

DETERMINANTS OF LOCALIZATION OF RECENT IMMIGRANTS ACROSS OECD REGIONS

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1. Introduction

1. International migration is one of the factors capable of compensating for some regional population ageing and/or alleviating severe labour shortages in some occupations. It is therefore crucial to understand the main drivers of the migrants’ localisation in order to maximising their contribution to the regional economic development. Many studies looked at these issues in a national context but, to our knowledge, this paper is one of the first attempts to give an international comparative picture of the localisation of the recent migrants.

2. There are various circumstances under which international migrants finally decide to move to another country. The category of entry largely determines the extent to which the migrant can decide where to locate and in some cases immigration authorities can hardly influence the migrants’ choice of localisation. For instance, close family members (who represent a major part of the permanent flows in most of the OECD countries) usually decide to migrate close by the principal applicants. Flows of refugees can sometimes be dispersed to less populated areas. Concerning labour flows, situations are very heterogeneous across the OECD countries and deserve attention to better understand in which extent regions and local authorities can play a role. In most of the countries, the recruitment of international workers is driven by the employers’ demand and often subject to a labour market test. In those cases, the regions may be a crucial link between the central/federal authorities and the employers when lists of occupations in demand are established. In some very limited cases (in Australia for instance), the regions can sponsor some migrants and therefore have a very active role in attracting and recruiting migrants. In any case, the region can influence the migrants by offering attractive services (language training, housing, education, health services etc.).

3. More generally, structural regional characteristics (economic “attractiveness”) can be a major driver in the migrants’ decision to migrate. Choices of localisation of low skilled migrants may be largely

determined by the labour supply whereas highly skilled migrants may take their decision not only on the basis of job offers but also on the basis of the general attractiveness of the receiving region (specific social services to migrants and their family – housing, education; measures to better integrate spouses and children; climate).

4. This paper is an attempt to test in which extent the recent migrants' localisation is determined by the presence of long-standing migrants with similar characteristics and/or by some structural regional characteristics. It points to differences in localisation of long-standing versus more recent migrant waves, as well as of skilled versus unskilled migrants. It is based on new data collected for 21 countries on the regional distribution of immigrants, by region of origin, duration of stay and skill level, circa 2005/06 through a collaborative project between the ELS and GOV directorates. The data collected provide a comparative overview of the geographic distribution of immigrants.

5. Results show that concentration patterns of migrants are indeed higher than those of the native-born for most OECD countries. There is a substantial inertia in the localisation of migrants, with network effects playing a significant role and persistent differences across regions in the distribution of both former and more recent migration flows. However, the data also show that in some cases, recent migrants tend to concentrate less in capital-city regions and more densely populated areas than former waves of migrants. This may reflect the fact that most regions now tend to host a very diverse population, so that newly landed migrants can easily get support from family members or members of their community even outside large agglomeration.

6. Concerning recent highly-skilled migration, results demonstrate the importance of existing stocks of highly-skilled workers as well as of attractive local labour market conditions. This may imply dynamic multipliers effects that have important implications for regional development policies.

7. This paper makes clear that regional characteristics matter in explaining both the size and the composition of immigration flows, migrants picking regions as well as countries. The results strengthen the point that there is a scope for influencing local endowments of human capital through regional policies focused on attracting and facilitating the integration of migrants. The design and effectiveness of these policy instruments deserve further analysis.

8. The paper is structured as follows. In the next section, the new data collected by the OECD are described. In section 3, an empirical analysis of patterns and determinants of concentration of recent immigrants to OECD regions is provided. In section 4, the determinants of the skill composition of recent immigration inflows are analyzed. Section 5 concludes with an overview of regional policy instruments that affect both migration inflows and the integration of migrants.

2. Data description

9. In the framework of the update of the database on immigrants in OECD countries (DIOC)¹ ELS has collected 2005/06 data on migrant stocks at regional level. Data were collected at territorial level (TL) 2 or 3 depending on the data source. The higher level (TL 2) consists of large regions, while the lower level (TL 3) is composed of small regions. For 9 countries, for which data are based on the latest available population census or on population registers, information was collected at TL3 (see table 1).

¹ www.oecd.org/els/migration/dioc

10. At the time of writing this document data were available for 21 countries, and were expected for 3 additional countries (Belgium, Greece and Germany)².

11. Data refer to population aged 15 and over and include information by educational attainment, age, duration of stay and region of birth. The education variable has been recorded in three levels, based on ISCED. Highly-skilled migrants are identified as those with an educational level corresponding to ISCED 5 or 6 and low-skilled migrants to ISCED 0/1/2. The age variable has also been collected in three categories 15-24; 25-64; 65+. Regions of birth identify Asia, Africa, Latin America, North America, Europe, Oceania and natives. Finally, the categories for the duration of stay variable include the following: less than one year, 1 to 5 years, 6 to 10 years and more than 10 years.

12. Immigrants are defined as persons who were born in a country other than their current country of residence.³ Recent migrants are defined as those settled in the country for less than 5 years and therefore who immigrated between 2000/01 and 2005/06.

Table 1. Data sources

	Source	Year	Territorial level
Australia	Census	2006	TL3
Austria	Microcensus	2004-06	TL2
Canada	Census	2006	TL3
Denmark	Population Register	2005	TL3
Finland	Population Register	2005	TL3
France	Census	2006	TL3
Hungary	Labour Force Survey	2004-06	TL2
Ireland	Census 2006	2006	TL3
Italy	Labour Force Survey	2004-06	TL2
Luxembourg	Labour Force Survey	2004-06	TL2
Mexico	Labour Force Survey	2005-07	TL2
Netherlands	Labour Force Survey	2004-06	TL2
New Zealand	Census	2006	TL3
Norway	Population Register	2005	TL3
Portugal	Labour Force Survey	2005-06	TL2
Slovak Republic	Labour Force Survey	2004-06	TL2
Spain	Labour Force Survey	2004-06	TL2
Sweden	Population Register	2005	TL3
Switzerland	Labour Force Survey	2004-06	TL2
United Kingdom	Labour Force Survey	2006	TL2
United States	American Community Survey	2005-07	TL2

3. Distribution of established and recent immigrants in OECD regions

Overview of the regional distribution of the foreign-born population

13. Different studies have approached the question of where migrants settle within countries. Most of these studies focus on only one country and use Census data to assess differences in concentration between immigrants and natives and among linguistic groups (e.g. Chiswick and Miller, 2004 for the United States

² Data will not be available for Chile, Czech Republic, Iceland, Japan, Korea, Poland, Turkey.

³ The foreign-born population includes nationals by birth born abroad and persons who have acquired the naturalisation of their current country of residence.

and Chiswick, Lee and Miller for Australia, 2002). There are relatively few studies that explicitly address the changes in the geographic concentration of immigrants over time (Funkhouser, 2000) or that use administrative data collected at the time of entry (Akbari and Harrington, 2005). These papers tend to find significant pull effects of migrant networks and proxies for employment opportunities. A rapidly increasing literature is starting to shed light on the local effects of immigration and population diversity on productivity (Peri, 2009, Ottaviano et al, 2009), on innovation outcomes, on the productive structure of regions, and on the capacity of regions to develop new trading networks (Combes et al. 2005, Rauch and Trindade 2002, Peri and Requena, 2009). This paper is one of the first attempts to provide comparable data across countries on the regional distribution of migrants. The analysis provides a first step towards more solid understanding of the effects of migration on regional development.

14. Immigrants are more concentrated than the native population in certain regions, although there are large variations across countries. This section measures the regional relative distribution of the foreign-born compared with the natives based on three different types of indicators: i) the share of immigrants I_i in the total population of the region P_i , ii) this share divided by the proportion of immigrants in the country $DI = (I_i/I)/(P_i/P)$, hereafter referred to as the density of immigrants in the region and iii) a relative Geographic Concentration Index. $GCI = \sum_i 0.5 \left[(I_i/I) - (P_i - I_i)/(P - I) \right]$ The relative

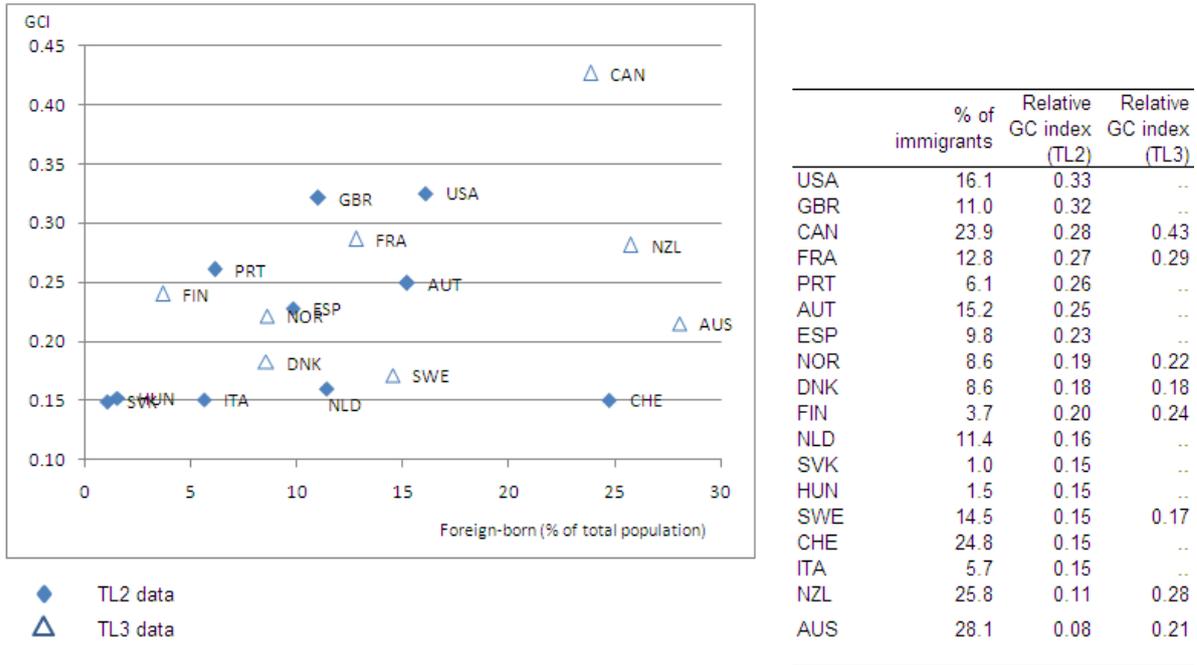
Geographic Concentration Index (GCI) measures the difference between the geographic distribution of the foreign- and of the native-born populations. It ranges from 0 (same distribution for foreign- and native-born population) to 1 (concentration of the foreign-born population in regions where the natives are relatively less represented). This indicator is also used in *Regions at a glance* (OECD, 2009).

15. Chart 1 presents the relative Geographic Concentration Index (GCI) for selected OECD countries circa 2005⁴. A first salient fact is related to the large differences across countries in terms of concentration of immigrants. The United States, the United Kingdom and Canada appear to be the countries where the concentration of the foreign-born population is the highest whereas the concentration is the lowest in Australia, Italy and Switzerland. In the latter countries, the relatively low level of the index suggests that the geographical distribution of immigrants and natives is relatively similar.

16. Diversity across countries is also observed in terms of the proportion of immigrants in the total population. This proportion (among the 15+ population) ranges from less than 5% (in Hungary and the Slovak Republic) to around 28% of the population in Australia (Figure 1). However, the degree of concentration appears not to be linked with the share of immigrants in the total population. In other terms, the concentration of immigrants is not necessarily lower in countries receiving more immigrants. Some countries are characterised by both a high proportion and a high concentration of immigrants (Canada, the United States) while some others have relatively high proportions of immigrants but relatively low concentrations of immigrants (Nordic countries). Portugal and Spain have high concentration with a low percentage of immigrants.

⁴ The indicator should be interpreted with caution as data at territorial levels 2 or 3 aggregate territories of different size. Further checks and comparisons with other sources of data are ongoing to verify the cross-country comparability of our results on concentration.

Figure 1. Size and relative concentration of the immigrant population, circa 2005

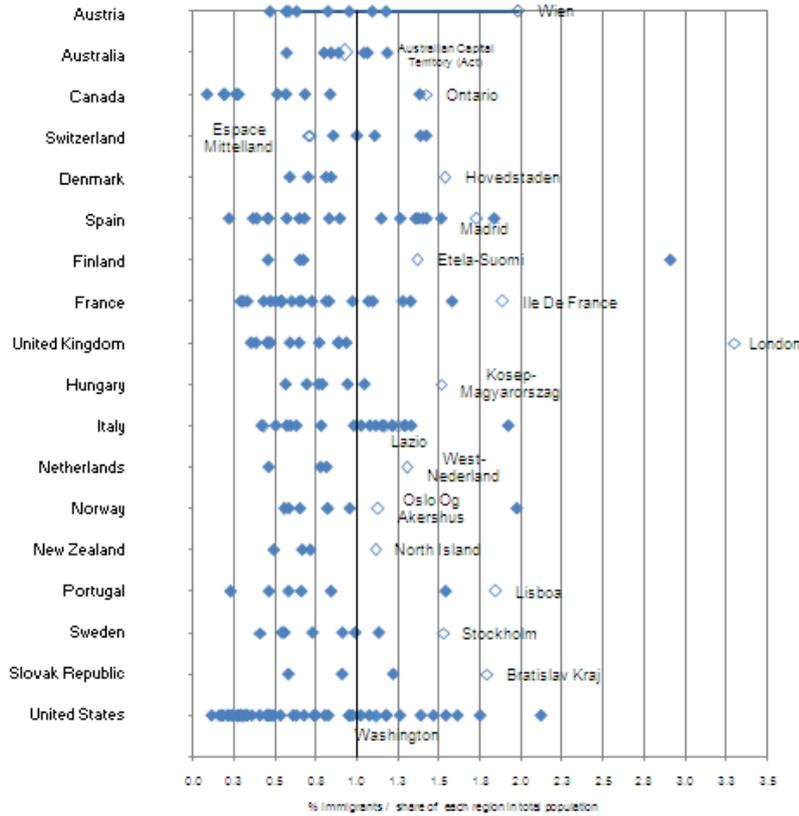


17. Figure 2 compares the regions within each country and presents the density index (DI). When immigrants are over-represented in a region (compared with the national average), the index is higher than 1 whereas it ranges from 0 to less than 1 when immigrants' are underrepresented in a region. In the United Kingdom, the density of the immigrant population is more than three times higher in London than on average. A similar finding apply to Austria, Denmark and Finland where the Density index in the capital city region is at least 1.5 times higher than in any other region. Higher density in the capital city region is also observed in other countries, except Australia, Italy, Spain, Switzerland and the United States.

18. In Italy, despite evident geographic differences, the presence of immigrants tends to be spreading to a large number of urban centres which are not just big city centers or medium-large cities but, increasingly, smaller municipalities (CNEL, 2007). In Spain too, immigrants' density is relatively high in many regions (Balears, Ciudad Autónoma De Melilla, Madrid, Comunidad Valenciana, Canarias, Murcia).

Figure 2.

Density of the immigrant population, by Territorial Level 2 regions, around 2005



◇ Capital-city region

19. When pooling all data available at territorial level 2 (around 2005), four of the American regions (California, New York, Texas and Florida) host the highest number of immigrants, more than 3.6 million of immigrants each (see table 2 and Map 1 in annex A). California hosts more immigrants than any OECD country and the State of New York would rank fifth, after Canada, Australia, the United Kingdom and France, if compared to OECD countries. More recent data would include Spain among those countries.

20. Ontario, Ile de France and London host between 2.2 and 3.3 millions of immigrants each. Other American as well as Australian, Canadian, Dutch and French regions are among the top 20. London is in a unique position as it is among the top 3 regions in terms of percentage of immigrants (more than a third of its population is foreign-born) and it also has the highest density of immigrants (3.3 more immigrants in London than observed on average in the United Kingdom). California, Vienna have also both a high proportion and density of immigrants. Some regions of more recent immigration countries, such as Friuli-Venezia Giulia, Lisboa, Baleares, Melilla, Algarve, Madrid appears among the top 20 regions in terms of density of the immigrant population.

Table 2.**Top 20 regions (TL2 level), around 2005**

Numbers		% of total population		Density	
USA - California	9 717 477	AUS - Western Australia	39.6	GBR - London	3.3
USA - New York	4 397 001	LUX - Luxembourg	37.4	FIN - Aland	2.9
USA - Texas	3 649 410	GBR - London	36.4	USA - California	2.1
USA - Florida	3 649 204	AUS - New South Wales	35.5	AUT - Wien	2.0
CAN - Ontario	3 339 895	CHE - Region Lemanique	35.2	NOR - Hedmark Og Oppland	2.0
FRA - Ile De France	2 241 139	AUS - Victoria	34.8	ITA - Friuli-Venezia Giulia	1.9
GBR - London	2 211 711	CHE - Ticino	34.4	FRA - Ile De France	1.9
AUS - New South Wales	1 857 658	USA - California	34.1	PRT - Lisboa	1.8
USA - New Jersey	1 805 205	CAN - Ontario	34.0	ESP - Baleares	1.8
USA - Illinois	1 752 690	CAN - British Columbia	33.0	USA - New York	1.8
AUS - Victoria	1 380 806	AUS - Australian Capital Territory	30.9	ESP - Ciudad Autónoma De Melilla	1.7
CAN - British Columbia	1 121 265	AUT - Wien	30.1	USA - New Jersey	1.6
USA - Massachusetts	995 195	AUS - South Australia	29.7	FRA - Provence-Alpes-Cote D'Azur	1.6
USA - Arizona	912 630	NZL - North Island	28.6	USA - Florida	1.5
NDL - West-Nederland	905 084	AUS - Queensland	28.2	PRT - Algarve	1.5
AUS - Queensland	867 830	USA - New York	28.2	DNK - Hovedstaden	1.5
USA - Georgia	864 738	CHE - Zürich	27.5	SWE - Stockholm	1.5
CAN - Quebec	840 915	AUS - Northern Territory (Nt)	26.7	ESP - Madrid	1.5
USA - Virginia	816 051	USA - New Jersey	25.9	HUN - Kosep-Magyarország	1.5
FRA - Provence-Alpes-Cote D'Azur	804 666	CHE - Nordwestschweiz	24.8	USA - Nevada	1.5

Regional distribution of recent migrants

21. International migration trends have both intensified and diversified in terms of countries of destination and immigrant characteristics in the past decades. Although this phenomenon is well documented at national level (OECD, 2010 and previous editions) few analyses have been looking at changes in regional concentration of migrants and, to our knowledge, none in a cross-country framework.

22. Recent migration trends have been marked by a rapid increase in inflows, notably in southern European countries and in the United Kingdom and Ireland in the context of the EU enlargement. For the 21 OECD countries covered in this study, recent immigrants (those who arrived in the last 5 years to 2005/06) represent 14.6 million and make up approximately 20% of all foreign-born. The share of recent immigrants is particularly high in Spain (70%) and in Ireland (50%).

23. Table 3 (see also map 2 in Annex A) shows the regions hosting the largest numbers of recent migrants. Spain appears as a major new immigration country with 4 of its regions (Madrid, Cataluna, Comunidad Valenciana and Andalucia) among the top 20 TL2 regions in absolute value. In these Spanish regions (except in Cataluna), recent migrants (in the country for 5 years maximum) represent more than 8% of the total population of the region. California is the first region, both for total immigrants and recent ones while London emerges as a major region for recent immigrants (second in the list in absolute value and in terms of density, first in terms of percentage of the population – more than 13% of the Londonian population were recent migrants). Two Portuguese regions (Algarve and Lisboa) are among the top 5 regions in terms of density of recent immigrants.

24. Some regions which have welcomed important waves of migration in the past continue to receive relatively high number of immigrants. This is true for most North American traditional receiving regions but also for Ile-de-France. Less populated regions, such as Vienna, Zurich, have nevertheless a particularly high proportion of recent migrants among their population.

Table 3.

Top 20 regions (TL2 level) of recent immigrants (5 years of residence or less), around 2005

Numbers		% population of the region	Density		
USA - California	1 206 993	GBR - London	13.1	FIN - Aland	3.4
GBR - London	795 159	ESP - Murcia	9.5	GBR - London	3.3
USA - Florida	594 924	ESP - Baleares	9.4	PRT - Algarve	2.4
USA - Texas	588 990	ESP - Comunidad Valenciana	8.8	PRT - Lisboa	2.2
USA - New York	552 552	ESP - Madrid	8.8	AUT - Wien	2.2
CAN - Ontario	464 865	NZL - North Island	8.3	FRA - Ile De France	2.0
ESP - Madrid	435 013	ESP - Rioja	7.4	NOR - Hedmark Og Oppland	1.8
ESP - Catalunya	410 406	CHE - Region Lemanique	7.3	HUN - Kosep-Magyarország	1.7
ESP - Comunidad Valencian	339 421	ESP - Catalunya	7.1	ESP - Murcia	1.7
USA - New Jersey	270 102	LUX - Luxembourg	6.7	ESP - Baleares	1.7
USA - Illinois	255 878	ESP - Canarias	6.3	USA - California	1.7
FRA - Ile De France	239 206	AUT - Wien	6.2	USA - Florida	1.6
GBR - South East	237 578	ESP - Navarra	5.6	USA - Nevada	1.6
ESP - Andalucia	229 289	CHE - Zürich	5.5	ESP - Comunidad Valenciana	1.6
NDL - West-Nederland	224 355	NZL - South Island	5.2	ESP - Madrid	1.6
AUS - New South Wales	214 612	ESP - Aragon	5.2	ITA - Marche	1.6
NZL - North Island	197 496	IRL - Southern And Eastern	5.0	CHE - Region Lemanique	1.6
USA - Georgia	191 683	CAN - Ontario	4.7	ITA - Provincia Autonoma Di Ti	1.5
USA - Arizona	178 263	CHE - Ticino	4.7	USA - New Jersey	1.5
USA - Massachusetts	174 306	NOR - Hedmark Og Oppland	4.6	ITA - Veneto	1.5

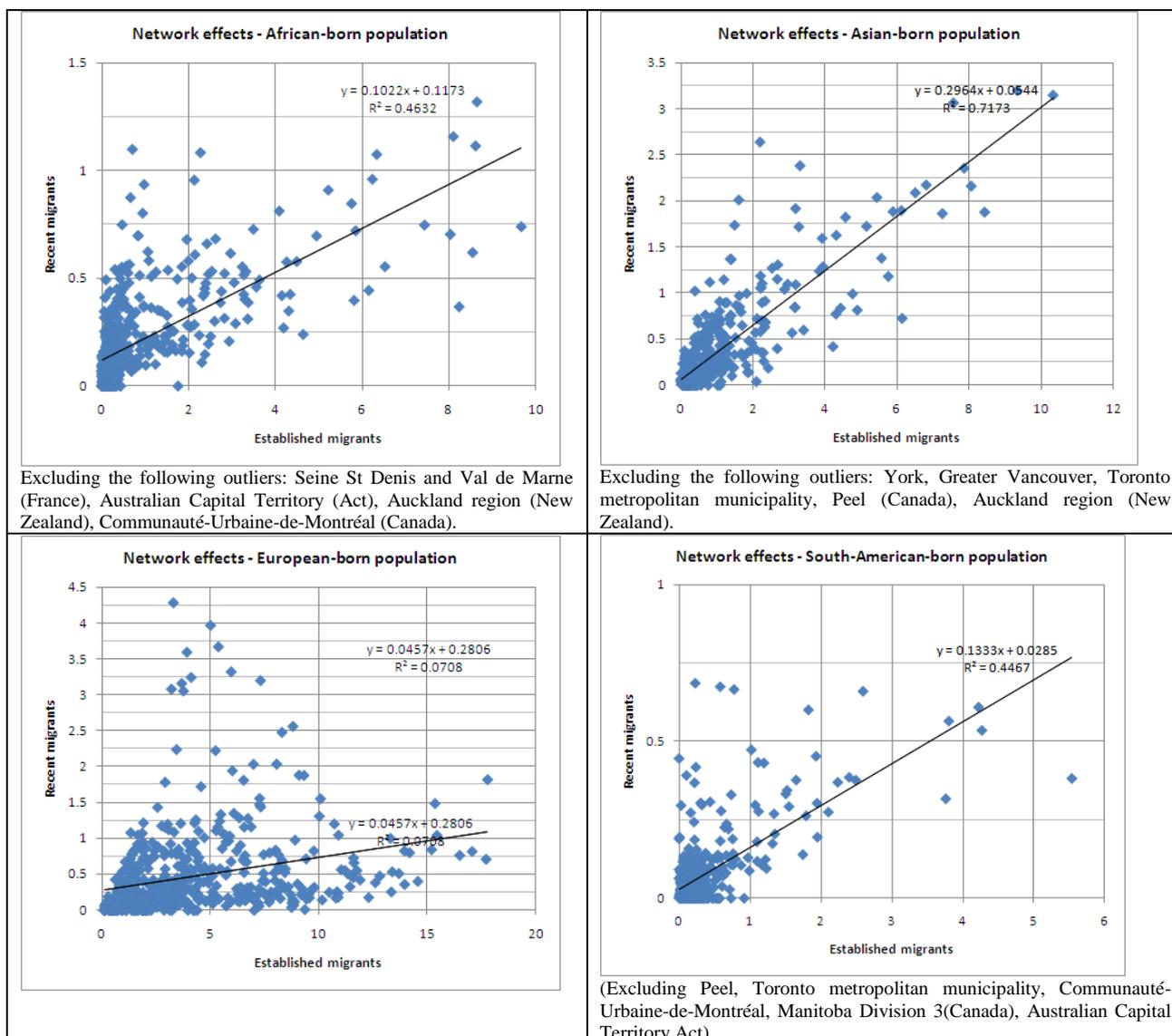
25. Two opposite effects contribute to explaining the changes or the persistence in the regional distribution of immigrants. On the one hand, network effects tend to generate inertia in the settlement choices of recent immigrants; on the other hand, specific policies and regional economic development may contribute to channeling migrant towards new settlement regions.

26. Figure 3 shows a strong correlation between the percentage of recent and established migrants, in particular among the Asian-born community. Asian-born new migrants tend to select regions where Asian-born already settled in the past. The network effect seems also quite robust among the African- and Oceanian-born.

27. The network effect is not identifiable in the case of European migrants. The reason for that is related to the impact of EU enlargement in 2004 on the composition by region of origin of migration flows in several European receiving countries. In this context, new migration channels emerged from new EU member States to regions that were not used to receiving flows from Eastern European countries.

28. The diversification of migration to new regions of destination is also visible for African-born migrants and, to a lesser extent, for Latin-American migrants. In the latter case this seems to be largely due to the recent economic development of specific regions in Spain and Portugal.

Figure 3. Proportion of recent and established migrants in the regional population (TL3)



Note: include only receiving countries for which TL3 data are available.

29. Another aspect to consider is the change in relative regional concentration of immigrants. Differences between recent and established migrants in terms of regional concentration could be explained by i) changes in the relative attractiveness of the regions, ii) changes in the composition of migration by origin country or by iii) secondary migration (ie. mobility across regions of established migrants). The data show a mixed picture as concentration of immigrants decreases with their duration of stay for example in Austria, Ireland or Denmark, while the opposite is observed for Norway and the United States. In other countries the highest concentration is observed for those arrived for more than 5 years but less than 10 years.

30. Further analysis would be required to disentangle the cohort effect from the impact of duration of stay. In particular, it would be useful to better understand if people first pick regions where entry costs are lower and subsequently move to other regions as their acquire more country-specific social and human capital or if recent migrants simply have different strategies or incentives.

31. Labour mobility within countries –whether of immigrants or native-born population – is crucial to understand how the changing economic structure of regions is related to their human capital endowments. First comparative analysis based on small regions in 17 countries is carried out in a companion paper (OECD 2010). Integration of these different data on migrant stock and interregional flows would provide a relevant picture of the changing demography of OECD countries.

Determinants of recent immigration to OECD regions, an empirical model

32. This section explores through multivariate analysis what are the most important regional characteristics affecting the spatial pattern of immigration in our sample of OECD countries. In this model, the dependent variable is the number of recent immigrants in OECD region i , for country y , from the region of origin j , normalized by the total population of region i in 2000 (Inflows_{ij (2001-2005)}). It is modelled as a linear function of a set of variables N_{ij} proxying the importance of past migration to the region i , a set of control variables X_{iy} referring to demographic and labor market characteristics of i , and country fixed effects:

$$\text{Inflows}_{ijy (2001-2005)} = \alpha_{ijy} + \beta' N_{ijy} + \gamma' X_{iy} + \lambda_j + \eta_y + \varepsilon_{ijy}$$

Where η are dummies for destination countries, λ_j are region of origin dummies, and ε is an error term.

33. All the explanatory variables are computed at the year 2000 to reduce simultaneity concerns. The vector N includes the number of immigrants settled in 2000 or before in i from j (Established_{ij}) and the number of established migrants from other regions (OtherMig). The vector of regional characteristics X includes a dummy for whether the region hosts the national capital (Capital region), the population density of i (dens_{i,2000}), the unemployment rate (UnRate), the female and male labor market participation rate (PA_RateF and PA_RateM), the GDP per capita in PPP (PC_GDP), the proportion of employed people in agriculture, in services and in construction (PropAgr, PropSer, PropCons respectively), the proportion of people aged 65 or more (PropOld), and the proportion of highly-skilled people (ISCED5/6).

34. Given our source of data, the dependent variable is computed as cumulated stocks of arrivals between 2000 and 2005. The implicit assumption in the model is thus that regional structural characteristics affecting inflows over the five year period are not highly time-varying over the period, so that for example the employment structure in 2000 is a reasonable predictor of inflows in 2004-5. More robust inference of the effect of location characteristics on inflows could be obtained by studying how *changes* in levels of inflows are affected by *changes* in regional characteristics. While such an analysis is not currently feasible⁵, it could be undertaken once comparable data are collected for the period 2009-2011.

35. The model is estimated through ordinary least squares. Given that each observation refers to the region/ region of origin cluster, robust standard errors are corrected for the correlation within the cluster. The results of the model are shown in table 4.

⁵ Robust identification of determinants of change in the distribution of immigrants is complicated by the cross-sectional nature of our data. Changes in absolute numbers of migrants between 2000 and 2005 are measured with error as a fraction of those identified as migrants in 2000 (those with more than five years of duration of stay in 2005) may have returned to origin countries or moved to other countries. Further data collection and integration of our data with administrative data on flows (currently collected) it is possible to address these shortcomings and strengthen the policy implications of the findings.

36. In the first column, the inflows of immigrants between 2000 and 2005 are only explained by the population size and by the intensity of previous immigration to the region. As can be seen, these stock variables alone explain around 15% of total variance. Only the number of established migrants from the same region of origin is a statistically significant positive determinant of immigration flows. This result is partly explained by the relatively high correlation among the stock variables, and clearly shows the high importance of past migration in explaining current inflows. Network effects reducing the cost and increasing the value of immigration investment are one factor behind this phenomenon of immigration “chains”. Unobservable regional characteristics or shocks specific to each region of origin can also partly explain the positive correlation between past and actual immigration to OECD regions.

37. In the second column (model 2), the main regional characteristics are added. The fit of the model is greatly improved. The implicit assumption behind this specification is that all regions compete among each other in attracting migrants. This obviously neglects the specific role of countries in selecting and attracting migrants that materialize inter-alia through migration policies but also linguistic, cultural and historical links. These will be controlled for in the third model described below.

Table 4. Regional determinants of immigration

	Inflows (1)	Inflows (2)	Inflows (3)
Established/1000	0.000328*** (-9.40E-05)	0.00105*** (-3.20E-04)	0.00102*** (-0.00032)
OtherMig/1000	4.68E-05 (-3.43E-05)	-1.04E-04 (-6.38E-05)	-6.81e-05* (-4.03E-05)
Capital region		0.00171 (-0.0167)	0.00123 (-0.0141)
PropOld		0.110* (-0.0589)	-0.0929 (-0.0895)
POP_DEN		4.52E-06 (-9.61E-06)	-8.04E-06 (-8.74E-06)
PC_GDP		2.94E-07 (-3.89E-07)	2.24E-07 (-4.10E-07)
UN_rate		-0.00143* (-0.00074)	-0.00366*** (-0.00112)
PA_RATEF		-0.00246*** (-0.00076)	-0.0014 (-0.00095)
PA_RATEM		0.00302*** (-0.0006)	0.00253*** (-0.00065)
PropAgr		-0.234** (-0.0948)	-0.149 (-0.11)
PropSer		0.000736 (-0.031)	0.145*** (-0.0373)
PropCons		1.058*** (-0.199)	-0.138 (-0.293)
ISCED 5/6		0.00124** (-0.00056)	-0.00125 (-0.00084)
Asian	0.00984** (-0.00436)	0.00608 (-0.00487)	0.00549 (-0.00502)
Europe	0.0491***	0.0393***	0.0405***

	(-0.00867)	(-0.00861)	(-0.00881)
North-America	(-0.0277***)	-0.0163***	-0.0154***
	-0.00345)	(-0.00325)	(-0.00339)
Oceania	(-0.0283***)	-0.0136***	-0.0129***
	-0.00367)	(-0.00315)	(-0.00329)
South/Central America	0.0458***	0.0601***	0.0606***
	(-0.00906)	(-0.0115)	(-0.0115)
Constant	0.0297***	-0.176***	-0.127**
	-0.00336)	-0.0503)	(-0.0631)
Observations	1080	807	807
R-squared	0.149	0.345	0.392

Note: the dependent variable is calculated as: (number of immigrants from origin j settled in region i / population in region i)*1000. Robust standard errors in parentheses, corrected for intra-cluster correlation. *** p<0.01, ** p<0.05, * p<0.1. In column 3 country fixed effects are included but not displayed. The reference country being Australia, the following country dummies enter with a positive sign, statistically significant at the 10% level: Austria, Spain, France, Sweden, USA.

38. Results from model (2) show that recent migration is lower in regions with higher unemployment rates and a lower labour market participation of men. Regions where the proportion of employed persons in agriculture is the highest, also receive, everything else being equal, less migration. Conversely, there are higher shares of migrants in regional economies where the construction sector is a more important employer. Lastly, it appears that migration increases with the proportion of highly educated people in the region.

39. The third column (model 3), includes dummies for countries of destination. In this case, differences in educational attainment of the workforce across regions and the relative size of the agricultural sector is no longer statistically significant, suggesting that the regional variations identified previously are in fact captured by specific country effects. Interestingly, regions where higher percentages of people are employed in the service sectors tend to attract more migrants even controlling for cross-country differences. This is illustrative of the unfolding dispersion of migrant workers beyond traditional industries in both high-skilled and low-skilled services.

40. Overall, the result in column 3 show that characteristics of the destination region matter in explaining early location choices of the new immigrants. Immigrants who landed in OECD in the last five years thus pick regions, not only countries. The local labour market situation seems to play an important role in the attractiveness of regions for recent migrants but, ceteris paribus, capital city region does not play a specific role. More surprisingly, the relative importance of recent migration is uncorrelated to the GDP per capita of the region, which may suggest that emerging economic regions are increasingly attractive for migrants.

4. Distribution of recent skilled migrants

Overview of the location choices of the highly skilled migrants

41. In the mid 2000, many OECD countries intensified changes in their immigration policies to attract more highly qualified workers and respond to emerging labour demand in ICT and specific professional occupations (e.g. health education, financial engineering etc.) (Chaloff and Lemaitre, 2009). This resulted in a global competition for skills among most of those countries. The past decade has indeed seen a substantial increase in the employment of recent immigrants with tertiary educational attainment.

42. This phenomenon is particularly visible in recent immigration countries such as Ireland, Italy, Norway and Spain, but also in long-standing immigration countries such as Belgium, France and Luxembourg. However, in most OECD countries low-skilled migration has been on the increase because of structural needs in specific sectors, such as agriculture, construction, or domestic services and caring.

43. The previous section has emphasized the importance of network effects and of the local labour market situation in attracting recent migrants. It might be the case, however, that highly-skilled and low-skilled migrants respond to different types of factors when picking a destination region. Reasons for that could be due for example to local human capital externalities or to specific complementarities between different types of labour at regional level. The distribution of recent high-skilled migration might consequently differ from that of low-skilled.

44. Why is it important to consider separately skilled and unskilled immigration flows to regions? Essentially for two reasons. First, information on the skill composition of immigration is necessary to make prediction on its likely effects on local labor markets. Second, there is increasing evidence that networks of highly skilled migrants bring higher productivity, entrepreneurial assets and trading opportunities to host regions.

45. Table 5 (see also map 3 in Annex A) shows that the four American regions (California, New York, Florida and Texas) which draw a big part of the recent migration flows are also major receiving regions of highly-skilled migrants. This is also true for Ontario, but in addition to that region, three more Canadian regions (British Columbia, Alberta and Quebec) appear in the top 20 regions for the highly-skilled. Some European regions (Swiss region lémanique, Luxembourg, Zurich) also succeed in attracting skilled migrants as well is New Zealand and some Australian regions (New South Wales, Australian Capital territory and Victoria).

Table 5.

Top 20 regions - Recent skilled migrants

Numbers	% of total population	Density
USA - California	322 205	CHE - Region Lemanique 3.4
CAN - Ontario	275 305	LUX - Luxembourg 3.2
USA - New York	168 816	NZL - North Island 3.2
USA - Florida	167 186	CAN - Ontario 2.8
USA - Texas	127 010	CHE - Zürich 2.7
AUS - New South Wales	106 488	CAN - British Columbia 2.5
ESP - Madrid	106 089	IRL - Southern And Eastern 2.4
CAN - Quebec	99 060	ESP - Madrid 2.1
ESP - Catalunya	91 748	ESP - Comunidad Valenciana 2.1
FRA - Ile De France	91 260	AUS - New South Wales 2.0
USA - New Jersey	90 408	AUS - Australian Capital Territory (Act) 2.0
CAN - British Columbia	85 520	AUS - Victoria 1.9
USA - Illinois	85 077	NZL - South Island 1.9
ESP - Comunidad Valenciana	81 914	CHE - Nordwestschweiz 1.9
AUS - Victoria	77 020	CAN - Alberta 1.8
NZL - North Island	74 907	AUS - Western Australia 1.8
USA - Massachusetts	59 004	ESP - Baleares 1.7
IRL - Southern And Eastern	57 623	CAN - Quebec 1.6
NDL - West-Nederland	56 022	IRL - Border - Midlands And Western 1.6
USA - Virginia	55 858	ESP - Catalunya 1.6
		ITA - Umbria 2.7
		AUT - Wien 2.3
		PRT - Algarve 2.2
		FRA - Ile De France 2.2
		USA - District Of Columbia 2.1
		PRT - Lisboa 2.0
		NOR - Hedmark Og Oppland 1.9
		ESP - Madrid 1.8
		USA - New Jersey 1.8
		ESP - Comunidad Valenciana 1.8
		ITA - Veneto 1.8
		ITA - Marche 1.7
		FIN - Aland 1.7
		CHE - Region Lemanique 1.7
		DNK - Hovedstaden 1.6
		SWE - Stockholm 1.6
		USA - Florida 1.6
		HUN - Kosep-Magyarország 1.6
		USA - Maryland 1.6
		USA - California 1.6

46. Therefore the picture of the regions which manage to attract recent highly-skilled migrants is not exactly the same as the one depicted in the previous section for total recent flows. To which extent the regional economic attractiveness plays a role in the choice of location of this type of migrants? Descriptive analysis shows that in some countries, richer regions seem to attract more skilled migrants than other regions. This relationship is observed for example for Italy and to a lesser extent in Australia and the

United States (see Chart B1 in Annex B). In these countries regions which have an above-average GDP per capita also tend to have above an average share of recent highly-skilled migrants. However, for most other countries, the correlation at this level of detail is not straightforward, suggesting there are other factors involved.

47. New skilled migrants could preferably decide to settle in regions where there is already a large proportion of skilled workers but Chart B2 (Annex B) suggests that in most countries regional density of the new skilled migrants does not increase with the density of their native-born counterparts. The native-born skilled workers are indeed relatively spread uniformly over the whole territory compared with the foreign-born workers who tend to be more concentrated in specific regions. One notable exception however is Canada where foreign-born highly-skilled migrants are over-represented in regions where native-born highly skilled are under-represented, suggesting that there may be a complementary effect. More detailed analysis by industries would be necessary to better understand the nature and the scope of the observed relationship between the two variables.

A model of skilled migration to regions

48. In order to understand which regional characteristics are associated with relatively higher inflows of skilled migrants, we propose the following model:

$$\text{Skilled}_{ijy (2001-2005)} = \alpha_{ijy} + \beta_1' \text{NSk}_{ijy} + \beta_2' \text{NUns}_{ijy} + \gamma' \text{X}_{iy} + \lambda_j + \eta_y + \varepsilon_{ijy}$$

49. The dependent variable (Skilled) is the share of recent migrants who completed tertiary education. Network variables are also decomposed by skills (NSk and Nuns indicating respectively the number of established skilled migrants and unskilled migrants in the region) to verify whether highly skilled immigrants tend to choose regions where other skilled migrants are already located. The results are shown in table 6.

50. As before, the specification in column 1 only includes migrant and native population stock variables. Interestingly, the stock of unskilled migrants in the region in 2000 is negatively correlated with the proportion of recent highly-skilled migrants in 2005. Conversely, a higher stock of skilled migrants in the region seems to affect positively skilled migration. Two possible explanations can be advanced. The first is that unobserved regional characteristics affect both recent and long standing highly-skilled migration. Another possible explanation points to network effects that would be specific for the highly skilled. Skilled established migrants might be more aware of job openings for skilled incumbents and might pass on the information to other educated people in their origin communities. If such “chain effects” exist it would have important consequences for regional development policies.

51. Column 2 adds demographic, labor markets and production characteristics of regions as explanatory variables. The increase in the R-Squared is more moderate compared to what has been observed in the previous section. The unemployment rate significantly reduces the proportion of recent skilled immigrants in that region and the variable is highly significant. It is possible that skilled migrants are particularly well informed about local labour market conditions or that they are specifically attracted by more dynamic regions.

52. As expected, the share of employment in agriculture is positively related to the share of recent low-skilled migrants. More surprisingly, the share of recent highly-skilled migrants is not significantly correlated with the proportion of highly-educated in the region. This result confirms the mixed finding in the descriptive exploration. It is probably partly due to the high correlation of the education variable with the stock of skilled migrants and other regional characteristics inserted as regressors in the model. This

would deserve further exploration as it helps understanding whether migration is acting as a mechanism for skill convergence or divergence across regions.

Table 6. Regional determinants of highly skilled migration to regions

	OLS Skilled (1)	OLS Skilled (2)	OLS Skilled (3)
Established Unskilled	-0.435** -0.192	-0.413** -0.161	-0.385** -0.148
Established Skilled	0.701* -0.376	0.257* -0.149	0.206** -0.102
Native population size	0.00343 -0.00342	0.00692** -0.00308	0.00352* -0.00209
Capital region		-11.08 -7.532	3.677 -3.685
Propold		-53.11** -22.59	7.426 -22.22
POP_DEN		-0.00283 -0.00303	0.00204 -0.00233
PC_GDP_USD_PPP		-0.00011 -0.00017	-0.00015 -0.00015
UN_RATE		-1.411*** -0.436	-0.633** -0.305
PA_RATE_F		-0.600** -0.263	-0.396* -0.222
PA_RATE_M		0.253 -0.281	-0.165 -0.206
Propagr		-96.68*** -32.16	-52.40** -24.2
Propser		34.02** -15.37	-13.87 -15.51
Propcos		-349.6*** -64.68	-36.01 -79.68
ISCED 5/6		0.129 -0.195	0.443** -0.217
Asian	12.77*** -1.935	13.26*** -2.12	13.53*** -2.101
Europe	14.62*** -1.808	14.68*** -2.138	15.55*** -2.135
North-America	39.90*** -2.406	33.60*** -2.545	33.37*** -2.522
Oceania	32.54*** -3.267	22.93*** -3.475	21.93*** -3.478
South/Central America	0.476 -2.632	-1.352 -3.235	-1.46 -3.26
Constant	40.60*** -2.332	97.50*** -24.14	117.6*** -21.01
Observations	1028	824	824
R-squared	0.239	0.354	0.464

Note: the dependent variable is calculated as: (number of immigrants with ISCED level 5 or higher from origin j settled in region i after 2000 / number of immigrants from origin j settled in region i after 2000)*100. Robust standard errors in parentheses, corrected for intra-cluster correlation *** p<0.01, ** p<0.05, * p<0.1. In column 3 country fixed effects are included but not displayed. The reference country being Australia, the following country dummies enter with a negative sign, statistically significant at 1% level: Austria, Canada, Spain, Finland, France, Hungary, Norway, Portugal and US. Dummies for Czech and Slovak Republics and

for Ireland have a negative sign but are statistically significant only at the 10% level. 1.

53. The coefficients of the region-of-origin dummies have to be interpreted with respect to immigration from Africa as a reference category. All the other regions of origin send a higher share of skilled migrants to OECD regions, with the exception of South and Central America. The period we are considering was characterized by a very large surge in relatively low-skilled migration from South America, in particular towards Spanish regions. Interestingly, the coefficient on the Asian dummy is very similar in size to the one referring to migration from Europe. This result confirms the selective character of migration from Asian countries.

54. The third column adds destination-country fixed effects. The specification in column 3 makes it possible to control implicitly for cross-country difference in migration policies to attract highly skilled migrants. In the selected OECD countries included in this analysis, some indeed have adopted selective migration policies (e.g. the point systems in Australia, Canada and New Zealand) while others give less importance to educational attainment of migrants in their admission criteria (e.g. Italy, Spain...).

55. The presence of educated migrants in the region keeps its importance as a pull factor for skilled immigration. Unemployment differentials within countries are again a significant deterrent of skilled migration. Labor participation of women now enters with a significant negative sign. A possible explanation is the larger market for unskilled household services (child and elderly day-care) in regions with larger potential supplies of women's labour. Importantly, the education level of the region increases in magnitude and gains statistical significance. There are lower shares of skilled immigrants in all destinations other than Australia, the reference country having the strongest skill-selective migration system in place. Interestingly, the difference is marginal with respect to Canada, but gets much higher for Spain.

56. In conclusion, regional characteristics appear to play a significant role not only in affecting the size of immigrant inflows, but also their composition. The fact that variables proxying the "urban agglomerations – population density and capital region dummy – have no significant coefficients seems to show that there are no other migrant agglomeration effects related to cities, once one controls for their observable production characteristics and endowments of established immigrants.

5. Can regional policy affect the size and skill composition of immigrant inflows?

57. This paper has shown that there are important differences in the distribution of migrants within OECD countries. These regional differences in the size and in the composition of migration inflows suggest that the effects of migration on the labour market, on the availability and costs of service provision, on entrepreneurship and productivity can be strongly asymmetric within countries. As such, place-based policies to gain from migration and reduce possible costs need to be designed.

58. The important role that immigration can play in reducing labour shortages in remote and ageing communities has been recognized in the regional policy reports of several OECD countries. New migration policy measures have been experimented to provide higher incentives for international migrants to settle outside large agglomerations.

59. This conclusive section discusses the possible role of regional policies in affecting migration inflows to regions and the contribution of migrants to regional development. Three key aspects are presented: the increasing role of local and regional authorities in attracting and recruiting migrants; the need of coordination among different levels of government in migration policies; the involvement of different stakeholders at local level to attract skilled migrants and more generally the leverage of regional policy to improve the integration of immigrants and so to improve their contribution to regional development.

Recruiting migrants: the increasing role of local and regional authorities

60. In the framework of national policies, local authorities are playing an increasing role in the management of migratory flows in several OECD countries (box 1). Demographic changes and ageing have hit some regions more than others and local authorities have put in place measures to support migration towards less densely populated areas and/or regions with a higher share of elderly population.

Box 1. Role of sub-national authorities: The case of Australia, Canada and the United Kingdom

The strong emphasis on supporting migration to regional and low population growth areas of Australia is a key element of the Australian immigration policy. In order to obtain certain visas, migrant candidates to Australia can be sponsored by a region, receiving extra points. Working Holiday and Occupational Trainee visa holders are eligible to apply for and obtain a Skilled Regional Sponsored (SRS Provisional) visa without leaving Australia. As with other SRS (Provisional) visa applicants, they must be sponsored by an authorized state or territory government agency, regional certifying body or designated relative. This measure has the additional advantage of attracting people who already have work experience in Australia. The pass mark under the GSM points test for this visa has been set at 100 points, further enhancing its attractiveness. Students in Australia seeking to remain permanently can still obtain additional points for studying in regional institutions but can now nominate either a 50 or a 60 point occupation to meet the points test. Similarly, for self-employed candidates, the number of points needed is reduced if they undertake to create a business in a sparsely populated area.

In Canada, through the program "Citizenship Immigration Canada" signed and renewed a number of federal-provincial agreements that give the provinces the right to nominate immigrants specifically destined for settlement in their jurisdiction. The number of provincial nominees increased by 66% in 2006 and, as a result, the total for the whole country reached 13,336. Manitoba accounted for one-half of Canada's provincial nominees, with 6,661 in 2006. A number of other provinces also significantly increased their intake of provincial nominees in 2006, including Nova Scotia, British Columbia, New Brunswick, Prince Edward Island, Saskatchewan, and Alberta.

The province of Quebec in Canada has one of the largest and most developed programs to link migration to regional development objectives – "Regionalization of Immigration in Quebec" – which started in 1992. The Province has its own Department of Immigration, with a number of directorates set up in regional centres to help link immigration with development plans, and involving municipalities in the management of the program. The municipalities identify local labour needs and determine which migrants they would wish to attract, as well as providing integrated settlement services. The Quebec Immigration Department maintains a website which provides detailed information for prospective and new migrants (both individuals and businesses), including an online application facility. Quebec also conducts information sessions for prospective migrants in potential source countries including France, Belgium, Argentina, Mexico, Peru, Colombia and Venezuela. In 2000 a total of 35,000 immigrants arrived in Quebec, with 5,200 (or 13%) settling outside Montreal under the regional program. In 2003, the Province set the ambitious goals in 40,000-45,000 new migrants with 25% of these settling outside Montreal.

Since 2004 the "Fresh Talent" initiative has focused on attracting skilled people to live and work in Scotland to help to meet the current and future skills needs of the Scottish economy by increasing the pool of talent available. Under this scheme, non-EEA nationals who have studied and graduated in Scotland have the opportunity to work in Scotland for 2 years after successful completion of their studies. This scheme has now become part of Tier One – Post Study of the new United-Kingdom-wide Points-Based System for managed migration. Since 2004, around 8 500 international students successfully applied to this programme, which is expected to grow further as there are more than 40 000 international students studying in Scotland every year.

61. Regional policies had also a high concern in preventing excessive concentration of newcomers in particular destinations. Even if there are no explicit urbanisation targets in OECD countries, different policies have been implemented to curb the growth of metropolitan areas and to reduce the cost of congestion as well as the cost on the social environment (OECD 2009 b). Some of these "de-concentration" attempts mostly targeted refugees and asylum seekers, and have found wide applications in Nordic countries. In Sweden, the central government enters into agreements with individual municipalities to accept refugees for settlement in return for a basic per-capita grant for housing and support services. As the grant amount is relatively modest, it is more attractive for small communities than larger towns and cities to accept refugees. Municipalities themselves participate in refugee selection, and specify the

settlement services that they will provide, which can include language training, job search and income support. To alleviate pressure on London and the South-East (which were hosting more than 85 % of refugees), the government has implemented a policy to disperse asylum seekers to various locations in each one of 12 British regions. The overall success of these dispersal policies has been mixed, as there are clear difficulties in devising cost-efficient incentives to durably link people to places.

Integration of policies: the need of coordination among different levels of government

62. Since migration impacts differently on different places within a country, top-down policies cannot be effective, as economic and social needs of regions differ markedly and different approaches need to be integrated. Partnerships among levels of governments to make the distribution of migrants closer to regional needs are well established in Canada. In other countries, the need for a regional or local approach has emerged primarily to improve labour matching and relieve labour shortages (box 2).

Box 2. Implementing innovative coordination among levels of government

Since the 2005 immigration reform in Spain, employers are able to recruit foreign workers to fill a position on a recognized regional shortage list (“catalogue”), which is reviewed on a regular basis. For jobs not on the shortage list, employers must submit to a labour market test (“negative certification”). Most labour migration comes through these channels. Larger employers also use the foreign recruitment system organized by the Spanish Ministry of Labour in cooperation with counterparts in sending countries (“contingent”). The latter defines caps for each region and occupation. In some cases, training may be offered, ranging from basic language and workplace safety to custom vocational training, with subsidies from the Spanish government. Immigrants must remain in the same sector and region for the first year, although they may change employer. Seasonal work has no caps. For all categories, 827 000 work authorizations were issued in 2006.

In Belgium, the list of “shortage” occupations for which nationals of new member states can obtain a work permit is drawn up on a regional basis and discussed by social partners at local level. In France, the national list drawn up by the Ministry of Employment is adjusted regionally to take account of local differences. In Australia, the Working Holiday-Maker programme now directs candidates towards sectors under pressure and regions where recruitment difficulties are particularly acute.

63. In regional labour markets making extensive use of seasonal labour, facilitation schemes can be put in place to connect temporary labour migration to local labour needs. This is the case in the Italian region of Trentino Alto Adige, where the bulk of the seasonal labour quotas are assigned to the two autonomous provinces of Trento and Bolzano. In 80% of the cases in Trento province, employers make a specific request for a specific worker to their employer association, who then contact the provincial labor office (OECD, 2006). The mediation of the employer’s association is particularly crucial for small enterprises, given the significant burden of procedures.

64. More generally, policies to influence migration flows depend on clear multi-level governance, where each level of government contributes to the policy design and implementation. This is because even in integrated labour markets, economic needs and preferences of countries and regions vary. Incentives to cooperate among different actors could improve the effectiveness of policies both at the local and at the aggregate level (OECD, 2009d).

The role of local institutions in facilitating integration

65. While there are considerable difficulties in attracting migrants to areas in need, there are even greater challenges in retaining those migrants and fully benefiting from the human capital they bring to regional economies. It would be beyond of the scope of this paper to go into the various aspects of integration into the labour market (for overviews, see OECD 2006, OECD 2007 and OECD 2008). There are two key areas where local institutions have a significant role to play: 1) matching regional labour

market needs and immigrants' skills; 2) targeting investments in public goods and services to reduce possible inequalities.

66. Regional governments support the creation of employment centres to provide information to immigrants and employers (OECD, 2006). Employers are leading partners in the Toronto-based Region Immigration Employment Council (TRIEC) which was launched in 2003 and has the mandate to improve access to the labour market for immigrants. However, there are concerns that these services are not always used to their highest potential. This was found to be the case in Milan, which has many development employment centres and a high number of immigrants. In 2005 only 10% of businesses and 2% of immigrants used the services of employment centres for immigrants. This poses the question of potential lack of information and/or lack of efficiency from the point of view of both employers and immigrants.

67. Relevant efforts at the regional level have been undertaken to support immigrant entrepreneurship. In 2003, the chamber of commerce of Turin (Italy) for example published a guide in the nine principal foreign languages spoken in the region, providing information on laws and authorizations, and on services available (health, educational, etc.), which would be useful for immigrants wishing to start a business.

68. One particularly important issue for highly-skilled migrants is the assessment and the recognition of their previous qualifications.⁶ In some countries, this falls under the responsibility of regional institutions, in which case local authorities need to facilitate this process and provide bridging programmes when needed. In Canada for example, Professional Engineers Ontario (PEO), a professional association with regulatory authority for the engineering profession, allows written examinations to be taken prior to immigration and issues provisional licenses to applicants who have satisfied all the licensing requirements except for the minimum 12 months of acceptable engineering experience in Canada. In London, skills shortages in the education, engineering and construction sectors have led to the development of a city-wide partnership involving the London Development Agency and five Learning and Skills Councils, to assess the qualifications of a 1 000 immigrants and provide with relevant ongoing training.

69. The scope for regional policy to address explicitly migration policies is not limited to the effects of inflows and outflows on local labour markets. Regional and local authorities are better equipped to anticipate needs for housing and services and to adjust education, healthcare or transport to demographic changes. However, one of the main bottlenecks in local policies for integration is the current fragmented organization of these services which all tend to be tasked in different departments. Monitoring and evaluation can allow a better assessment of the effectiveness of integrated strategies that regional and local governments have been designed.

6. Further work and data needs

70. This paper provides a first overview of the distribution of migrants across regions in OECD. The information comes from a specific data collection on immigration in regions linked to the update of the database on immigrants in OECD countries (DIOC). As a first step, this source of data could be further exploited and the country coverage expanded, notably with the addition of some emerging economies. Additional information is also needed to improve the analysis of impacts of migration on labour markets. Important issues to be considered at the sub-national level will be demographic and skill complementarities among natives and migrants, and associated effects on growth and convergence among OECD regions. Another key area for future work is the analysis of secondary migration that should permit to better assess

⁶ Note, however, that this issue is not straightforward since foreign qualifications are not necessarily equivalent, see OECD 2007 b.

the capacity of regions to attract and retain the workers they need. These questions could be addressed using the same data sources, population census and labour force survey, but the data collection should be expanded to include new variables and allow analysis over different years.

71. In the longer run, the 2010 round of population census will offer an invaluable opportunity to update and refine the first results based on this collaborative work of ELS and GOV Directorates. These data will permit to provide information to more detailed territorial levels, in order for example to analyse where migrants locate within large metropolitan areas and how segregation/enclaving patterns evolve. The collection of comparable data for the period 2010-2011 will enable us to examine how changes in regional characteristics and outcomes are related to changes in size and characteristics of immigration. This would provide solid evidence on regional determinants and regional effects of immigration flows, with very relevant policy implications for the design of both migration and regional policies.

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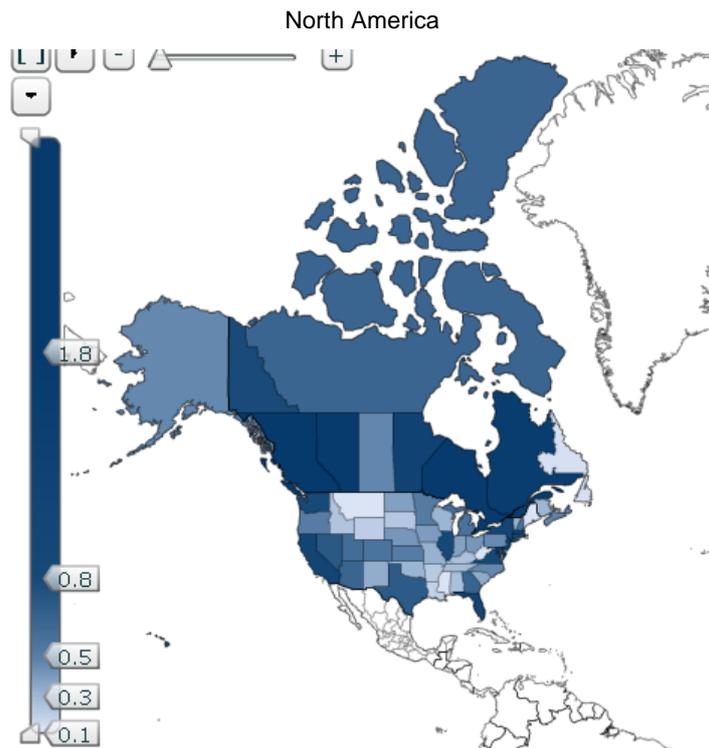
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ANNEX A

Figure 4. Stocks of immigrants as a percent of the total regional population (around 2005), Territorial levels 2 regions



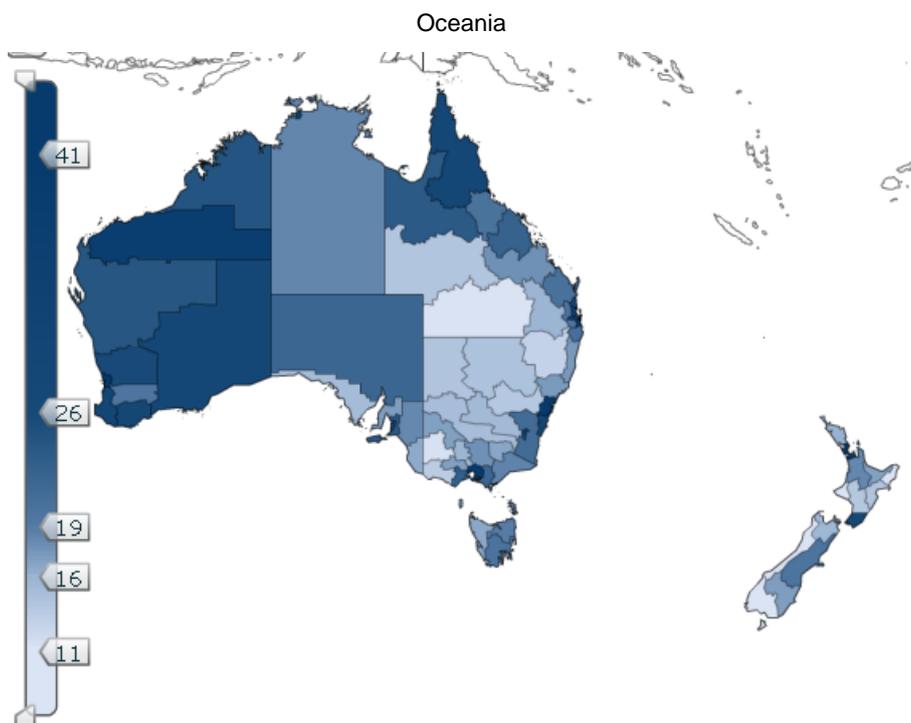
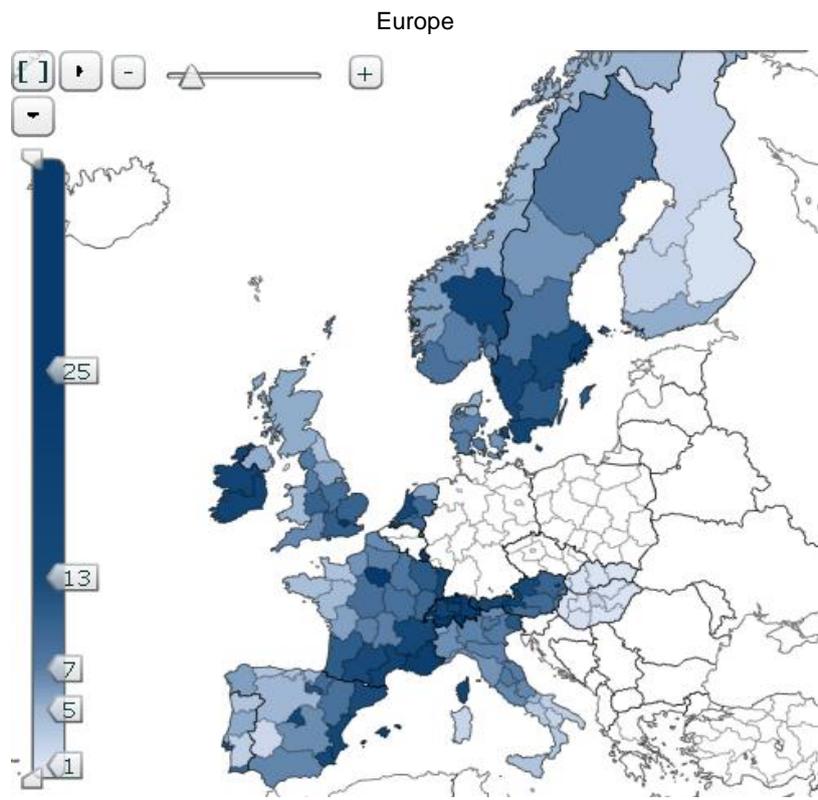
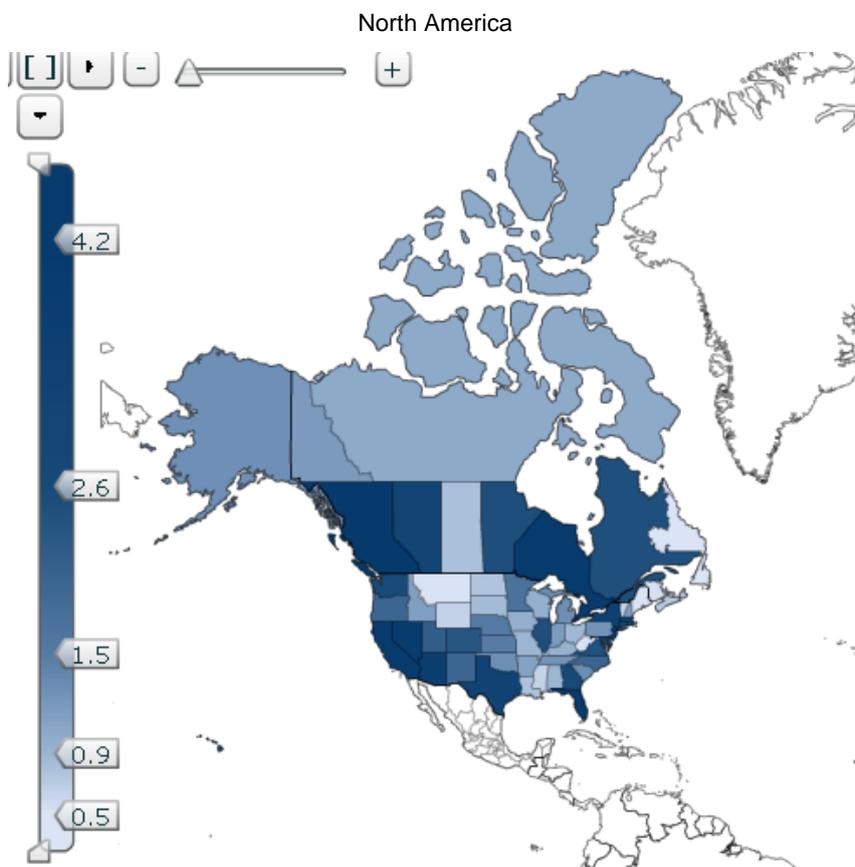
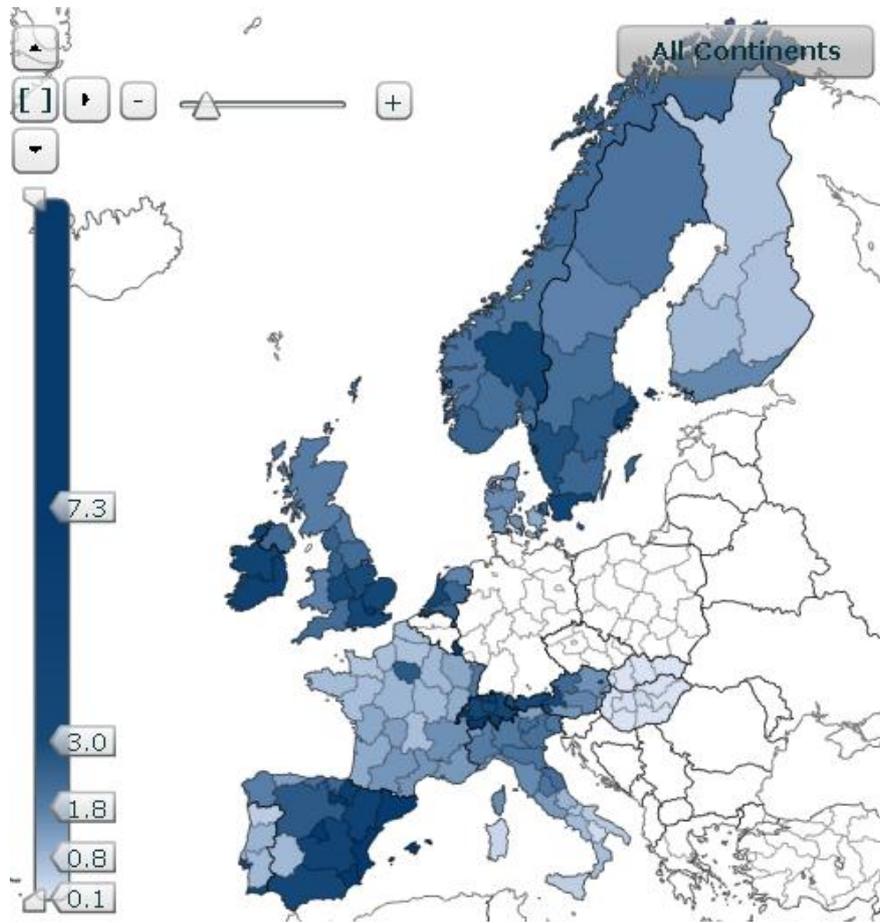


Figure 5. Recent immigrants as a percent of the total regional population (around 2005), Territorial levels 2 regions



Europe



Oceania

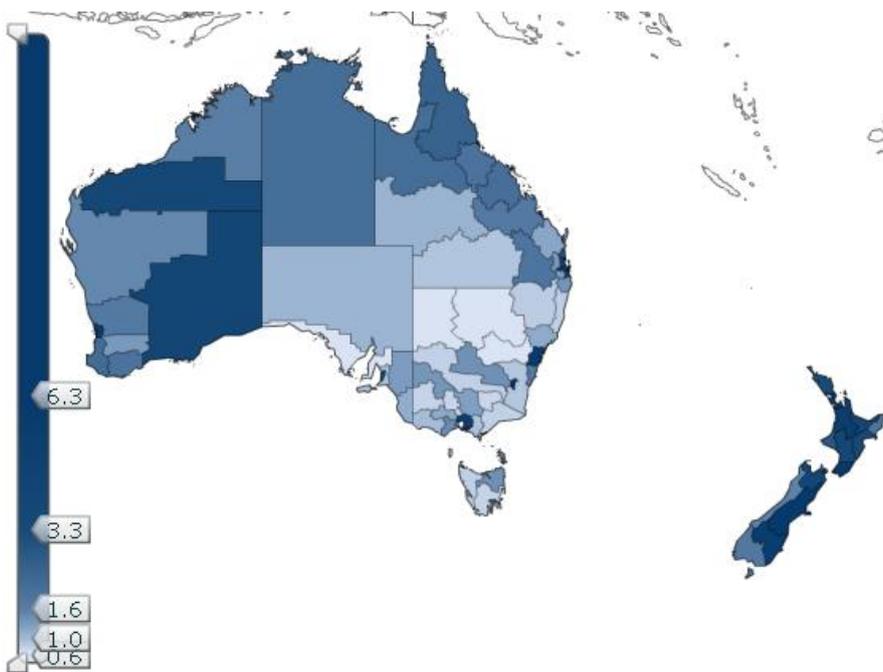
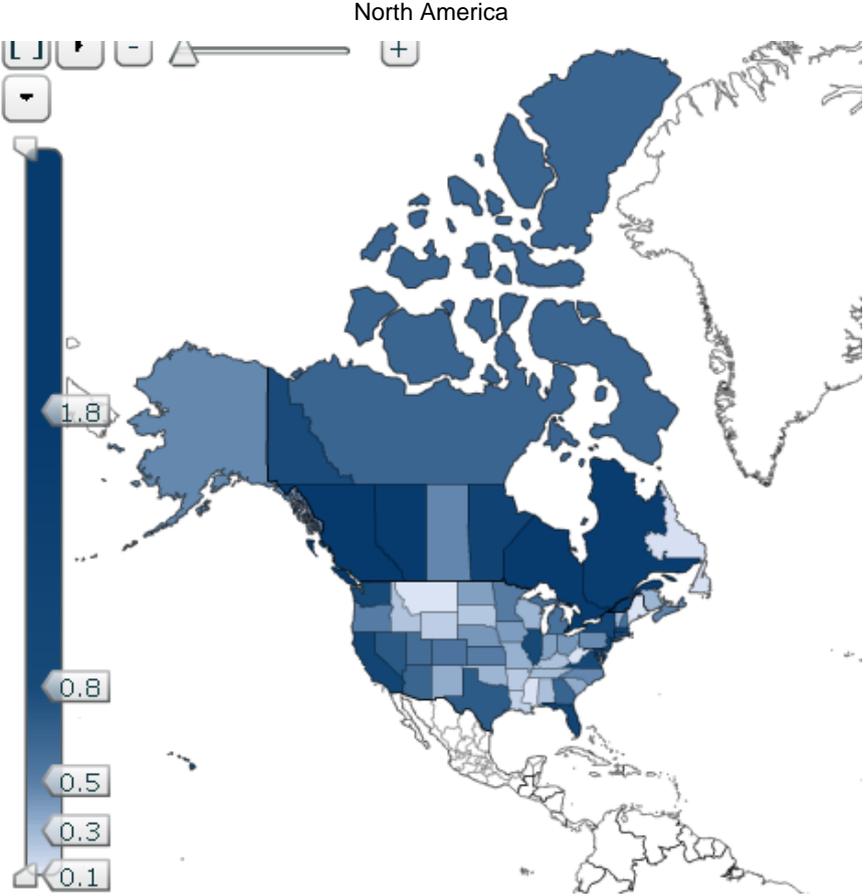
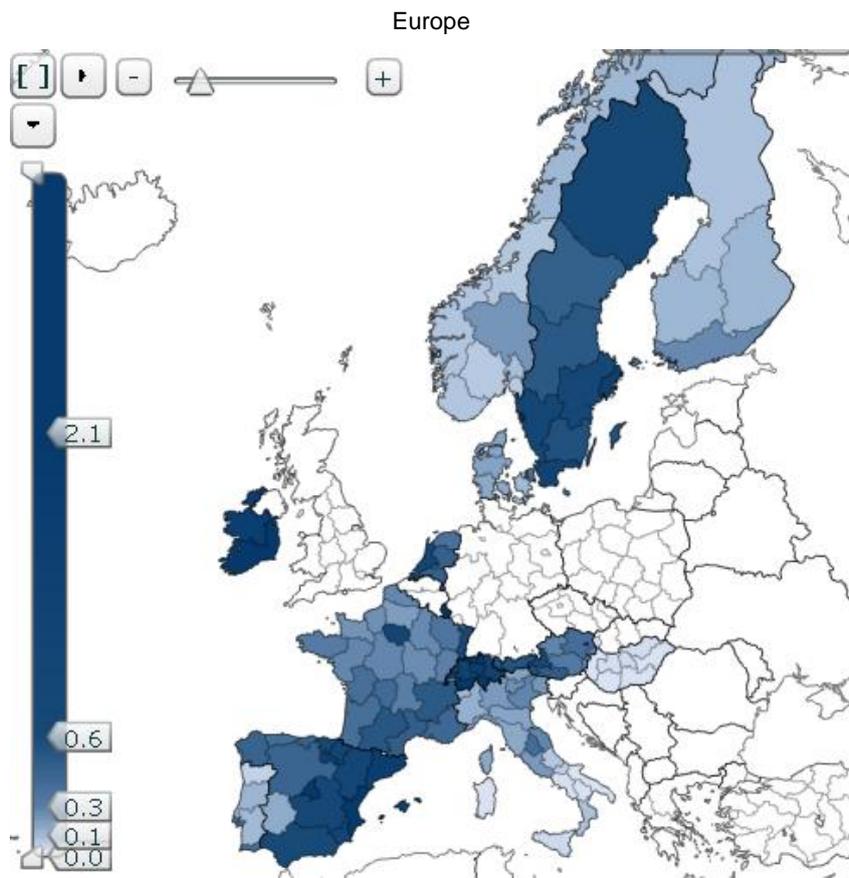
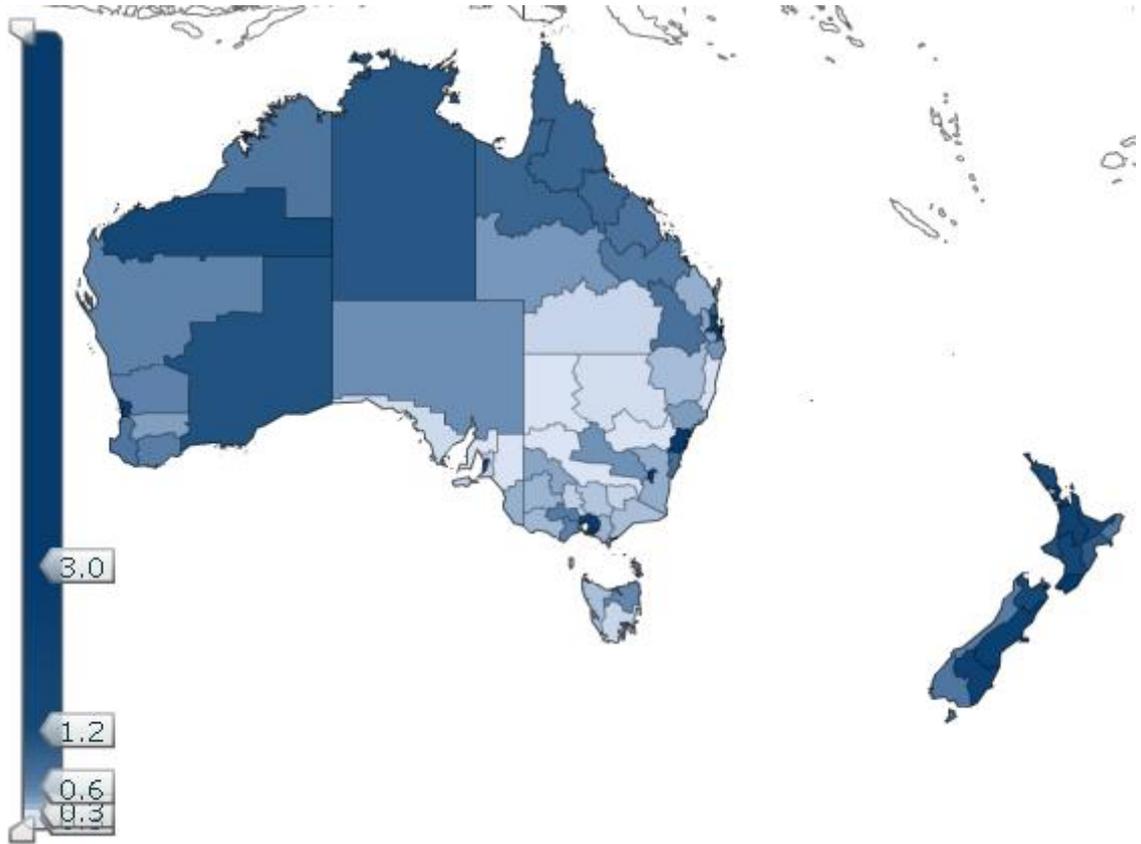


Figure 6. Highly-skilled recent immigrants as a percent of the total regional population (around 2005), Territorial levels 2 regions





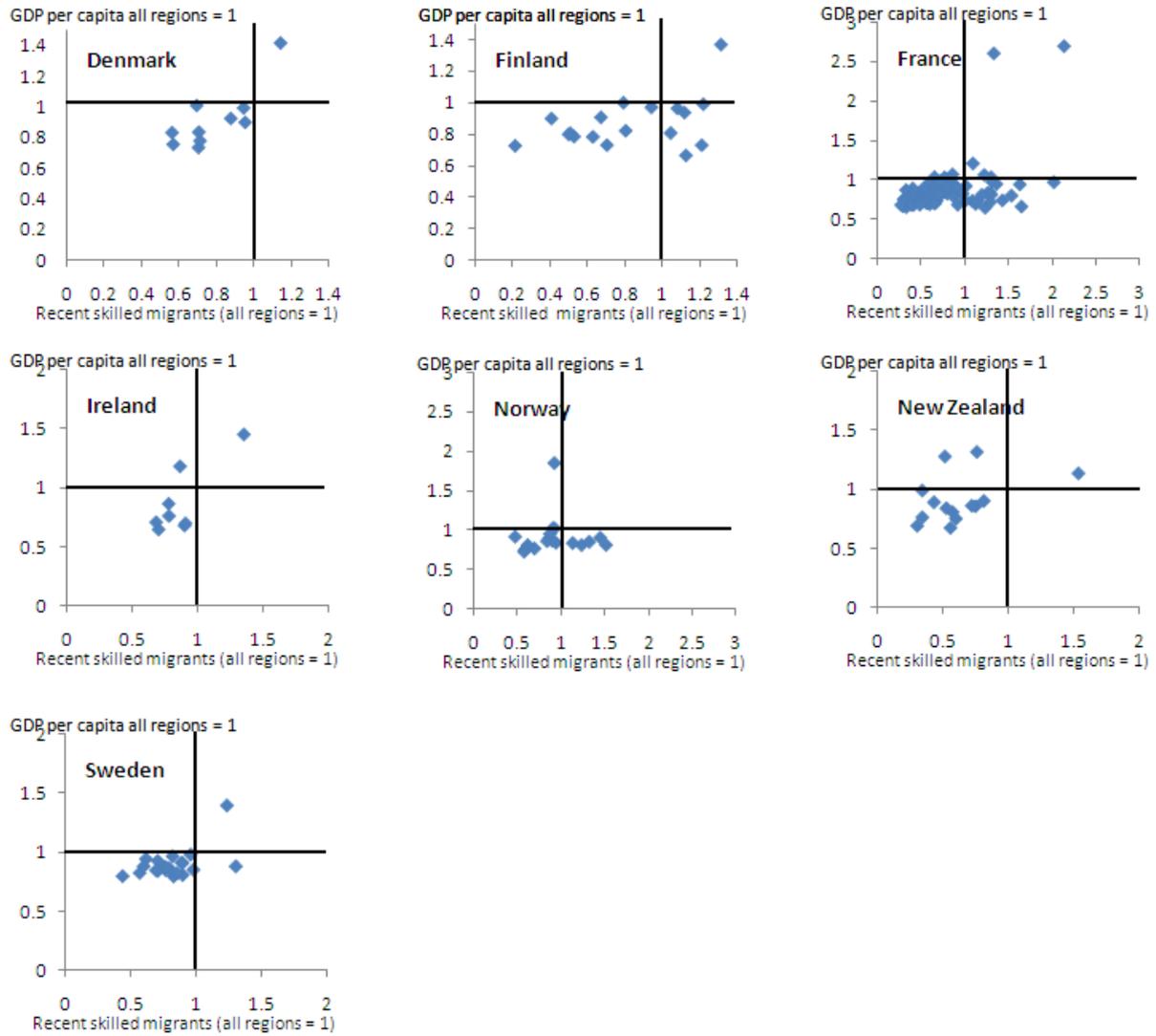
Oceania



ANNEX B

Figure 7. Density of recent skilled migrants and GDP per capita, by territorial level

Panel A: Data at territorial level 3



Panel B: Data at territorial level 2

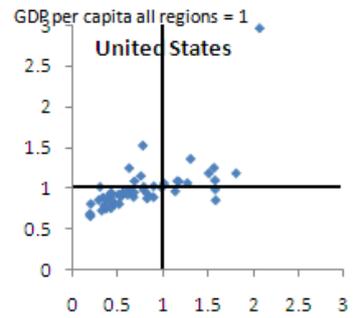
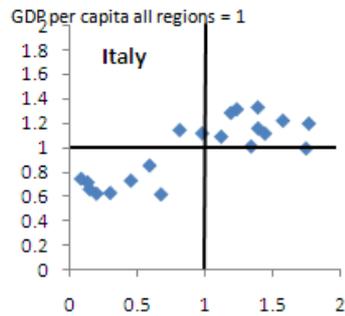
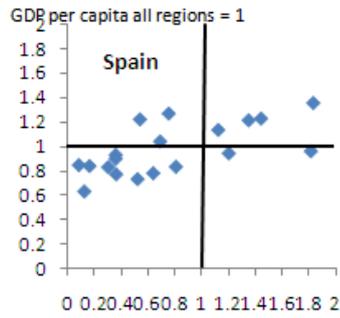
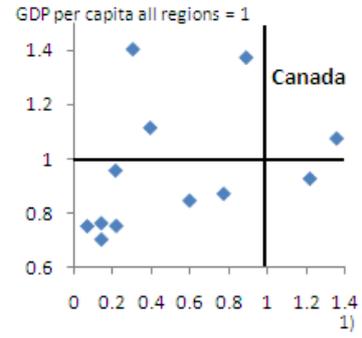
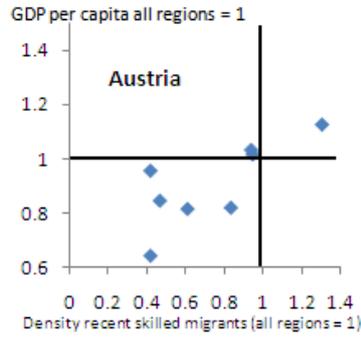
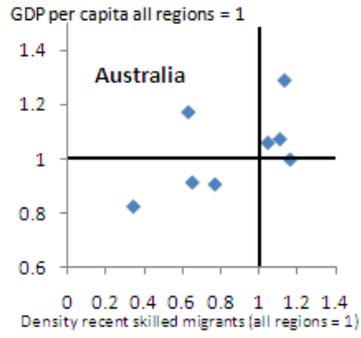


Figure 8. Distribution of the recent migrants and of the skilled natives (ISCED = 5,6)

