6	20.0
Port Hope	45	20	25	0		5		15	44.4	55.6	60.0
Ingersoll	30	0	30	5	15	0	0	10	0.0	100.0	33.3
Temiskaming Shores	25	15			10				60.0	40.0	n/a
Arnprior	n/a				merged with Strong metropolitan influenced zone						
Other ON - Metropolitan Influenced Zones											
Moderate	1220	900	320	900	5	30	20	265	73.8	26.2	82.8
Strong and Arnprior (incl).	1185	815	365	815	15	25	30	295	68.8	31.2	80.8
No influence	805	95	710	95	10		45	655	11.8	88.2	92.3
Weak	560	455	105	455		5		100	81.3	18.8	95.2

Examining residence-to-destination ratios for the groups of communities ([Table 15](#)), there is a clear trend of declining rates with community size. CMAs receiving high immigration volumes also enjoy high R-to-D ratios. While Immigrant group 1 includes immigrants, who were destined and resident to Ontario, and is contained within the province, there are geographical shifts between destination and residence locations, and Medium and Small CAs are affected the most by these shifts ([Table 15](#)).

For immigrants destined to a CMA, if they chose to reside elsewhere it is more likely to be another CMA. In other words, by volume, within Ontario the geographical redistribution of immigrants between locations of destination and residence takes place predominantly within the 16 CMAs in the province.

While geographic detail on locations of residence for immigrants destined to CAs is not always available due to the issue of low counts, we can observe that the 'outflow' from these destinations is not necessarily directed to CMAs only. The overall picture with Large, Medium, and Small CAs is less straightforward, and it truly depends on a community. Large CAs are most likely to lose their destined residents to CMAs; this is particularly true for the first two cohorts, 2002-2006 and 2007-2011. Overall, compared to CMAs, all groups of CAs are more involved in the geographic destination-to-residence exchange with other CAs, not just with CMAs.

There is a troubling statistic for two communities: Centre Wellington (medium CA) and Ingersoll (small CA). Immigrants destined to these two CAs do not reside there; practically all of them chose to reside in other communities upon landing.

In order to fully examine 'gains' and 'losses' due to geographical redistribution of immigrants within locations of destination and residence, it is necessary to discuss net migration and migration effectiveness rates between these locations within the province ([the next section](#)).

5.2. IMMIGRANT GROUP 1: NET MIGRATION AND MIGRATION EFFECTIVENESS RATES

It is important to examine net mobility between communities of destination and residence in Ontario, as low residence-to-destination ratio rates presented in [Tables 15 – 18](#) can be compensated by incoming residents from other destinations in Ontario.

[Table 19](#) demonstrates differences between the numbers of destined and actual resident immigrants in Ontario communities. Further, knowing these numbers and the number of immigrants leaving destinations to reside elsewhere in Ontario we can estimate balancing effects of geographical redistribution for each of the communities. Cumulatively, within the 2002-2006 cohort, over 26 thousand immigrants participated in the destination-residence exchange within Ontario, which constituted 6.5% of all the immigrants destined and resident to Ontario.

Table 19 needs to be compared to *Table 16*; both are for the 20002-2006 cohort. While *Table 16* indicated that within the 2002-2006 cohort a majority of immigrants left their location of destination for a CMA, this does not mean that there was no counter-flow towards those locations. Toronto CMA, while receiving the largest inflow from other destinations, lost a significantly larger number of immigrants originally destined to the metropolis. Net mobility and migration effectiveness rate figures point out that the outflow from Toronto and its redistribution among other urban areas was significant enough to compensate for 'losses' elsewhere, as a majority of CMAs and Large CAs ended up with a positive net migration result even if their destination-to-residence ratio was low.

Table 19. Net migration and migration effectiveness rates, CMAs/CAs in Ontario, Destination vs. Residence, 2002-2006

2002-2006 Cohort size: 402060	Total destined here in year i	Resident in year i or i+1	Do not reside at this intended destination (Out)	Moved from another intended destination (In)	Net Migration	MER (Migration Effective- ness Rate)
<i>CMAs</i>						
Toronto	327440	324330	11855	8745	-3110	-15.1
Ottawa - Gatineau (ON part)	18130	18115	2100	2085	-15	-0.4
Hamilton	12065	12515	2240	2685	445	9.0
Kitchener - Cambridge - Waterloo	8790	9735	1505	2450	945	23.9
London	7615	8185	1085	1655	570	20.8
Windsor	8020	8050	1250	1280	30	1.2
St. Catharines - Niagara	4210	4280	725	795	70	4.6
Guelph	2405	2685	515	800	285	21.7
Oshawa	2145	2320	645	820	175	11.9
Kingston	1180	1310	245	375	130	21.0
Barrie	1035	1240	285	490	205	26.5
Brantford	710	710	230	230	0	0.0
Peterborough	465	505	110	150	40	15.4
Thunder Bay	420	445	65	90	25	16.1
Belleville	315	385	85	155	70	29.2
Greater Sudbury	310	380	70	140	70	33.3
<i>Large CAs</i>						
Sarnia	370	420	80	130	50	23.8
Chatham-Kent	375	400	90	115	25	12.2
Leamington	370	400	65	95	30	18.8
Cornwall	245	255	50	60	10	9.1
Norfolk	230	220	70	60	-10	-7.7
Sault Ste. Marie	145	170	20	45	25	38.5
Kawartha Lakes	115	155	40	80	40	33.3
North Bay	115	145	30	60	30	33.3

Table 19 cont.

Medium CAs						
Orillia	160	205	55	100	45	29.0
Woodstock	170	170	40	45	5	5.9
Stratford	140	140	45	50	5	5.3
Brockville	105	130	20	50	30	42.9
Midland	100	105	30	30	0	0.0
Collingwood	95	85	50	40	-10	-11.1
Owen Sound	60	65	15	25	10	25.0
Timmins	75	65	20	10	-10	-33.3
Pembroke	40	35	15	10	-5	-20.0
Centre Wellington	85	25	75	15	-60	-66.7
Small CAs						
Tillsonburg	80	90	15	25	10	25.0
Cobourg	65	55	25	15	-10	-25.0
Port Hope	40	40	20	15	-5	-14.3
Hawkesbury (ON part)	40	35	20	10	-10	-33.3
Kenora	45	30	15	5	-10	-50.0
Petawawa	15	25	n/a	n/a	10	n/a
Elliot Lake	20	20	n/a	n/a	0	n/a
Temiskaming Shores	10	10	n/a	n/a	0	n/a
Ingersoll	25	5	25	5	-20	-66.7
Other ON - NON-CMA/CA	3470	3350	2190	2070	-120	-2.8
Total	402060	402060	26140			

Table 20 presents a summary of Table 19 data calculated for each size of community group. While scale-wise, CMAs were the key arenas for immigrant redistribution, the effectiveness of redistribution was low, that is, CMAs lost almost as many immigrants destined to these communities as they received from other destinations. Collective net migration and MER for CMAs were negative, albeit negligible. The most effective redistribution was observed for Large CAs, as they benefited from the total turnover with other destinations in the province with 18% gain. Medium CAs had a positive but low gain.

Small CAs, however, were losers in the destination-to-residence exchange in the province. Of note, Centre Wellington and Ingersoll that had extremely low residence-to-destination ratios were not compensated with any immigrants coming to reside there from other destination in the intra-provincial exchange within the 2002-2006 time period.

Table 20. Net migration and migration effectiveness rates for each size of community group in Ontario, 2002-2006

2002-2006 Cohort size: 402060	Total destined here in year i	Resident in i or i+1	Do not reside at this intended destination (Out)	Moved from another intended destination (In)	Net Migration	MER (Migration Effectiveness Rate)
CMA's	395255	395190	23010	22945	-65	-0.14
Large CAs	1965	2165	445	645	200	18.34
Medium CAs	1030	1025	365	375	10	1.35
Small CAs	340	310	n/a	n/a	-35	n/a
Other ON - NON-	3470	3350	2190	2070	-120	-2.8
Total	402060	402060	26140			

Comparing residence-to-destination ratios with the resulting geographic redistribution of immigrants between locations of destination and residence for the 2007-2011 cohort, [Table 21](#) with [Table 17](#), we observe Toronto's strengthening position as a destination. Toronto CMA had lost far fewer destined immigrants in 2007-2011 than in 2002-2006. As a result, the CMA's collective gain was affected as well.

Noticeably, some CMA's experienced losses, while some started to gain in the inter-community exchange of immigrants. London and St. Catharines-Niagara had positive net destination-to-residence mobility numbers for the 2002-2006 cohort, whereas for the 2007-2011 cohort these two CMA's had lost more destined immigrants than they had received from other urban areas. The Ottawa-Gatineau CMA had previously experienced a slight loss, but in the 2007-2011 period it had a substantial gain.

Comparing [Tables 19 and 20](#) with [Tables 21 and 22](#) statistics for Medium and Small CAs, across both 5-year cohorts there is a persistent issue of either zero or negative net exchange results for many communities within these two groups. For such communities, their low residence-to-destination ratios are not compensated by an inflow from other areas, and as a group they are losing ([Table 22](#)).

Table 21. Net migration and migration effectiveness rates, CMAs/CAs in Ontario, Destination vs. Residence, 2007-2011

2007-2011 Cohort size: 347525	Total destined here in year i	Resident in year i or i+1	Do not reside at this intended destination (Out)	Moved from another intended destination (In)	Net Migration	MER (Migration Effective- ness Rate)
CMAs						
Toronto	273585	271980	8780	7170	-1610	-10.1
Ottawa - Gatineau (ON part)	18520	18920	1370	1765	395	12.6
Hamilton	11820	11950	1915	2050	135	3.4
Kitchener - Cambridge - Waterloo	9505	9955	1370	1820	450	14.1
London	7670	7640	1095	1065	-30	-1.4
Windsor	5775	5780	790	795	5	0.3
St. Catharines - Niagara	4070	3985	650	570	-80	-6.6
Oshawa	2435	2620	680	860	180	11.7
Guelph	2135	2270	405	540	135	14.3
Kingston	1250	1290	260	305	45	8.0
Barrie	1200	1255	270	320	50	8.5
Brantford	655	705	130	180	50	16.1
Peterborough	515	530	100	115	15	7.0
Greater Sudbury	445	520	70	145	75	34.9
Thunder Bay	420	455	50	85	35	25.9
Belleville	335	360	85	110	25	12.8
Large CAs						
Sarnia	420	435	75	90	15	9.1
Chatham-Kent	350	360	80	90	10	5.9
Leamington	340	350	50	60	10	9.1
Sault Ste. Marie	225	225	35	35	0	0.0
Norfolk	220	195	75	50	-25	-20.0
Cornwall	185	180	40	35	-5	-6.7
North Bay	175	195	35	55	20	22.2
Kawartha Lakes	105	110	40	45	5	5.9
Medium CAs						
Orillia	175	165	60	45	-15	-14.3
Woodstock	170	165	60	55	-5	-4.3
Brockville	115	120	30	35	5	7.7
Midland	115	100	40	25	-15	-23.1
Collingwood	110	100	35	25	-10	-16.7
Stratford	105	120	30	45	15	20.0
Centre Wellington	95	100	95	100	5	2.6
Timmins	85	90	15	20	5	14.3
Owen Sound	80	80	20	20	0	0.0
Pembroke	50	55	15	15	0	0.0
Small CAs						
Cobourg	80	75	35	30	-5	-7.7
Tillsonburg	70	70	15	15	0	0.0
Port Hope	60	40	30	10	-20	-50.0
Kenora	40	30	15	5	-10	-50.0
Ingersoll	35	35	35	35	0	0.0
Petawawa	30	35	5	10	5	33.3
Hawkesbury (ON part)	30	25	10	5	-5	-33.3
Elliot Lake	25	25	5	5	0	0.0
Temiskaming Shores	20	25	n/a	n/a	5	n/a
Other ON - NON-CMA/CA	3655	3815	1110	1260	150	6.3
Total	347525	347525	20130			

Table 22. Net migration and migration effectiveness rates for each size of community group in Ontario, 2007-2011

2007-2011 Cohort size: 347525	Total destined here in year i	Resident in year i or i+1	Do not reside at this intended destination (Out)	Moved from another intended destination (In)	Net Migration	MER (Migration Effectiveness Rate)
CMA's	340335	340215	18020	17895	-125	-0.35
Large CAs	2020	2050	430	460	30	3.37
Medium CAs	1100	1095	400	385	-15	-1.91
Small CAs	390	360	150	115	-30	-11.32
Other ON - NON-CMA/CA	3655	3815	1110	1260	150	6.3
Total	347525	347525	20130			

Overall, the examination of destination to residence net migration for the two cohorts reveals that the inter-community exchange of immigrants is highly affected by Toronto. Toronto CMA is the largest 'donor' of its destined immigrants to other communities. However, considering that about 90% of immigrants leaving their Toronto destination chose to reside in CMA's (Tables 16-18), the existing spill-over effect is largely benefiting other larger urban areas in the province.

Toronto and other CMA's are also the main 'recipients' of immigrants destined to other communities in the province. This significantly affects Medium and Small CAs, as many immigrants destined to these communities choose to reside in CMA's instead.

Positioning of each community in the intra-Ontario exchange of immigrants between destination and residence location within the $i - i+1$ year timeframe could be illustrated using migration effectiveness rates (MERs). Figure 6 is a visual representation of 'gains' and 'losses' experienced by the communities in the destination-to-residence exchange, relative to the overall volume of such exchange for each community, using MERs for this purpose. In Figure 6, communities' size groupings, based on population size, are identified in parentheses. CMA's are left unmarked.

Note that Petawawa and Temiskaming Shores CAs experienced a positive net gain, but due to the lack of information on 'in' and 'out' counts, their MER could not be calculated.

The chart in Figure 6 demonstrates that, with some exceptions, Small and Medium CAs are at the bottom, i.e., immigrants destined to these communities tend to leave to reside elsewhere, and this loss is not compensated by new residents coming from other destinations in Ontario. The redistribution of immigrants destined to Toronto does not seem to be reaching smaller urban areas. With most of such immigrants choosing to reside in another CMA, CMA's and Large CAs are the main beneficiaries and are at the top of the chart.

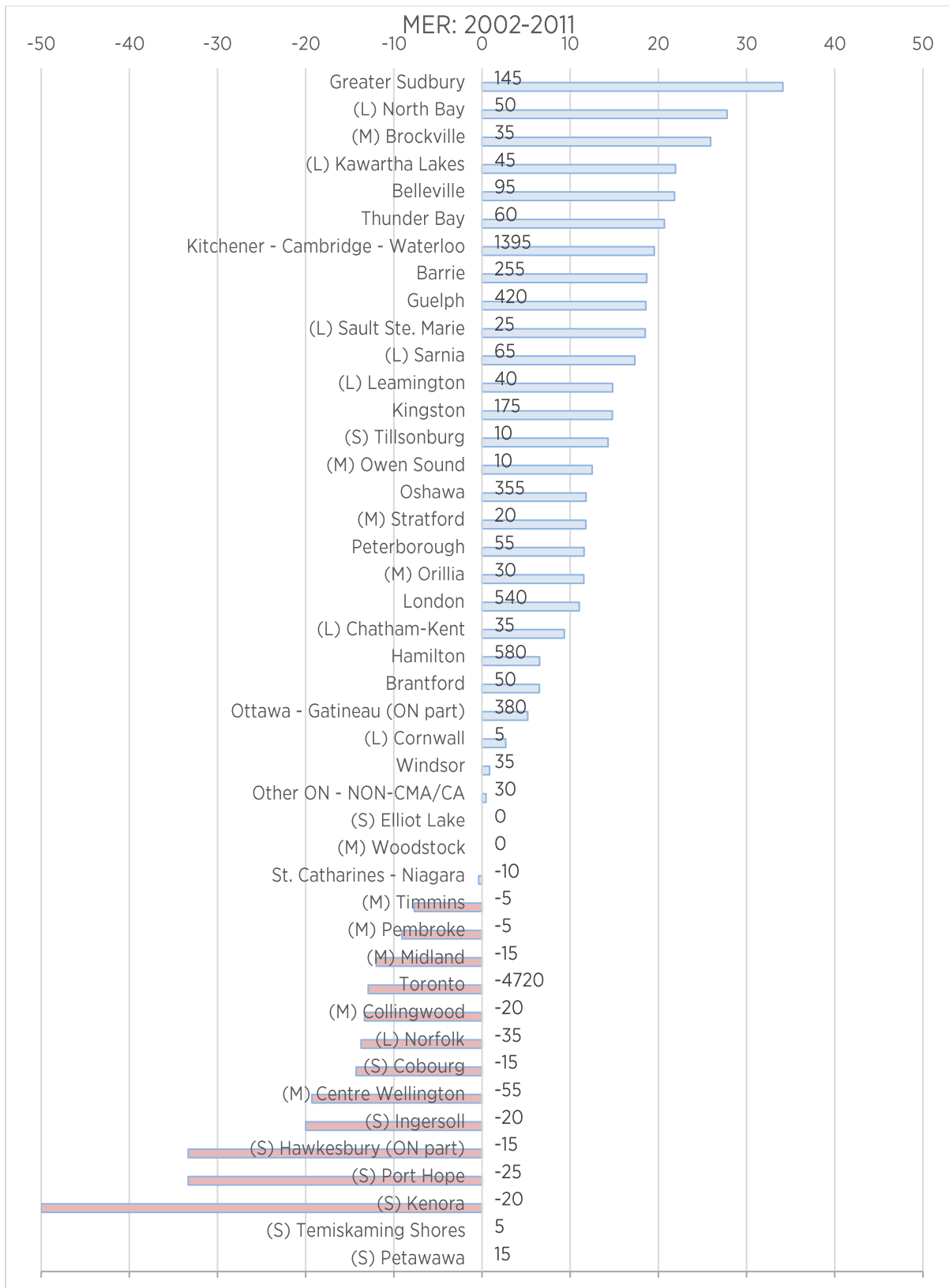


Figure 6. Net migration counts (text) and migration effectiveness rates (bars) between intended destination and residence locations in Ontario, 2002-2011 cumulative cohort

5.3. IMMIGRANT GROUP 2: NON-ONTARIO DESTINED ONTARIO RESIDENTS

For many communities, detailed source geography is not available. For this reason, the 5-year cohorts were aggregated into the 2002-2016 cohort (*Figure 10*). Communities across the diagrams in *Figures 7 to 10* are ranked based on the 2002-2016 inflow total.

Overall, with every new cohort, Ontario has been increasingly receiving immigrants destined to other parts of Canada as its new residents (*Figure 7*). Within the 2002-2016 time period, the province also lost fewer of its destined immigrants (*Section 5.4.*), benefiting more and more in the inter-provincial exchange of immigrant Group 2 and Group 3 (*Section 5.5.*).

Quebec has been the main ‘donor’ of its destined immigrants to communities in Ontario. Within the last two cohorts, there are fewer immigrants coming from the West (British Columbia and Territories) and deciding to reside in Ontario instead (*Figure 7*). Simultaneously, there is a greater percentage of immigrants attracted from the Prairies and the four Atlantic provinces.

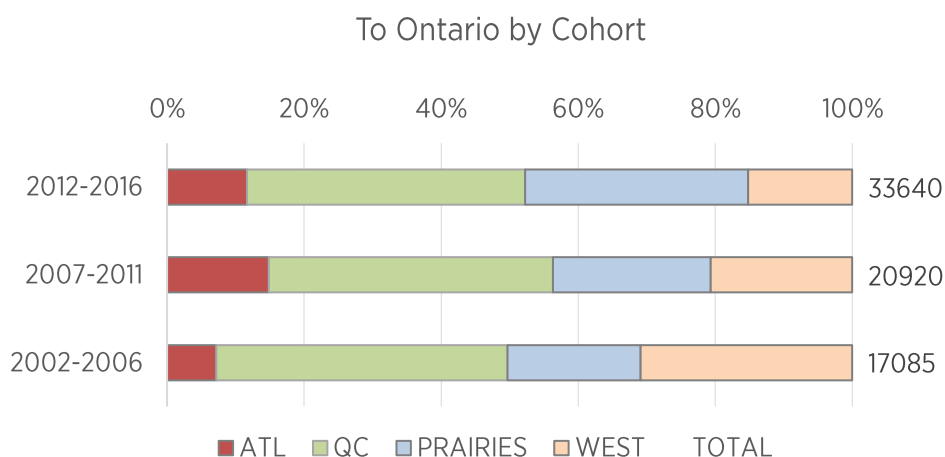


Figure 7. Source intended destination regions of new Ontario residents, summary by 5-year cohorts

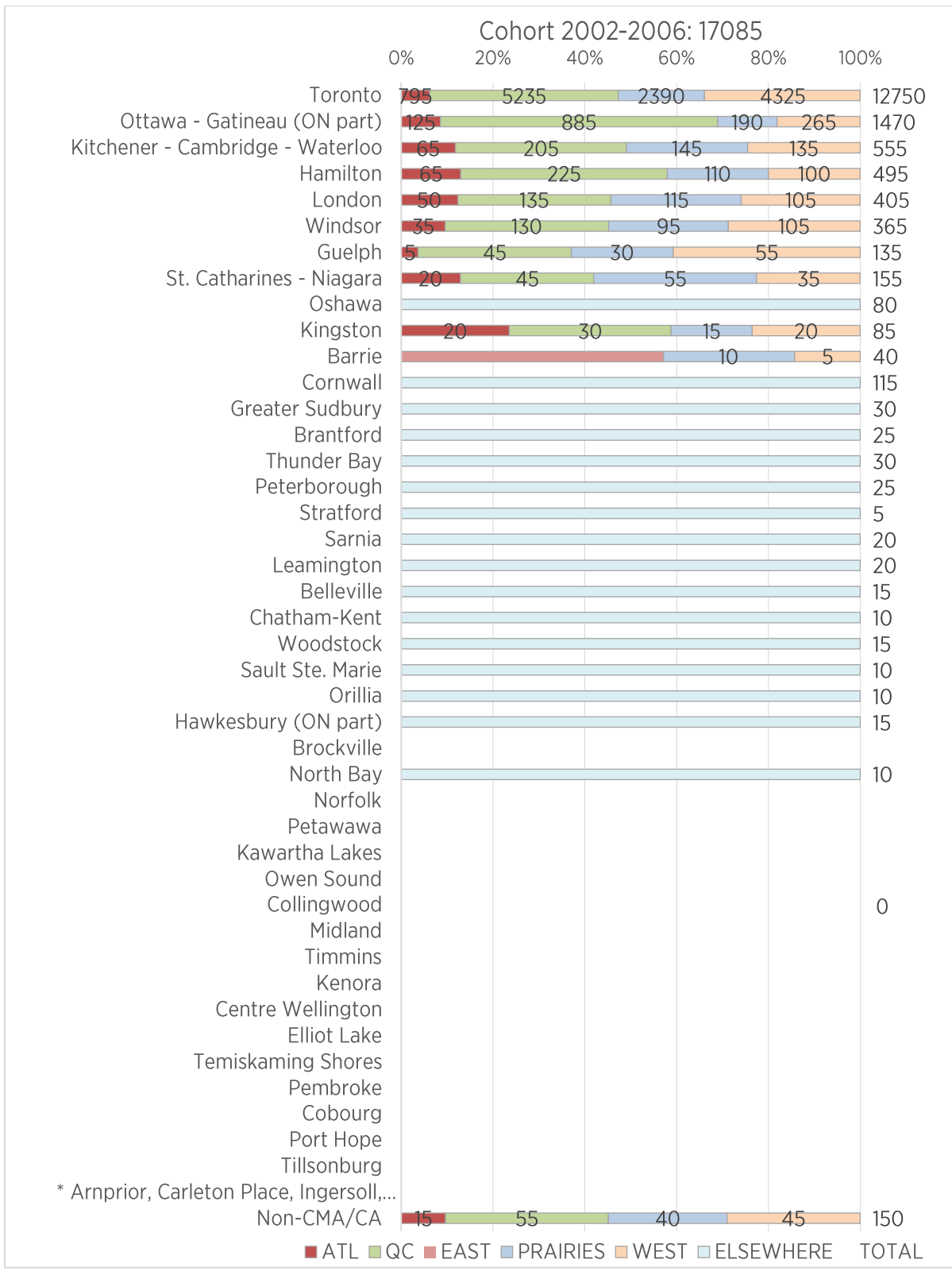


Figure 8. Source intended destination regions of new Ontario residents, 2002-2006 cohort

Note: Empty cells indicate that the totals for these communities are not releasable. Elsewhere indicates region is not specified. *Arnprior, Carleton Place, Ingersoll, and Wasaga Beach collectively.

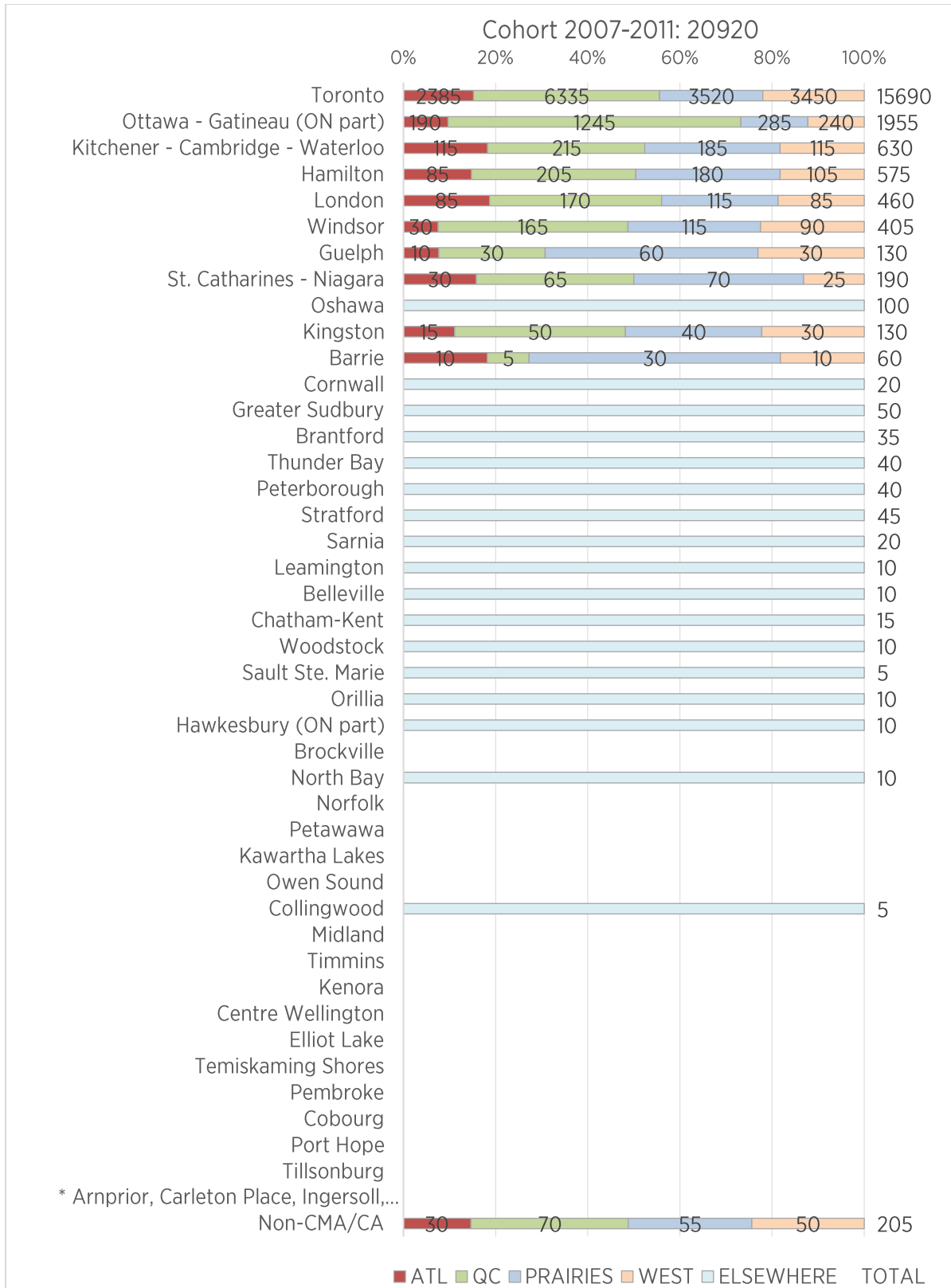


Figure 9. Source intended destination regions of new Ontario residents, 2007-2011 cohort

Note: Empty cells indicate that the totals for these communities are not releasable.

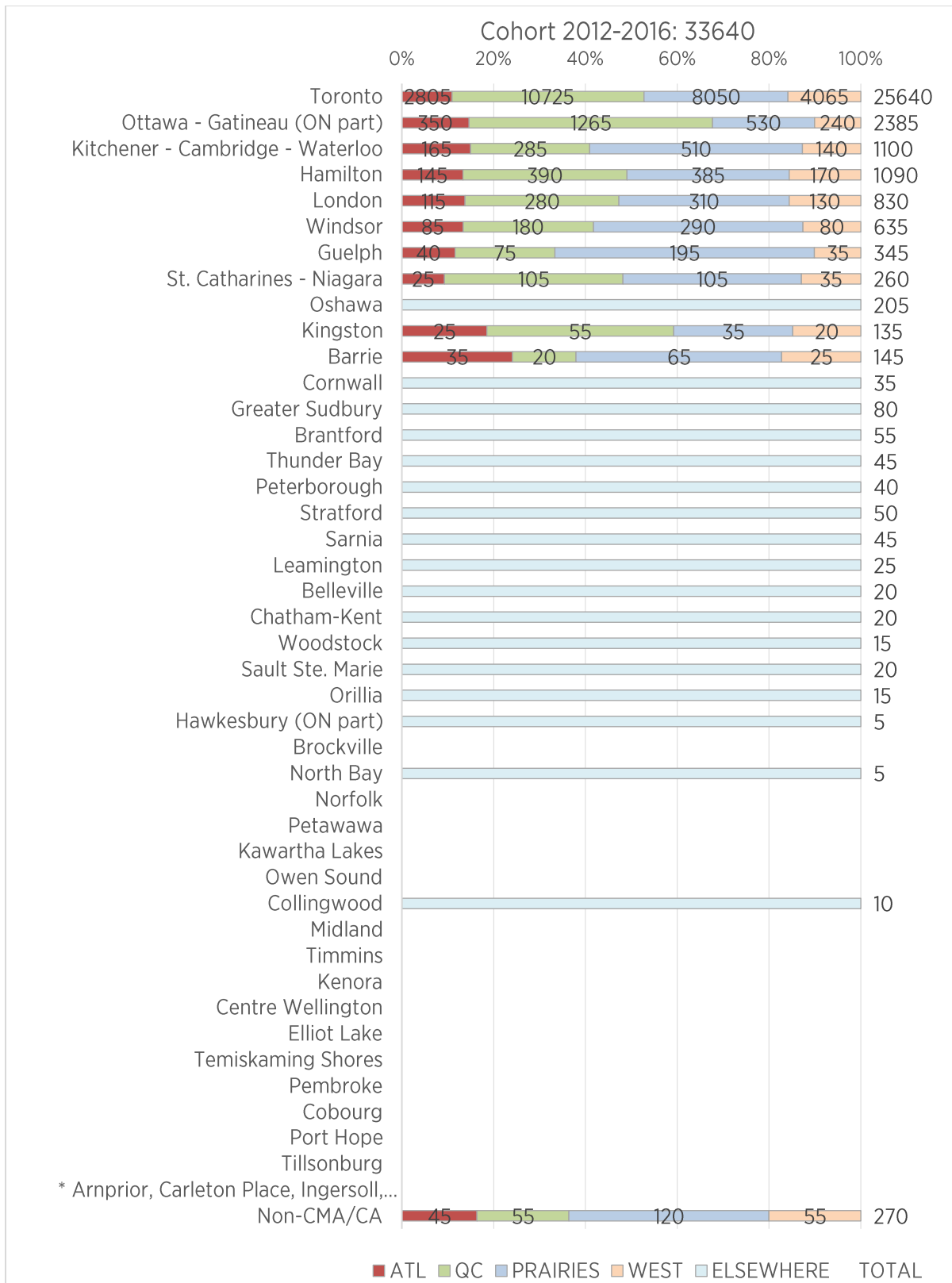


Figure 10. Source intended destination regions of new Ontario residents, 2012-2016 cohort

Note: Empty cells indicate that the totals for these communities are not releasable.

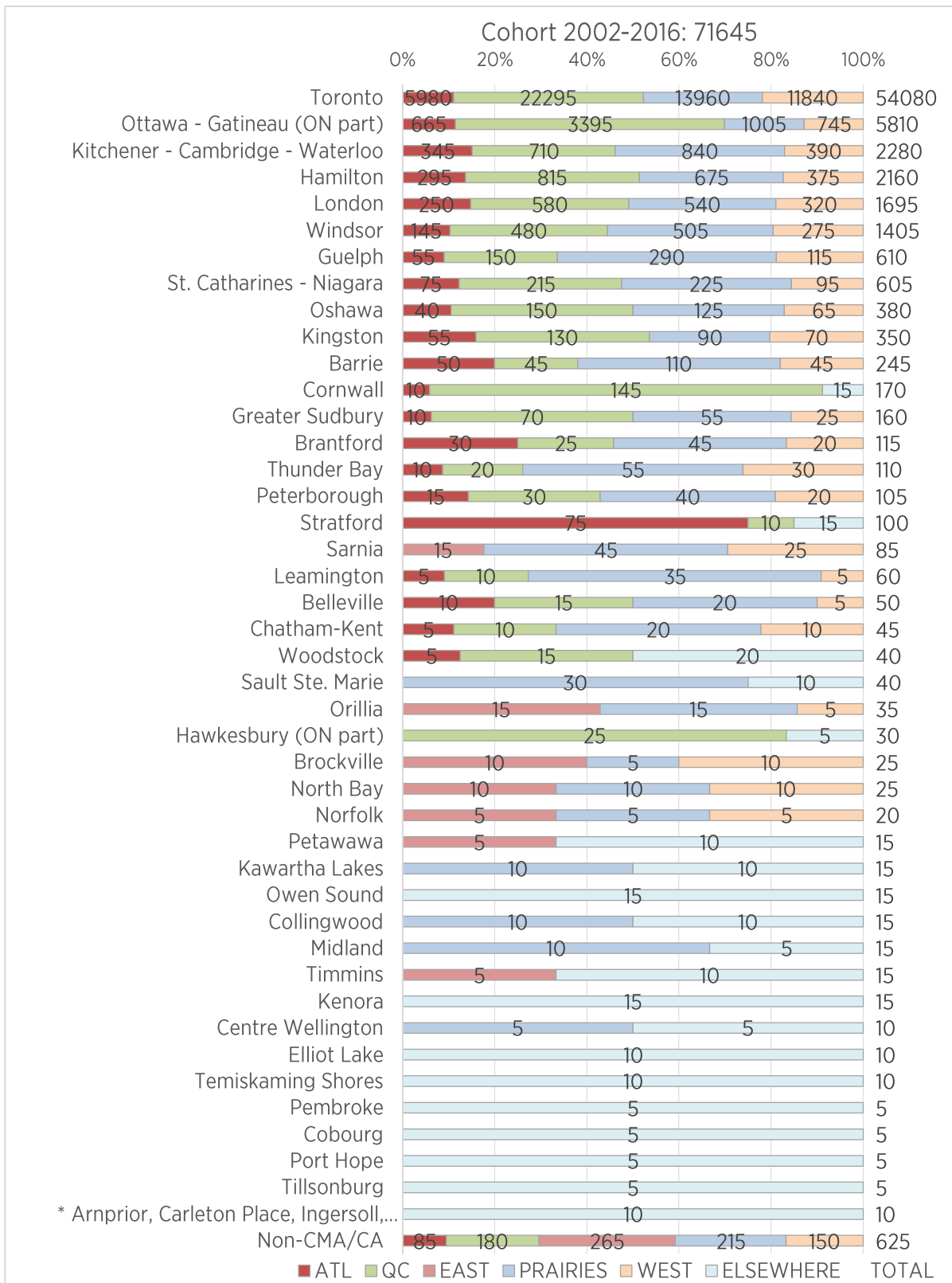


Figure 11. Source intended destination regions of new Ontario residents, 2002-2016 cumulative cohort

Note: Empty cells indicate that the totals for these communities are not releasable

5.4. IMMIGRANT GROUP 3: NEW OUT-OF-ONTARIO RESIDENCIES

This section of the report explores the settlement geography for Immigrant Group 3. Immigrants in this group were destined to communities in Ontario but reside in other parts of the country and filed taxes from their new location of residence within the year of landing (i) or a year later (i+1).

The geography of new chosen residences for these Ontario-destined immigrants is presented in a series of charts (*Figures 12 to 15*) depicting the total scale of an 'outflow' (*absolute numbers on the right*) from individual communities and its geographic directions as contributions to the total.

For larger communities, particularly for CMAs, more geographic detail was available. However, in order to make meaningful comparisons with the Immigrant Group 2 source geography, using larger regions was more efficient. Whenever possible the Atlantic region and Quebec were differentiated, but in many cases immigrant counts had to be aggregated into the East region.

For smaller communities, whenever possible maximum geographic detail was preserved. However, for many communities only the total number of destined immigrants who left the province was available. For some communities, even the total number of immigrants who left the province could not be released; such communities were aggregated into a collective. These are specified for each chart.

To remedy the lack of geographic detail for many Small and Medium CAs for the 5-year cohorts, data on these communities were aggregated into the cumulative 2002-2016 cohort. Geographic details of 'outflow' for such communities (21 CAs), which previously either had to be aggregated with others or could only have a cohort total, are depicted in *Figure 15*.

From the analysis at the provincial level in *Part II*, the Prairies were a far less dominant direction for leaving Ontario in the early 2000s, but progressively became more attractive, which is also noticeable through *Figures 12 to 14* for CMA/CA levels, particularly for the latest, 2012-2016, cohort. This is, of course, due to the main influencer of the provincial total, Toronto CMA. Due to the mere scale of the 'outflow' from Toronto, any changes in the geographic distribution of its 'leavers' will affect the distribution of the 'outflow' from Ontario.

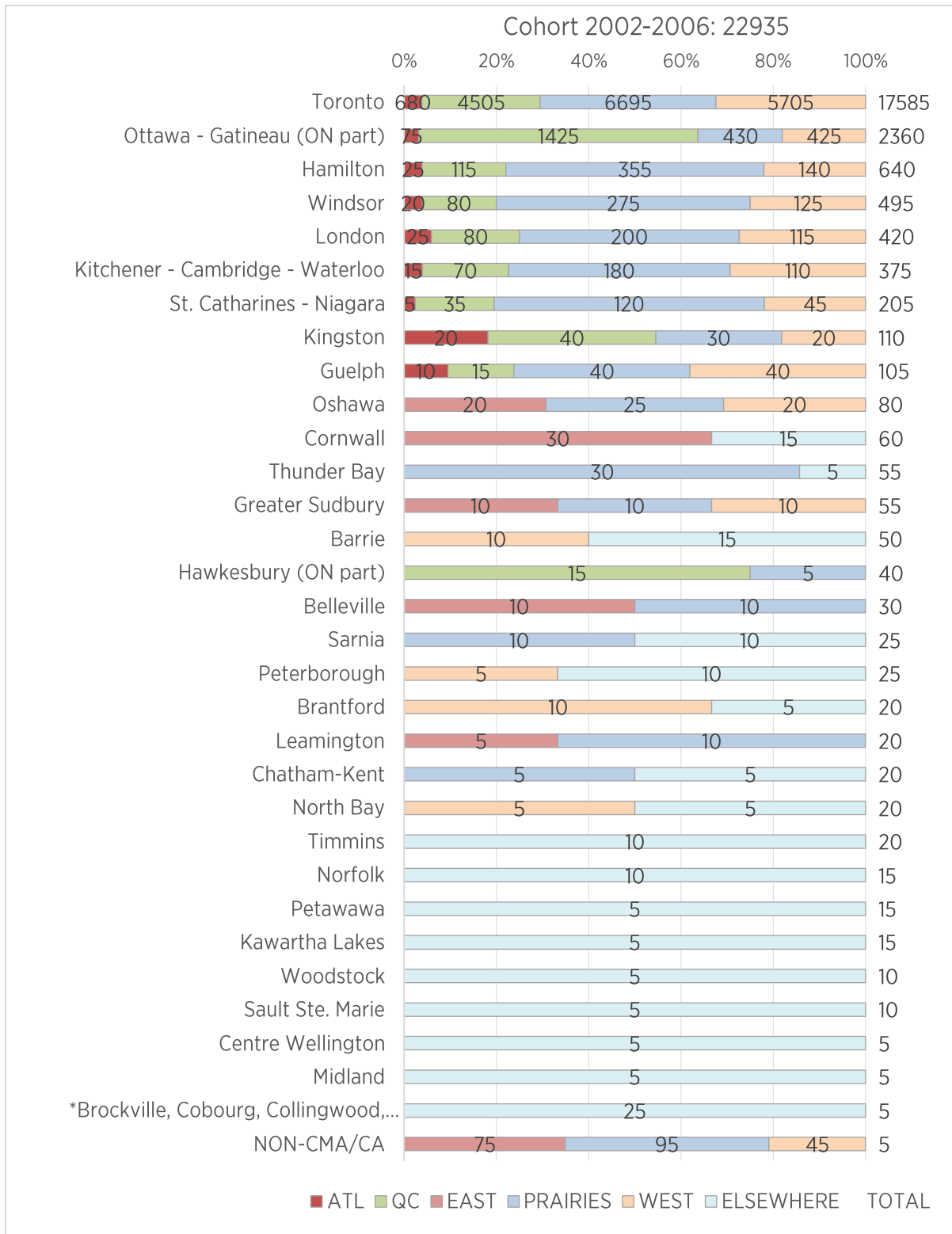


Figure 12. Geography of new residence for Immigrant group 3, 2002-2006 cohort

Note: *Brockville, Cobourg, Collingwood, Elliot Lake, Ingersoll, Kenora, Orillia, Owen Sound, Pembroke, Port Hope, Stratford, Tillsonburg communities collectively.

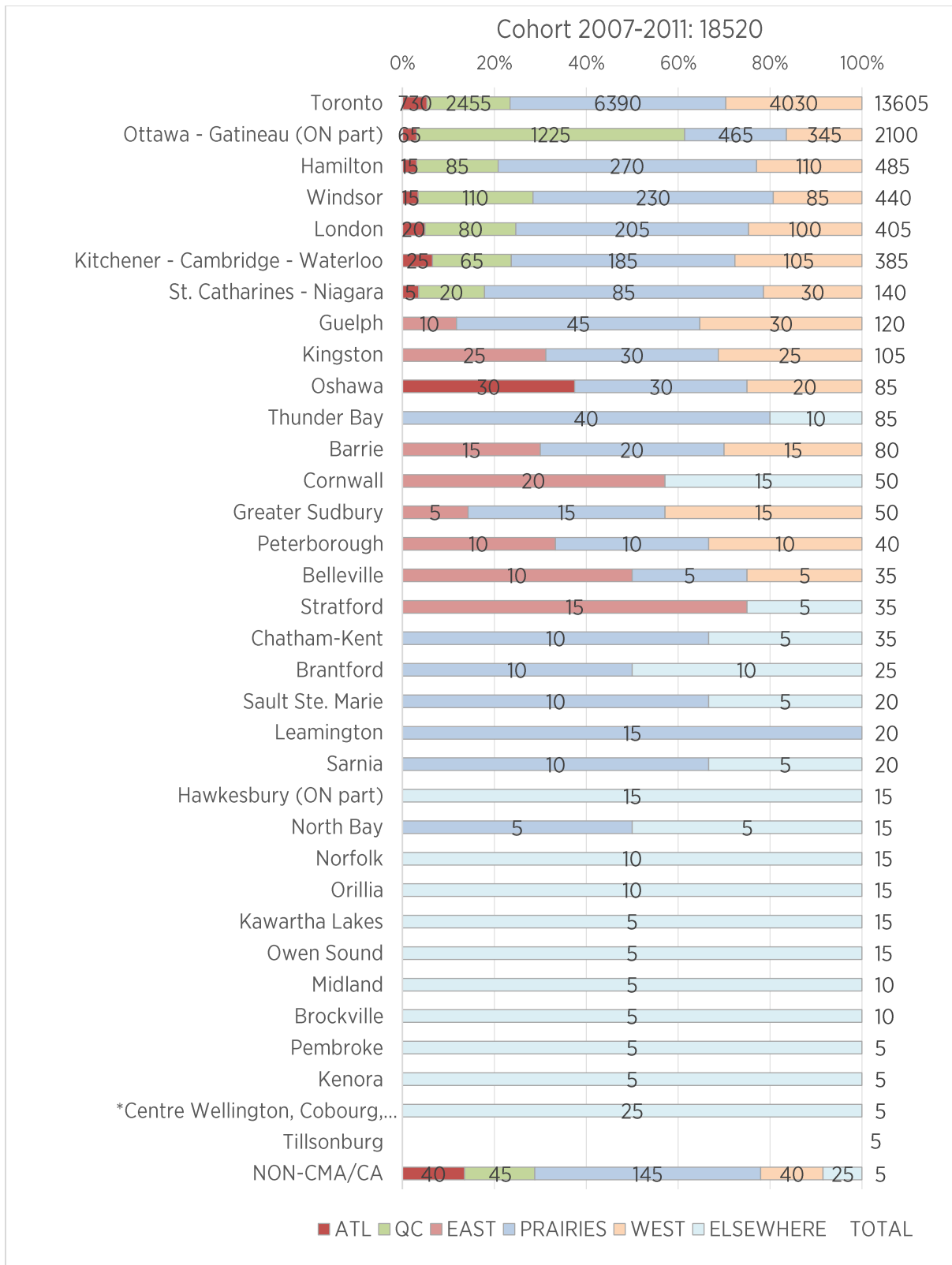


Figure 13. Geography of new residence for Immigrant group 3, 2007-2011 cohort

Note: * Centre Wellington, Cobourg, Collingwood, Elliot Lake, Ingersoll, Petawawa, Port Hope, Temiskaming Shores, Timmins, Woodstock communities collectively.

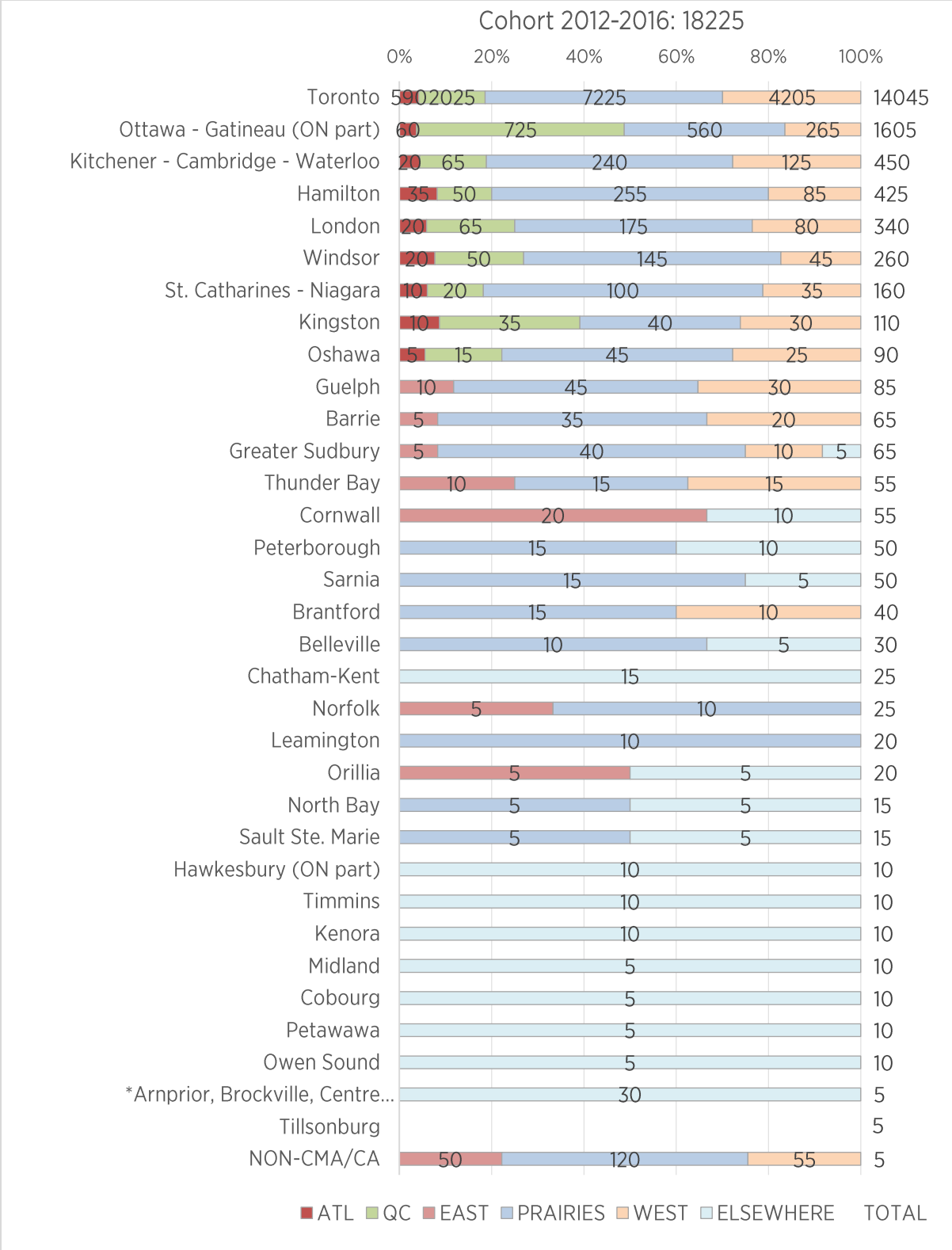


Figure 14. Geography of new residence for Immigrant group 3, 2012-2016 cohort

Note: * Arnprior, Brockville, Centre Wellington, Collingwood, Elliot Lake, Ingersoll, Kawartha Lakes, Pembroke, Port Hope, Stratford, Temiskaming Shores, Woodstock communities collectively.

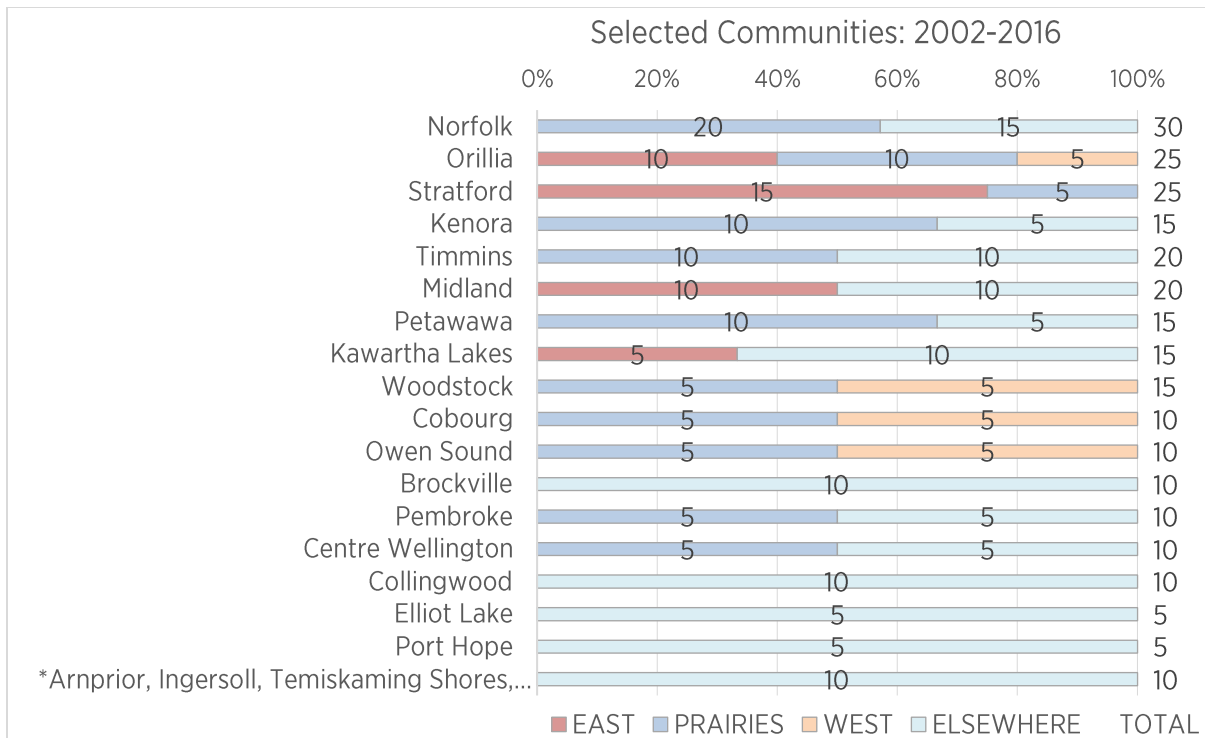


Figure 15. Geography of new residence for Immigrant group 3, 21 selected communities, 2002-2016 cumulative cohort

Note: * Arnprior, Ingersoll, Temiskaming Shores, and Tillsonburg communities collectively.

5.5. NET MIGRATION AND MIGRATION EFFECTIVENESS RATES

The best way to evaluate the effect of net mobility between locations of destination and locations of residence in Ontario and in other regions of Canada, i.e., the balancing act between immigrant Group 2 and Group 3 for each community, is to look at migration effectiveness rates. The net mobility outcomes and MERs could not be compared across all regions and all cohorts individually due to data aggregation, applied necessary for IMDB data release. Nevertheless, it is possible to evaluate communities' total 'gains' and 'losses' for the 2002-2016 period.

The chart in [Figure 16](#) demonstrates the net migration outcomes and migration effectiveness rates for each CMA and CA. Community size groupings, based on population size, are identified in parentheses. CMAs are left unmarked.

In the destined immigrants exchange between Ontario communities and the rest of Canada, Ontario gained 20% of the turnover, as cumulatively for the 2002-2016 period 71,645 immigrants destined elsewhere in year *i* had become residents of Ontario in the same year or year *i*+1 (Group 2), while 59,680 immigrants destined to Ontario left to reside outside of the province (Group 3).

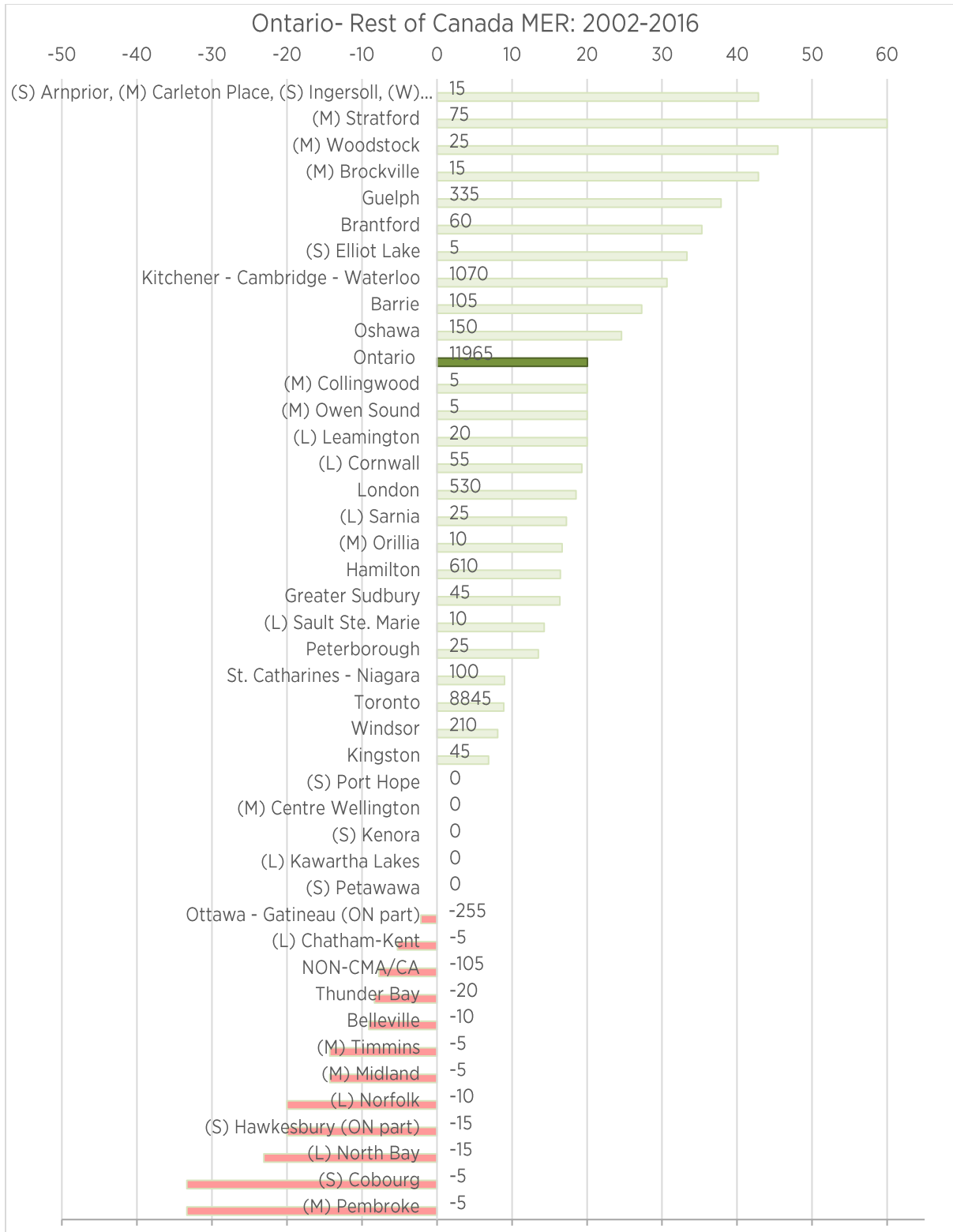


Figure 16. Net migration counts (text) and migration effectiveness rates (bars) in the Ontario-rest of Canada exchange between destination and residence locations, 2002-2016 cumulative cohort

Note: * (S) Arnprior, (M) Carleton Place, (S) Ingersoll, (M) Wasaga Beach, (S) Temiskaming Shores, and (S) Tillsonburg communities collectively.

A majority of the communities benefit in the Group 2- Group 3 exchange.

Toronto, while 'donating' immigrants to other communities in Ontario (*Figure 6*), has a positive gain from other provinces (*Figure 16*). However, a number of communities lose to other communities in the province and to other parts of Canada.

Recall a similar chart in *Figure 6*, demonstrating the outcomes for the intra-Ontario destination-residence exchange (Group 1 mobility). Though *Figure 6* covers only the 2002-2011 period, it is possible to draw certain observations. Nine communities are at the bottom in both charts: Centre Wellington (M), Cobourg (S), Hawkesbury (ON part) (S), Kenora (S), Midland (M), Norfolk (L), Pembroke (M), Port Hope (S), and Timmins (M). These communities had a negative balance in the intra-Ontario destination-to-residence mobility, losing their destined immigrants, and their losses were not compensated by the exchange with other regions of Canada (though the numbers for these exchange in *Figure 16* covered a longer period). They are losing their destined immigrants to other locations in Ontario and to other provinces.

In addition to these 9 communities, Collingwood (M) was also at the bottom in *Figure 6* with the loss of 20 destined immigrants to other locations in Ontario cumulatively within the 2002-2011 time period. This loss was only partially compensated by the gain of 5 immigrants from other regions within the 2002-2016 cumulative period.

6. PART IV. ANALYSIS OF RETENTION AND RETURN RATES

This part of the report is dedicated to the retention outcomes at i+5 timepoint for each of the three key immigrant groups. The outcomes are the result of the mobility and non-mobility related events that took place between year i or i+1 (depending on the first year of taxfiling after landing) and i+5 for immigrants landed in year i.

The formula for retention rate (RR) is elaborated in the *Methodology* section. Two RR estimates are supplied in this report: unadjusted rate, expressed as the proportion of immigrants alive and staying in the community of residence at the i+5 timepoint; and adjusted for non-mobility factors (NMF) retention rate that removes NMF counts from the denominator (number of alive resident to the community immigrants in year i or i+1). NMF-adjusted RR is a finetuned measure of immigrant counts loss caused by out-mobility. With the NMF adjustment, retention rate estimates are, as expected, slightly higher. For some groups and for some communities IMDB data release concerns prevented us from reporting outcomes by 5-year cohorts; instead the outcomes had to be aggregated into the 2002-2011 cumulative cohort.

The following three sections present retention outcomes for the three respective groups:

- Group 1 (were destined to, in year i, and resided in Ontario in year i or year i+1);
- Group 2 (were destined elsewhere in year i of landing but filed taxes in Ontario the same year (i) or a year later (i+1));
- Group 3 (were destined to Ontario but left to reside elsewhere in year i or year i+1).

There are three tables for each group and cohort (when possible to differentiate between the 2002-2006 and 2007-2011 cohorts): retention outcomes as absolute counts; unadjusted retention outcomes as % of the community total immigrant taxfilers at i or i+1; and non-mobility factors -(NMF) - adjusted retentions outcomes as % of the NMF-adjusted community original resident total.

There are only two cohorts, 2002-2006 and 2007-2011, for which retention outcomes can be estimated. These outcomes present location of immigrants in year i+5, or in 2007-2011, and 2012-2016 (see [2.1. Timeframe of Interest](#) section for more detail).

For Group 1 and Group 2, the tables include the number of immigrants still resident at the destination at i+5. The NMF column shows the number of residents who either had died, became non-resident in Canada for tax purposes, or alive but did not file taxes and thus their location is unknown. Columns C, D, and C+D show counts of immigrants who are no longer resident in the community, but still reside in Ontario. Column E shows counts of persons who left the community to reside outside of Ontario by year i+5. In some cases, columns C and D have missing data and only column E, showing persons moved out of the community

within Ontario or the rest of Canada, is available, meaning that it was not possible to differentiate between Ontario and non-Ontario locations. The communities are listed by the size of the original resident immigrant cohort at $i/i+1$ and by community size groupings.

6.1. RETENTION OUTCOMES FOR IMMIGRANT GROUP 1: ONTARIO-DESTINED AND RESIDENT

For a number of small communities, the attempt to differentiate between mobility and non-mobility related outcomes did not yield enough meaningful detail. This was due to the need to aggregate low counts to a substantial extent. For such communities, highlighted in orange in the tables to follow, retention outcomes were produced for the 10-year, 2002-2011, cumulative cohort.

Table 23. Retention outcomes (counts) for Immigrant Group 1, 2002-2006 cohort

2002-2006 Cohort size: 402060	Stayed	NMF	Moved to CA or other location in ON	Moved to CMA in ON	Moved, but stayed in ON	Moved elsewhere in Canada	Total
	A	B	C	D	C+D	E	
CMA's							
Toronto	272090	26025	1910	10365	12275	13935	324330
Ottawa - Gatineau (ON part)	13190	2070	220	1280	1500	1350	18115
Hamilton	8595	1110	155	1920	2075	735	12515
Kitchener - Cambridge - Waterloo	6965	800	190	1240	1425	545	9735
London	5430	780	175	1110	1285	685	8185
Windsor	4975	1075	210	1090	1295	700	8050
St. Catharines - Niagara	2785	460	55	720	775	260	4280
Guelph	1710	245	60	520	575	155	2685
Oshawa	1435	270	30	515	545	65	2320
Kingston	635	175	55	305	360	140	1310
Barrie	775	110	55	235	290	70	1240
Brantford	470	55	10	135	145	40	710
Peterborough	300	60	10	95	105	40	505
Thunder Bay	265	40	15	65	80	60	445
Belleville	200	40	20	100	125	20	385
Greater Sudbury	205	40	10	85	95	35	380
Large CAs							
Sarnia	245	55	15	65	80	40	420
Chatham-Kent	210	50	20	90	105	30	400
Leamington	250	30	30	60	90	30	400
Cornwall	125	35			65	35	255
Norfolk	145	25	25	25	45	10	220
Sault Ste. Marie	100	25	5	30	35	15	170
Kawartha Lakes	95	10	n/a	30	n/a	20	155
North Bay	70	20			45	10	145
Medium CAs							
Orillia	105	20	10	55	65	10	205
Woodstock	105	20	n/a	35	n/a	15	170
Stratford	75	15			50	5	140
Brockville	55	15	n/a	35	n/a	25	130
Midland	55	15	5	20	30	10	105
Collingwood	40	15	10	15	25	5	85
Owen Sound	40					30	65
Timmins	30	5			15	15	65
Pembroke	20	5	n/a	5	n/a	5	35
Centre Wellington	10					15	25
Small CAs							
Tillsonburg	65	10	n/a	15	n/a	0	90
Cobourg	25	10	n/a	10	n/a	10	55
Port Hope	20	5	n/a	5	n/a	5	40
Hawkesbury (ON part)	10	5			5	15	35
Kenora	20					10	30
Petawawa	10					15	25
Elliot Lake	10					10	20
Temiskaming Shores						n/a	10
Ingersoll						n/a	5
Non-CMA/CA	1910	445	200	650	850	145	3350

Table 24. Unadjusted retention outcomes (%) for Immigrant Group 1, 2002-2006 cohort

2002-2006 Cohort size: 402060	Stayed, % (RR)	NMF	Moved to CA or other location in ON	Moved to CMA in ON	Moved but stayed in ON	Moved elsewhere in Canada	Total
	A	B	C	D	C+D	E	
CMA's							
Toronto	83.9	8.0	0.6	3.2	3.8	4.3	100
Ottawa - Gatineau (ON part)	72.8	11.4	1.2	7.1	8.3	7.5	100
Hamilton	68.7	8.9	1.2	15.3	16.6	5.9	100
Kitchener - Cambridge - Waterloo	71.5	8.2	2.0	12.7	14.6	5.6	100
London	66.3	9.5	2.1	13.6	15.7	8.4	100
Windsor	61.8	13.4	2.6	13.5	16.1	8.7	100
St. Catharines - Niagara	65.1	10.7	1.3	16.8	18.1	6.1	100
Guelph	63.7	9.1	2.2	19.4	21.4	5.8	100
Oshawa	61.9	11.6	1.3	22.2	23.5	2.8	100
Kingston	48.5	13.4	4.2	23.3	27.5	10.7	100
Barrie	62.5	8.9	4.4	19.0	23.4	5.6	100
Brantford	66.2	7.7	1.4	19.0	20.4	5.6	100
Peterborough	59.4	11.9	2.0	18.8	20.8	7.9	100
Thunder Bay	59.6	9.0	3.4	14.6	18.0	13.5	100
Belleville	51.9	10.4	5.2	26.0	32.5	5.2	100
Greater Sudbury	53.9	10.5	2.6	22.4	25.0	9.2	100
Large CAs							
Sarnia	58.3	13.1	3.6	15.5	19.0	9.5	100
Chatham-Kent	52.5	12.5	5.0	22.5	26.3	7.5	100
Leamington	62.5	7.5	7.5	15.0	22.5	7.5	100
Cornwall	49.0	13.7			25.5	13.7	100
Norfolk	65.9	11.4	11.4	11.4	20.5	4.5	100
Sault Ste. Marie	58.8	14.7	2.9	17.6	20.6	8.8	100
Kawartha Lakes	61.3	6.5	n/a	30	n/a	12.9	100
North Bay	48.3	13.8			31.0	6.9	100
Medium CAs							
Orillia	51.2	9.8	4.9	26.8	31.7	4.9	100
Woodstock	61.8	11.8	n/a	35	n/a	8.8	100
Stratford	53.6	10.7			35.7	3.6	100
Brockville	42.3	11.5	n/a	30	n/a	19.2	100
Midland	52.4	14.3	4.8	19.0	28.6	9.5	100
Collingwood	47.1	17.6	11.8	17.6	29.4	5.9	100
Owen Sound	61.5					46.2	100
Timmins	46.2	7.7			23.1	23.1	100
Pembroke	57.1	14.3	n/a	14.3	n/a	14.3	100
Centre Wellington	40.0					60.0	100
Small CAs							
Tillsonburg	72.2	11.1	n/a	16.7	n/a	0.0	100
Cobourg	45.5	18.2	n/a	18.2	n/a	18.2	100
Port Hope	50.0	12.5	n/a	12.5	n/a	12.5	100
Hawkesbury (ON part)	28.6	14.3			14.3	42.9	100
Kenora	66.7					33.3	100
Petawawa	40.0					60.0	100
Elliot Lake	50.0					50.0	100
Temiskaming Shores						n/a	100
Ingersoll						n/a	100
Non-CMA/CA	57.0	13.3	6.0	19.4	25.4	4.3	100

Table 25. NMF-adjusted retention outcomes (%) for Immigrant Group 1, 2002-2006 cohort

2002-2006 Cohort size: 402060	Stayed, NMF RR, %	Moved to CA or other location in ON	Moved to CMA in ON	Moved, but stayed in ON	Moved elsewhere in Canada
	A	C	D	C+D	E
CMAs					
Toronto	91.2	0.6	3.5	4.1	4.7
Ottawa - Gatineau (ON part)	82.2	1.4	8.0	9.3	8.4
Hamilton	75.4	1.4	16.8	18.2	6.4
Kitchener - Cambridge - Waterloo	78.0	2.1	13.9	15.9	6.1
London	73.3	2.4	15.0	17.4	9.3
Windsor	71.3	3.0	15.6	18.6	10.0
St. Catharines - Niagara	72.9	1.4	18.8	20.3	6.8
Guelph	70.1	2.5	21.3	23.6	6.4
Oshawa	70.0	1.5	25.1	26.6	3.2
Kingston	55.9	4.8	26.9	31.7	12.3
Barrie	68.6	4.9	20.8	25.7	6.2
Brantford	71.8	1.5	20.6	22.1	6.1
Peterborough	67.4	2.2	21.3	23.6	9.0
Thunder Bay	65.4	3.7	16.0	19.8	14.8
Belleville	58.0	5.8	29.0	36.2	5.8
Greater Sudbury	60.3	2.9	25.0	27.9	10.3
Large CAs					
Sarnia	67.1	4.1	17.8	21.9	11.0
Chatham-Kent	60.0	5.7	25.7	30.0	8.6
Leamington	67.6	8.1	16.2	24.3	8.1
Cornwall	56.8			29.5	15.9
Norfolk	74.4	12.8	12.8	23.1	5.1
Sault Ste. Marie	69.0	3.4	20.7	24.1	10.3
Kawartha Lakes	65.5	n/a	20.7	n/a	13.8
North Bay	56.0			36.0	8.0
Medium CAs					
Orillia	56.8	5.4	29.7	35.1	5.4
Woodstock	70.0	n/a	23.3	n/a	10.0
Stratford	60.0			40.0	4.0
Brockville	47.8	n/a	30.4	n/a	21.7
Midland	61.1	5.6	22.2	33.3	11.1
Collingwood	57.1	14.3	21.4	35.7	7.1
Owen Sound					n/a
Timmins	50.0	25.0			25.0
Pembroke	66.7	n/a	16.7	n/a	16.7
Centre Wellington					n/a
Small CAs					
Tillsonburg	81.3	n/a	18.8	n/a	0.0
Cobourg	55.6	n/a	22.2	n/a	22.2
Port Hope	57.1	n/a	14.3	n/a	14.3
Hawkesbury (ON part)	33.3			16.7	50.0
Kenora					n/a
Petawawa					n/a
Elliot Lake					n/a
Temiskaming Shores					n/a
Ingersoll					n/a
Non-CMA/CA	65.7	6.9	22.4	29.3	5.0

Table 26. Retention outcomes (counts) for Immigrant Group 1, 2007-2011 cohort

2007-2011 Cohort size: 347525	Stayed	NMF	Moved to CA or other location in ON	Moved to CMA in ON	Moved, but stayed in ON	Moved elsewhere in Canada	Total
	A	B	C	D	C+D	E	
CMAs							
Toronto	230200	20790	1690	9855	11545	9440	271980
Ottawa - Gatineau (ON part)	14595	1755	190	1095	1285	1285	18920
Hamilton	8770	975	115	1595	1710	490	11950
Kitchener - Cambridge - Waterloo	7025	930	230	1385	1615	390	9955
London	5390	720	145	940	1085	445	7640
Windsor	4290	535	95	550	645	310	5780
St. Catharines - Niagara	2725	375	45	635	680	200	3985
Oshawa	1665	240	60	580	635	80	2620
Guelph	1530	170	35	415	450	120	2270
Kingston	735	140	45	255	300	115	1290
Barrie	790	120	55	235	295	50	1255
Brantford	495	55	30	105	135	25	705
Peterborough	285	65	25	125	150	35	530
Greater Sudbury	290	35	30	110	140	55	520
Thunder Bay	285	40	15	70	85	40	455
Belleville	220	35	20	65	85	20	360
Large CAs							
Sarnia	280	50	15	60	75	30	435
Chatham-Kent	220	35	25	55	80	25	360
Leamington	265	20	15	40	55	10	350
Sault Ste. Marie	150	20	10	25	35	25	225
Norfolk	115	10	n/a	40	n/a	25	195
North Bay	110	15	10	45	55	15	195
Cornwall	120	10			30	20	180
Kawartha Lakes	50	20	n/a	35	n/a	10	110
Medium CAs							
Woodstock	100	20	n/a	35	n/a	10	165
Orillia	85	15	15	40	55	10	165
Stratford	60	10	n/a	35	n/a	15	120
Brockville	55	10	n/a	30	n/a	20	120
Collingwood	65	10	n/a	15	n/a	15	100
Centre Wellington	65	5	5	25	30	0	100
Midland	60	10	n/a	15	n/a	10	100
Timmins	55	5	0	20	20	10	90
Owen Sound	45	5	10	15	25	5	80
Pembroke	30	10	n/a	10	n/a	5	55
Small CAs							
Cobourg	35	10	5	15	20	10	75
Tillsonburg	35	5	n/a	15	n/a	15	70
Port Hope	20	5	n/a	5	n/a	5	40
Petawawa	10	5	n/a	10	n/a	10	35
Ingersoll	15					20	35
Kenora	20					10	30
Temiskaming Shores	5					20	25
Hawkesbury (ON part)	5					15	25
Elliot Lake	15					10	25
Non-CMA/CA	2115	645	220	665	885	170	3815

Table 27. Unadjusted retention outcomes (%) for Immigrant Group 1, 2007-2011 cohort

2007-2011 Cohort size: 347525	Stayed, % (RR)	NMF	Moved to CA or other location in ON	Moved to CMA in ON	Moved but stayed in ON	Moved elsewhere in Canada	Total
	A	B	C	D	C+D	E	
CMA's							
Toronto	84.6	7.6	0.6	3.6	4.2	3.5	100
Ottawa - Gatineau (ON part)	77.1	9.3	1.0	5.8	6.8	6.8	100
Hamilton	73.4	8.2	1.0	13.3	14.3	4.1	100
Kitchener - Cambridge - Waterloo	70.6	9.3	2.3	13.9	16.2	3.9	100
London	70.5	9.4	1.9	12.3	14.2	5.8	100
Windsor	74.2	9.3	1.6	9.5	11.2	5.4	100
St. Catharines - Niagara	68.4	9.4	1.1	15.9	17.1	5.0	100
Oshawa	63.5	9.2	2.3	22.1	24.2	3.1	100
Guelph	67.4	7.5	1.5	18.3	19.8	5.3	100
Kingston	57.0	10.9	3.5	19.8	23.3	8.9	100
Barrie	62.9	9.6	4.4	18.7	23.5	4.0	100
Brantford	70.2	7.8	4.3	14.9	19.1	3.5	100
Peterborough	53.8	12.3	4.7	23.6	28.3	6.6	100
Greater Sudbury	55.8	6.7	5.8	21.2	26.9	10.6	100
Thunder Bay	62.6	8.8	3.3	15.4	18.7	8.8	100
Belleville	61.1	9.7	5.6	18.1	23.6	5.6	100
Large CAs							
Sarnia	64.4	11.5	3.4	13.8	17.2	6.9	100
Chatham-Kent	61.1	9.7	6.9	15.3	22.2	6.9	100
Leamington	75.7	5.7	4.3	11.4	15.7	2.9	100
Sault Ste. Marie	66.7	8.9	4.4	11.1	15.6	11.1	100
Norfolk	59.0	5.1	n/a	20.5	n/a	12.8	100
North Bay	56.4	7.7	5.1	23.1	28.2	7.7	100
Cornwall	66.7	5.6			16.7	11.1	100
Kawartha Lakes	45.5	18.2	n/a	31.8	n/a	9.1	100
Medium CAs							
Woodstock	60.6	12.1	n/a	21.2	n/a	6.1	100
Orillia	51.5	9.1	9.1	24.2	33.3	6.1	100
Stratford	50.0	8.3	n/a	29.2	n/a	12.5	100
Brockville	45.8	8.3	n/a	25.0	n/a	16.7	100
Collingwood	65.0	10.0	n/a	15.0	n/a	15.0	100
Centre Wellington	65.0	5.0	5.0	25.0	30.0	0.0	100
Midland	60.0	10.0	n/a	15.0	n/a	10.0	100
Timmins	61.1	5.6	0.0	22.2	22.2	11.1	100
Owen Sound	56.3	6.3	12.5	18.8	31.3	6.3	100
Pembroke	54.5	18.2	n/a	18.2	n/a	9.1	100
Small CAs							
Cobourg	46.7	13.3	6.7	20.0	26.7	13.3	100
Tillsonburg	50.0	7.1	n/a	21.4	n/a	21.4	100
Port Hope	50.0	12.5	n/a	12.5	n/a	12.5	100
Petawawa	28.6	14.3	n/a	28.6	n/a	28.6	100
Ingersoll	42.9					57.1	100
Kenora	66.7					33.3	100
Temiskaming Shores	20.0					80.0	100
Hawkesbury (ON part)	20.0					60.0	100
Elliot Lake	60.0					40.0	100
Non-CMA/CA	55.4	16.9	5.8	17.4	23.2	4.5	100

Table 28. NMF-adjusted retention outcomes (%) for Immigrant Group 1, 2007-2011 cohort

2007-2011 Cohort size: 347525	Stayed, NMF RR, %	Moved to CA or other location in ON	Moved to CMA in ON	Moved, but stayed in ON	Moved elsewhere in Canada
	A	C	D	C+D	E
CMA s					
Toronto	91.6	0.7	3.9	4.6	3.8
Ottawa - Gatineau (ON part)	85.0	1.1	6.4	7.5	7.5
Hamilton	79.9	1.0	14.5	15.6	4.5
Kitchener - Cambridge - Waterloo	77.8	2.5	15.3	17.9	4.3
London	77.9	2.1	13.6	15.7	6.4
Windsor	81.8	1.8	10.5	12.3	5.9
St. Catharines - Niagara	75.5	1.2	17.6	18.8	5.5
Oshawa	70.0	2.5	24.4	26.7	3.4
Guelph	72.9	1.7	19.8	21.4	5.7
Kingston	63.9	3.9	22.2	26.1	10.0
Barrie	69.6	4.8	20.7	26.0	4.4
Brantford	76.2	4.6	16.2	20.8	3.8
Peterborough	61.3	5.4	26.9	32.3	7.5
Greater Sudbury	59.8	6.2	22.7	28.9	11.3
Thunder Bay	68.7	3.6	16.9	20.5	9.6
Belleville	67.7	6.2	20.0	26.2	6.2
Large CA s					
Sarnia	72.7	3.9	15.6	19.5	7.8
Chatham-Kent	67.7	7.7	16.9	24.6	7.7
Leamington	80.3	4.5	12.1	16.7	3.0
Sault Ste. Marie	73.2	4.9	12.2	17.1	12.2
Norfolk	62.2	n/a	21.6	n/a	13.5
North Bay	61.1	5.6	25.0	30.6	8.3
Cornwall	70.6			17.6	11.8
Kawartha Lakes	55.6	n/a	38.9	n/a	11.1
Medium CA s					
Woodstock	69.0	n/a	24.1	n/a	6.9
Orillia	56.7	10.0	26.7	36.7	6.7
Stratford	54.5	n/a	31.8	n/a	13.6
Brockville	50.0	n/a	27.3	n/a	18.2
Collingwood	72.2	n/a	16.7	n/a	16.7
Centre Wellington	68.4	5.3	26.3	31.6	0.0
Midland	66.7	n/a	16.7	n/a	11.1
Timmins	64.7	0.0	23.5	23.5	11.8
Owen Sound	60.0	13.3	20.0	33.3	6.7
Pembroke	66.7	n/a	22.2	n/a	11.1
Small CA s					
Cobourg	53.8	7.7	23.1	30.8	15.4
Tillsonburg	53.8	n/a	23.1	n/a	23.1
Port Hope	57.1	n/a	14.3	n/a	14.3
Petawawa	33.3	n/a	33.3	n/a	33.3
Ingersoll					n/a
Kenora					n/a
Temiskaming Shores					n/a
Hawkesbury (ON part)					n/a
Elliot Lake					n/a
Non-CMA/CA	66.7	6.9	21.0	27.9	5.4

Table 29. Retention outcomes (counts) for selected communities in Immigrant Group 1, 2002-2011 cumulative cohort

	Stayed	NMF	Moved to CA or other location in ON	Moved to CMA in ON	Moved but stayed in ON	Moved elsewhere in Canada	Total
	A	B	C	D	C+D	E	
<i>Medium CAs</i>							
Owen Sound	80	10	15	35	50	10	150
Centre Wellington	75	10	10	35	40	0	125
<i>Small CAs</i>							
Kenora	35	5			10	5	55
Elliot Lake	25	5	n/a	10	n/a	5	45
Petawawa	20	5	15	15	30	5	60
Hawkesbury (ON part)	15	10	5	5	10	20	55
Temiskaming Shores	15	5	n/a	10	n/a	10	40

Table 30. Unadjusted retention outcomes (%) for selected communities in Immigrant Group 1, 2002-2011 cumulative cohort

	Stayed, % (RR)	NMF	Moved to CA or other location in ON	Moved to CMA in ON	Moved but stayed in ON	Moved elsewhere in Canada	Total
	A	B	C	D	C+D	E	
<i>Medium CAs</i>							
Owen Sound	53.3	6.7	10.0	23.3	33.3	6.7	100
Centre Wellington	60.0	8.0	8.0	28.0	32.0	0.0	100
<i>Small CAs</i>							
Kenora	63.6	9.1			18.2	9.1	100
Elliot Lake	55.6	11.1	n/a	22.2	n/a	11.1	100
Petawawa	33.3	8.3	25.0	25.0	50.0	8.3	100
Hawkesbury (ON part)	27.3	18.2	9.1	9.1	18.2	36.4	100
Temiskaming Shores	37.5	12.5	n/a	25.0	n/a	25.0	100

Table 31. NMF-adjusted retention outcomes (%) for selected communities in Immigrant Group 1, 2002-2011 cumulative cohort

	Stayed, NMF RR, %	Moved to CA or other location in ON	Moved to CMA in ON	Moved but stayed in ON	Moved elsewhere in Canada
	A	C	D	C+D	E
<i>Medium CAs</i>					
Owen Sound	57.1	10.7	25.0	35.7	7.1
Centre Wellington	65.2	8.7	30.4	34.8	0.0
<i>Small CAs</i>					
Kenora	70.0			20.0	10.0
Elliot Lake	62.5	n/a	25.0	n/a	12.5
Petawawa	36.4	27.3	27.3	54.5	9.1
Hawkesbury (ON part)	33.3	11.1	11.1	22.2	44.4
Temiskaming Shores	42.9	n/a	28.6	n/a	28.6

The data on retention outcomes, both unadjusted and NMF-adjusted, point to the fact that the largest communities have higher retention rates. That is, retention rates are dependent on urban area ‘magnetism’. This is confirmed with the fact that most immigrants who leave their communities by i+5 choose to reside in a CMA.

To illustrate the relationship between communities’ resident immigrant ‘stock’ at cohort (year i or i+1 taxfilers) and their retention rates, communities were ranked on each indicator, with 1 being the highest rank and 44 the lowest (43 communities and the Non-CA/CMA part of Ontario). These two rankings are plotted in the scatterplot below, showing position of each community on each ranking axis (*Figure 17*).

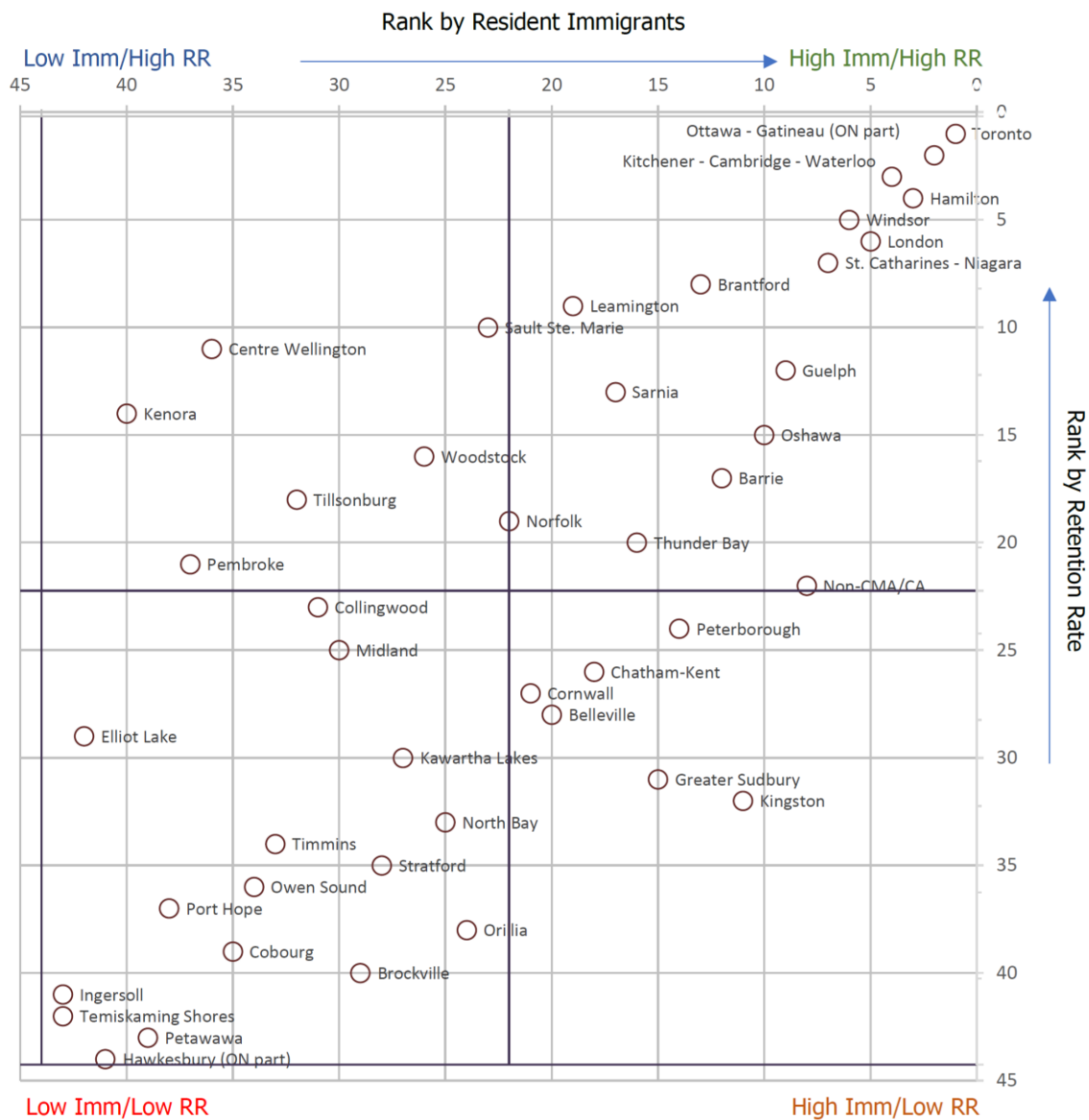


Figure 17. CMAs and CAs position in rankings by number of residing immigrants (X) and by NMF adjusted retention rate (Y), 2002-2011 cumulative cohort (Group 1).

Note: For Ingersoll, only the 2007-2011 cohort retention rate is available.

Figure 17 demonstrates where communities fall on the two rankings. Two major gridlines at ranking position 22 on each axis divide the plot into four quadrants. Hypothetically, if all the communities in Ontario, regardless of their size, which would be indicative of their capacity to attract and absorb new permanent residents, had similar retention rates, we would have observed a horizontal 'cloud' with variation along the 'residing immigrants' axis (X). In reality, capacity to retain is related to capacity to attract, forming a diagonal pattern, with NMF-adjusted retention rates varying from 91.4% for Toronto to 33.3% for Hawkesbury (2002-2011 cumulative cohort).

While, the diagonal pattern of the plotted CMAs and CAs illustrates the observed 'community size-immigrant stock-size-retention' dependency, there are many Medium and Small communities that are positioned in the 'Low Immigration' half-field but differ on the retention rate ranking.

A number of Medium and Small CAs are in the lower left quadrant in *Figure 17*, meaning that they are in double jeopardy: ranked lower on 'immigrant stock', these communities also do not retain immigrants well.

Centre Wellington is an interesting case. The community had an overall loss in the cumulative, over the two cohorts, outcome in the destination-to-residence relocation within Ontario (net migration in *Figure 6*). In addition, the community gained zero immigrants in the interprovincial destination-to-residence exchange (*Figure 16*). Despite the fact that almost all the immigrants destined there left (*Tables 16-18*), Centre Wellington received almost an equal number of immigrant residents from other communities in the 2007-2011 period, and the retention rate was much higher for this cohort than for the previous cohort. This success with the 2007-2011 cohort improved the overall community's ranking.

Communities spread away from the diagonal alignment are worthy of potential further investigation and comparison. Aside from community size, geographic proximity to a larger urban core, not only within Ontario but to an urban core in an adjacent province, is most likely to be a significant factor affecting the destination-to-residence redistribution pattern and the retention outcomes in the long run. An investigation of the geographic proximity factor is, however, beyond the scope of this study.

The overall collective retention rate for the communities in Ontario for the 2002-2011 cumulative Group 1 cohort of immigrants was 88.4% - NMF-adjusted (with 11.6% moved outside of the communities of initial taxfiling), and 81% - unadjusted. This collective rate is largely affected by the impact of Toronto as the highest immigrant-retaining CMA.

We hypothesised in the *Introduction* that Group 2 immigrants might be more mobile, since they had intended to land in other communities outside of Ontario but were resident taxfilers in the province. The next section discusses the retention outcomes for this group of immigrants.

6.2. RETENTION OUTCOMES FOR IMMIGRANT GROUP 2: NON-ONTARIO DESTINED

The geographic distribution of this immigrant group is largely defined by Toronto. Immigrants intending to land in other provinces, if they chose to live in Ontario instead, generally relocated to Toronto. Almost 75% of non-Ontario destined immigrants who came to Ontario instead resided in Toronto, with another 9% residing in Ottawa. The two metropolises concentrate 84% of Group 2 immigrants. Out of the remaining 16%, 13.7% chose to reside in other CMAs.

Table 32. Retention outcomes (counts) for Immigrant Group 2, 2002-2011 cumulative cohort

	Stayed	NMF	Moved to CA or other location in ON	Moved to CMA in ON	Moved but stayed in ON	Moved elsewhere in Canada	Total
	A	B	C	D	C+D	E	
<i>CMAs</i>							
Toronto	22335	2485	175	980	1155	2465	28440
Ottawa - Gatineau (ON part)	2315	340	45	240	290	485	3425
Kitchener - Cambridge - Waterloo	740	85	30	180	210	145	1180
Hamilton	625	120	15	200	215	105	1070
London	445	70	10	155	165	95	780
Windsor	510	75	15	85	100	85	770
St. Catharines - Niagara	200	40	n/a	70	n/a	30	345
Guelph	145	35	5	55	60	25	265
Kingston	90	35	5	45	50	40	215
Oshawa	95	10	5	55	60	15	175
Barrie	60	10	n/a	15	n/a	10	100
Greater Sudbury	20	10	n/a	25	n/a	30	80
Other CMAs: Belleville, Peterborough, Brantford, Thunder Bay	95	15	5	65	70	45	220
<i>Large CAs</i>							
Chatham-Kent	50	20	n/a	30	n/a	10	110
Other Large CAs: Cornwall, Kawartha Lakes, Norfolk, Leamington, Sarnia, North Bay, Sault Ste. Marie	100	15	10	75	85	65	270
<i>Medium CAs</i>							
Stratford	30	5				15	50
Other Medium CAs: Brockville, Pembroke, Centre Wellington, Woodstock, Owen Sound, Collingwood, Orillia, Midland, Timmins	50	10	5	20	25	20	100
<i>Small CAs</i>							
Small CAs: Hawkesbury (ON part), Petawawa, Cobourg, Port Hope, Ingersoll, Tillsonburg, Elliot Lake, Temiskaming Shores, Kenora	15	5	5	10	15	20	55
Non-CMA/CA	135	80	15	65	80	60	355
Total	28055	3555				6490	38010

With such a concentrated geography of residence, the role of other communities is minuscule. As a result, retention outcomes for this group had to be aggregated not only across years, into the 2002-2011 cohort, but across communities as well.

Table 33. Unadjusted retention outcomes (%) for Immigrant Group 2, 2002-2011 cumulative cohort

	Stayed, % (RR)	NMF	Moved to CA or other location in ON	Moved to CMA in ON	Moved but stayed in ON	Moved elsewhere in Canada	Total
	A	B	C	D	C+D	E	
CMA s							
Toronto	78.5	8.7	0.6	3.4	4.1	8.7	100
Ottawa - Gatineau (ON part)	67.6	9.9	1.3	7.0	8.5	14.2	100
Kitchener - Cambridge - Waterloo	62.7	7.2	2.5	15.3	17.8	12.3	100
Hamilton	58.4	11.2	1.4	18.7	20.1	9.8	100
London	57.1	9.0	1.3	19.9	21.2	12.2	100
Windsor	66.2	9.7	1.9	11.0	13.0	11.0	100
St. Catharines - Niagara	58.0	11.6	n/a	20.3	n/a	8.7	100
Guelph	54.7	13.2	1.9	20.8	22.6	9.4	100
Kingston	41.9	16.3	2.3	20.9	23.3	18.6	100
Oshawa	54.3	5.7	2.9	31.4	34.3	8.6	100
Barrie	60.0	10.0	n/a	15.0	n/a	10.0	100
Greater Sudbury	25.0	12.5	n/a	31.3	n/a	37.5	100
Other CMA: Belleville, Peterborough, Brantford, Thunder Bay	43.2	6.8	2.3	29.5	31.8	20.5	100
Large CA s							
Chatham-Kent	45.5	18.2	n/a	27.3	n/a	9.1	100
Other Large CAs: Cornwall, Kawartha Lakes, Norfolk, Leamington, Sarnia, North Bay, Sault Ste. Marie	37.0	5.6	3.7	27.8	31.5	24.1	100
Medium CA s							
Stratford	60.0	10.0				30.0	100
Other Medium CAs: Brockville, Pembroke, Centre Wellington, Woodstock, Owen Sound, Collingwood, Orillia, Midland, Timmins	50.0	10.0	5.0	20.0	25.0	20.0	100
Small CA s							
Small CAs: Hawkesbury (ON part), Petawawa, Cobourg, Port Hope, Ingersoll, Tillsonburg, Elliot Lake, Temiskaming Shores, Kenora	27.3	9.1	9.1	18.2	27.3	36.4	100
Non-CMA/CA	38.0	22.5	4.2	18.3	22.5	16.9	100
Total	73.8	9.4	0.9	6.2	7.1	9.9	100

Table 34. NMF-adjusted retention outcomes (%) for Immigrant Group 2, 2002-2011 cumulative cohort

	Stayed, NMF RR, %	Moved to CA or other location in ON	Moved to CMA in ON	Moved but stayed in ON	Moved elsewhere in Canada
	A	C	D	C+D	E
<i>CMA</i> s					
Toronto	86.1	0.7	3.8	4.5	9.5
Ottawa - Gatineau (ON part)	75.0	1.5	7.8	9.4	15.7
Kitchener - Cambridge - Waterloo	67.6	2.7	16.4	19.2	13.2
Hamilton	65.8	1.6	21.1	22.6	11.1
London	62.7	1.4	21.8	23.2	13.4
Windsor	73.4	2.2	12.2	14.4	12.2
St. Catharines - Niagara	65.6	n/a	23.0	n/a	9.8
Guelph	63.0	2.2	23.9	26.1	10.9
Kingston	50.0	2.8	25.0	27.8	22.2
Oshawa	57.6	3.0	33.3	36.4	9.1
Barrie	66.7	n/a	17.6	n/a	11.8
Greater Sudbury	28.6	n/a	33.3	n/a	40.0
Other CMAs: Belleville, Peterborough, Brantford, Thunder Bay	46.3	2.4	31.7	34.1	22.0
<i>Large CA</i> s					
Chatham-Kent	55.6	n/a	33.3	n/a	11.1
Other Large CAs: Cornwall, Kawartha Lakes, Norfolk, Leamington, Sarnia, North Bay, Sault Ste. Marie	39.2	3.9	29.4	33.3	25.5
<i>Medium CA</i> s					
Stratford	66.7				33.3
Other Medium CAs: Brockville, Pembroke, Centre Wellington, Woodstock, Owen Sound, Collingwood, Orillia, Midland, Timmings	55.6	5.6	22.2	27.8	22.2
<i>Small CA</i> s					
Small CAs: Hawkesbury (ON part), Petawawa, Cobourg, Port Hope, Ingersoll, Tillsonburg, Elliot Lake, Temiskaming Shores, Kenora	30.0	10.0	20.0	30.0	40.0
Non-CMA/CA	49.1	5.5	23.6	29.1	21.8
Total	81.4		18.8		

For the communities with available data on retention outcomes, comparing Group 2 with Group 1 reveals that the former tends to have lower retention rates than the latter. The Group 1 collective NMF-adjusted rate was 88.4% (11.6% moved to another location by year i+5). With an 81.4% NMF-adjusted rate and 18.8% leaving their residence ([Table 34](#)), Group 2 tends to be more mobility-prone than the destined to Ontario Group 1.

Group 2, across the observable communities, also tends to have a higher percentage of persons leaving to reside outside of Ontario by year i+5 than Group 1.

6.3. ANALYSIS OF RETURN RATES FOR IMMIGRANT GROUP 3

One of the research questions of this study asked whether immigrants destined to Ontario but choosing to reside elsewhere on landing ever come back to their original destination locations. For this reason, we distinguished Immigrant Group 3 and traced its cohorts' outcomes.

Based on the statistics presented in the tables below, a majority of immigrants intending to land in Ontario but choosing to live elsewhere upon landing continue to reside in another province and do not return to their original destinations. While, 5-years after landing, Toronto and Ottawa received back over 8% of the 2002-2006 cohort, and 10.0% and 7.6%, respectively, of the 2007-2011 cohort, the rest of the communities saw returns of only 3.6% and 4.3%, respectively for the two cohorts.

This does not mean that these immigrants do not come back to other parts of Ontario. However, other parts imply predominantly Toronto. In returning back to Ontario, the direction 'to Toronto' overshadows the 'return to original destination' direction.

Table 35. Outcomes (counts) for Immigrant Group 3, 2002-2006

2002-2006	Stayed outside of Ontario	Returned to Dest.	NMF	Returned to ON				Moved elsewhere outside of Ontario					Total
				Toronto	Ottawa - Gatineau	Other CA/CMAS	Other ON	Atl.	QC	Prairies	West	Total	
Ottawa - Gatineau (ON)	1580	175	245	75		30	10	15	80	110	40	245	2360
Toronto	12275	1405	1460		125	210	35	70	210	1315	480	2075	17585
Rest of ON	1975	95	315	125	25	35	10	20	35	280	75	410	2990
Total Group 3	15830	1680	2020	195	150	280	55	100	320	1705	600	2725	22935

Table 36. Unadjusted outcomes (%) and return rates for Immigrant Group 3, 2002-2006

2002-2006	Stayed outside of Ontario	Return Rate, %	NMF	Returned to ON				Moved elsewhere outside of Ontario					Total
				Toronto	Ottawa - Gatineau	Other CA/CMAS	Other ON	Atl.	QC	Prairies	West	Total	
Ottawa - Gatineau (ON)	66.9	7.4	10.4	3.2		1.3	0.4	0.6	3.4	4.7	1.7	10.4	100
Toronto	69.8	8.0	8.3		0.7	1.2	0.2	0.4	1.2	7.5	2.7	11.8	100
Rest of ON	66.1	3.2	10.5	4.2	0.8	1.2	0.3	0.7	1.2	9.4	2.5	13.7	100
Total Group 3	69.0	7.3	8.8	0.9	0.7	1.2	0.2	0.4	1.4	7.4	2.6	11.9	100

Table 37. NMF-adjusted outcomes (%) and return rates for Immigrant Group 3, 2002-2006

2002-2006	Stayed outside of Ontario	NMF adjusted. Return Rate, %	Returned to ON				Moved elsewhere outside of Ontario				
			Toronto	Ottawa - Gatineau	Other CA/CMAS	Other ON	Atl.	QC	Prairies	West	Total
Ottawa - Gatineau (ON)	74.7	8.3	3.5		1.4	0.5	0.7	3.8	5.2	1.9	11.6
Toronto	76.1	8.7		0.8	1.3	0.2	0.4	1.3	8.2	3.0	12.9
Rest of ON	73.8	3.6	4.7	0.9	1.3	0.4	0.7	1.3	10.5	2.8	15.3
Total Group 3	75.7	8.0	0.9	0.7	1.3	0.3	0.5	1.5	8.2	2.9	13.0

Table 38. Outcomes (counts) for Immigrant Group 3, 2007-2011

2007-2011	Stayed outside of Ontario	Returned to Dest.	NMF	Returned to ON				Moved elsewhere outside of Ontario					Total
				Toronto	Ottawa - Gatineau	Other CA/CMAS	Other ON	Atl.	QC	Prairies	West	Total	
Ottawa - Gatineau (ON)	1470	145	200	60		n/a	30	10	60	95	30	195	2100
Toronto	9435	1250	1130		90	n/a	225	65	135	915	355	1475	13605
Rest of ON	1775	110	285	140	40	n/a	70	25	35	275	65	400	2820
Total Group 3	12680	1505	1615	200	135	n/a	320	95	230	1285	450	2065	18520

Table 39. Unadjusted outcomes (%) and return rates Immigrant Group 3, 2007-2011

2007-2011	Stayed outside of Ontario	Return Rate, %	NMF	Returned to ON				Moved elsewhere outside of Ontario					Total
				Toronto	Ottawa - Gatineau	Other CA/CMAS	Other ON	Atl.	QC	Prairies	West	Total	
Ottawa - Gatineau (ON)	70.0	6.9	9.5	2.9		n/a	1.4	0.5	2.9	4.5	1.4	9.3	100
Toronto	69.3	9.2	8.3		0.7	n/a	1.7	0.5	1.0	6.7	2.6	10.8	100
Rest of ON	62.9	3.9	10.1	5.0	1.4	n/a	2.5	0.9	1.2	9.8	2.3	14.2	100
Total Group 3	68.5	8.1	8.7	1.1	0.7	n/a	1.7	0.5	1.2	6.9	2.4	11.2	100

Table 40. NMF-adjusted outcomes (%) and return rates for Immigrant Group 3, 2007-2011

2007-2011	Stayed outside of Ontario	NMF adjusted. Return Rate, %	Returned to ON				Moved elsewhere outside of Ontario				
			Toronto	Ottawa - Gatineau	Other CA/CMAS	Other ON	Atl.	QC	Prairies	West	Total
Ottawa - Gatineau (ON)	77.4	7.6	3.2		n/a	1.6	0.5	3.2	5.0	1.6	10.3
Toronto	75.6	10.0		0.7	n/a	1.8	0.5	1.1	7.3	2.8	11.8
Rest of ON	70.0	4.3	5.5	1.6	n/a	2.8	1.0	1.4	10.8	2.6	15.8
Total Group 3	75.0	8.9	1.2	0.8	n/a	1.9	0.6	1.4	7.6	2.7	12.2

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